#### DRYING OF CONDITIONED HAY IN WINDROWS AS INFLUENCED BY ORIENTATION OF STEMS AND ENVIRONMENTAL CONDITIONS

by

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DRYING HAY IN WINDROWS

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#### ABSTRACT

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# M.Sc. - Agricultural Engineering DRYING OF CONDITIONED HAY IN WINDROWS AS INFLUENCED BY ORIENTATION OF STEMS AND ENVIRONMENTAL CONDITIONS

The present investigation is concerned with advantages in drying obtained through reorientation of crushed hay plants in windrows formed by a self propelled windrower.

Some physical characteristics of hay windrows were measured. The effects of changes in stem orientation and windrow configuration on the drying characteristics of hay were examined. The influence of environmental conditions of wind velocity and solar radiation on the drying of crushed hay in windrows of different configurations and plant orientations have been reported.

Drying curve comparisons, analysis of variance techniques and Duncan's new multiple range test have been used to establish significant differences in drying characteristics of windrows having different plant orientations and subjected to varying environmental conditions.

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#### RESUME

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M.Sc. - Génie Rural

#### INFLUENCE DE L'ORIENTATION DES TIGES ET DE L'ENVIRONNEMENT SUR LA VITESSE DE SECHAGE DU FOIN CONDITIONNE DISPOSE EN ANDAINS

L'objet de cette présente étude est d'étudier les avantages du séchage du foin conditionné, en le réorientant dans les andains formés par une andaineuse automotrice.

Quelques caractéristiques physiques des andains ont été mesurées. Les effets provoqués par le changement de l'orientation des tiges ainsi que la configuration des andains, sur le séchage du foin conditionné disposé en andains de différentes formes et orientations des plantes ont été rapportés.

Des études comparatives des courbes de séchage, des analyses de variances, ainsi que le nouveau test de Duncan, ont été utilisés pour faire apparaître les différences significatives entre les caractéristiques de séchage des andains soumis à des conditions environnantes variables et dont les plantes étaient orientées différemment.

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#### I. INTRODUCTION AND OBJECTIVES OF THE STUDY

Hay cut at 70 to 80 per cent moisture content, wet basis (wb), is dried to a moisture level of about 20 per cent for safe storage (Hall, 1957). Two simultaneous and fundamental processes occur during this drying period: (1) heat is transferred to the hay plants, and (2) mass is transferred as water in liquid or vapour phases within hay plants and as vapour from wet surfaces. In the study of hay drying, therefore, the internal mechanisms of liquid flow in cut plants and the external conditions of the material as well as the surrounding environment are important.

The internal mechanisms demand an understanding of anatomy and physiology of plants pertaining to moisture escape. Distribution of water in green plants (Pedersen and Buchele, 1960), the role of leaves and stomatal behaviour (Jones and Palmer, 1933, 1934; Jones, 1939; Pedersen and Buchele, 1960), and the unequal drying rate of leaves and stems (MacAulay, 1966) are some of the considerations that are important to engineering design of drying systems.

The external conditions of the material and the environment jointly influence external or surface resistance to diffusive and turbulent vapour flow through air surrounding the plant surfaces. Windrowing and tedding (Halyk and Bilanski,

1966; Kurtz and Bilanski, 1967, 1968) and raking (Jones, 1939; Goss <u>et al.</u>, 1964) are some of the engineering attempts to alter material conditions. The external conditions of environment include dry and wet bulb temperatures, wind velocity and solar radiation (Kemp and Roach, 1968).

The study of external conditions of the material is important because such conditions can be altered to accelerate the drying rate. During the field drying of hay, no control of the environment is possible, but a knowledge of the effects of varying environmental conditions on drying with an objective to define good and poor drying conditions is important.

Drying of hay in windrows is an accepted practice. However, no investigation of the effects of orientation of stems in a windrow on the drying rate of hay was available in the cited literature. Also, basic considerations, such as uniformity in windrow configuration and windrow density, have remained neglected so far. These variables are likely to affect the rate of drying hay in windrows and perhaps the quality of hay produced.

The objective of the present investigation was to determine the effects of changes in windrow configuration and orientation of stems in a windrow on the drying characteristics of hay. In windrowed material, an accumulation of vapour within air spaces of the bulk decreases plant to air vapour pressure gradient and lower rate of drying results. The rate of air movement from the air spaces within the bulked material

to open air beyond would affect the drying rate of hay. Solar radiation could be effective in augmenting heat transfer. The effects of stem orientation on drying due to wind and solar radiation therefore formed an important part of this study.

## II. REVIEW OF LITERATURE

A search of literature revealed that the limitation of drying hay in the field lies in the loss of feed value of weather-damaged hay. Oliver (1960) reported that this loss can be as high as 25 to 40 per cent. When hay can be field-dried without being rained on, there is little difference in chemical constituents obtained, based on feeding trials as compared to barn-dried hay (Hodgson <u>et al</u>., 1946, 1947). This is not always possible because the period between rains is often less than the time required for drying during the haying season. The situation is further complicated by the fact that the feed value of hay decreases with excess maturity (Hopkins, 1955; Mowat <u>et al</u>., 1965). Pritchard <u>et al</u>. (1963) have reported a decrease in the <u>in vitro</u> dry matter digestibility of hay at the rate of 0.5 per cent per day throughout the growing season.

In order to minimize field drying losses it is important that the period for which hay is subjected to weather uncertainties is the shortest possible. Since the drying of hay is influenced jointly by internal mechanisms of water movement in the plant material and the conditions external to the material, these factors should be optimized to accelerate the drying rate of hay.

#### 2.1. Theory of Hay Drying

As the initial moisture content of hay is less than the critical moisture content (the point on the drying curve where the constant rate period ends) nearly all the drying occurs in the falling rate period. This period of drying involves (1) the movement of moisture within the material to the surface by liquid diffusion, and (2) the removal of moisture from the surface.

The falling rate period of drying is usually divided into two zones: (1) the zone of unsaturated surface drying, and (2) the zone where internal moisture movement controls drying rate. In unsaturated surface drying, the entire evaporating surface is no longer maintained at saturation by moisture movement within the hay plants. The drying rate decreases for the unsaturated portion and consequently the average rate for the total surface decreases. The external drying variables are functional during this drying zone. At some internal moisture content, nearly whole evaporating surface becomes unsaturated and the internal mechanisms such as liquid diffusion govern the rate of drying.

The equation representing movement of moisture during the falling rate period is based on Newton's equation. By substituting moisture contents, dry basis (db), for temperature in Newton's equation, equation (1) has been obtained (Hall, 1957).

$$\frac{M - M_e}{M_o - M_e} = e^{-kx}$$

where M is the moisture content, db, at any time in hours, x;  $M_e$  is the equilibrium moisture content;  $M_o$  is the original moisture content; and k is the drying constant.  $\frac{M - M_e}{M_o - M_e}$  is known as the moisture content ratio. Another way of representing the drying data is given by the equation:

$$\frac{M}{M_{e}} = e^{-k \times U}$$
(2)

where u is an experimental constant of value less than one.

#### 2.2. Internal Mechanisms

The present understanding of hay drying is based on existing theories of drying of nonliving industrial material. Experience has verified that such theories serve to describe the drying nature of those parts of plants that have reached a dormant stage, such as seeds and woody tissue. Unfortunately, the same does not hold for parts of plants such as leaves and growing As a consequence it is generally recognized that a stems. fundamental understanding of anatomy and physiology of drying. plants is important to identify the natural drying forces which respond to mechanical treatments during the process of hay Distribution of water in green plants, the role of drying. leaves and stomatal behaviour and the unequal drying rate of leaves and stems are some of the aspects of internal moisture movement in cut plants that have been studied.

#### 2.2.1. Distribution of water in green plants

Pedersen and Buchele (1960) conducted studies on water distribution in alfalfa plants at three stages of maturity. They concluded that moisture varied in leaves and stems and the decrease in moisture content per unit length was considerably larger in the top end than in the lower part of the stem.

The highest moisture content was found in the growing section of the plant. In the stem section just below the top end the moisture content in young alfalfa plants in prebloom stage and middle age alfalia plants in one-tenth bloom stage (normal maturity for hay), was found to range from 83.5 to 85.5 per cent, wb. In old alfalfa plants past full bloom (one-fourth seed pods), the moisture content at the same place was found to be about 76 per cent, wb.

The lowest moisture content of all plants was near the root. It was 60 per cent, wb, in old plants and 72 per cent, wb, in middle age and young alfalfa.

These findings imply that in order to increase the drying rate of hay, orientation of plants in a windrow should be such that the plant sections which have highest moisture content and contain most moisture but lose moisture less readily should be more exposed to the external drying conditions of the environment. This is not always possible because: (1) the part of the plant that has highest moisture content does not necessarily contain most moisture, (2) the part that contains the highest moisture content usually dries fastest, (3) the part which loses moisture less readily could be at the opposite end of the part that has the highest moisture content.

It is not likely that all the drying advantages can be obtained in a single orientation of the plants in hay windrows.

An ideal theoretical solution to the problem does not exist at present because of the many unknown factors. However, it should be possible to identify an orientation of plants which is most suitable from the standpoint of faster drying of hay in windrows.

#### 2.2.2. The role of leaves and stomatal behaviour

Based on their experiments with cut plants of Johnson grass, Jones and Palmer (1933) concluded that moisture is conducted to the leaves through the vascular bundles in the stems. Their finding that leaves dry faster when removed from alfalfa plants than when attached, was later confirmed by Pedersen and Buchele (1960). These results led to the conclusion that stem moisture does move into the leaves.

Jones and Palmer (1933) found that the time required after cutting for drying to a given moisture content was lower for complete plants of alfalfa and Johnson grass than for separated leaves and stems. Pedersen and Buchele (1960) found no difference between these two drying periods. Because of these contradictory results the role of leaves in moisture removal from cut plants still remains unexplained. The findings on stomatal behaviour (Miller, 1928; Jones and Palmer, 1932, 1933) are not conclusive in regard to the amount of moisture loss per unit of time.

However, the studies on these aspects suggested that the orientation of plants in a windrow should be such that the leaves remain in a position that favours evaporation of water

carried to them by the vascular bundles. Also the leaves should be so placed as to favour the desired stomatal behaviour.

2.2.3. Different drying rate of leaves and stems.

Pedersen and Buchele (1960), MacAulay (1966) and other investigators have shown that the leaves of cut plants dry faster than the stems. The practical significance of this differential in drying rate of leaves and stems is that during the harvesting process under good drying conditions, the leaves of hay may be dried to levels where they become susceptible to leaf loss because of shattering, while the stems of the same plants contain too much moisture for safe storage.

Zink (1936), Macdonald (1946), Dobie (1948) and Daum (1958) have published researches on leaf loss during field drying of hay. The variance within and among their findings is large. However, leaf losses as high as 70 per cent were reported for alfalfa at 30 per cent moisture content by Zink (1936). As approximately 70 per cent of the protein and 90 per cent of the carotene are contained in the leaves it goes without saying that this loss must be minimized.

It was found by MacAulay (1966) that birdsfoot trefoil leaves become brittle at moisture content of 15 to 18 per cent, wb. Since this critical moisture content is lower than the baling moisture content a reduction in leaf loss is possible through improvements in hay handling techniques. Improvements in techniques would require that stems and leaves dry at similar rates. Orientation of plants in a windrow could affect the drying rates and deserve to be carefully investigated because of the possibility of reducing crop losses.

## 2.2.4. <u>Mechanical treatments to promote</u> internal mechanisms

Treating hay mechanically to speed moisture removal is an established practice. The published researches show that crushing results in faster drying than crimping (Boyd, 1959). Also, crushing (Bruhn, 1955, 1959; Kepner, 1959, 1960; Halyk and Bilanski, 1966; Kurtz and Bilanski, 1967, 1968) as well as crimping (Kepner, 1959, 1960) are considerably more effective when compared to drying of unconditioned hay. The findings on windrow drying rates following crushing and flail mower treatments are contradictory. Halyk and Bilanski (1966) and Kurtz and Bilanski (1967) found crushed hay to dry quicker than the flail mowed hay, whereas Boyd (1959) and Hall (1964) found the opposite to occur. However, there seems to be a general agreement in favour of crushing when over-all performance and field losses are considered. A self-propelled windrower equipped with crushing rolls was therefore used in the present investigation.

#### 2.3. External Conditions

The term external conditions in the literature on drying of solids includes: (1) external conditions of the material, and (2) external conditions of the environment (Perry <u>et al</u>.,1963). Study of drying based on effects of external conditions

although less fundamental, is more generally used because the results have a greater immediate application in equipment design and evaluation.

#### 2.3.1. External conditions of the material

A review of developments in hay handling equipment pointed out that agricultural engineers have been concerned about altering conditions of the material for accelerating the field drying rate of hay ever since the invention of mechanical hay tedder in 1850. The use of tedders and windrowers, and the practice of raking to turn hay windrows, are some of the engineering attempts to alter material conditions. Tedding (Halyk and Bilanski, 1966) and raking (Jones, 1939; Goss <u>et</u> <u>al</u>., 1964) have been found to be effective but are not popular because they are additional operations. The present research is concerned with the placement of hay plants in windrows formed by a self-propelled windrower. The considerations that are important to such an investigation include: (1) swath versus windrow drying, and (2) the windrow configuration and orientation of stems.

#### 2.3.1.1. Swath versus windrow drying

In spite of the faster drying rate reported when crushed hay is left to dry in swaths (Halyk and Bilanski, 1966; Kurtz and Bilanski, 1967) windrow drying is preferred in many instances on account of higher capacity, reduced leaf loss, better pick up of lodged, tangled and rained hay, reduced soil compaction effects and savings in equipment, fuel and manpower costs.

The choice of windrow drying in the present investigation was based on the greater variability in orientation of stems being possible in a windrow than in a swath. This is so because the position of hay plants in windrows can be altered in three dimensions whereas in swaths such a change is limited primarily to the horizontal plane because the thickness of swaths is generally small.

# 2.3.1.2. <u>Windrow configuration and orientation</u> of stems

Dodds and Dick (1967), in working with cereal grains, stated that a good windrow should be firmly supported on the stubble, be capable of shedding water and be in a position of easy recovery by the combine pick up. Relationships between the physical characteristics of windrows and drying rate of hay were not available in the cited literature.

The present investigation is devoted to determining effects of changes in windrow configuration and orientation of stems in a windrow on the drying rate of hay. Also the windrow density and uniformity in windrow configuration are likely to influence the drying characteristics and quality of hay produced. A study of these variables, therefore, should be of value in understanding the kind of plant orientation that is desired to improve drying rates and the quality of the product.

#### 2.3.2. External conditions of environment

Drying rate of field dried hay varies greatly with change in environmental conditions. Therefore, in evaluating drying rates, results from one area are of little significance for applying to another climatic condition or geographic location. Kepner (1960) has reported a drying period of four to six days in the interior valley of California whereas Halyk and Bilanski (1966) have reported similar drying effects in 28 to 32 hours in Ontario. Furthermore, results of Halyk and Bilanski show a considerable difference between drying rates in Guelph and Kemptville which are only 300 miles apart. It was therefore considered important to study the variability of environmental conditions during the field drying period of hay in a typical climate of southwestern Quebec.

The conditions favourable for high transpiration rate in living plants are high temperature (Brigs and Shants, 1916); low relative humidity (Thomas and Hill, 1937); moderate wind speeds and high intensity solar radiation. One would expect similar effects of these variables on drying of cut plants.

Fortin (1965) has reported variation in climatic variables during the drying period of hay. He studied the effects of relative humidity changes on field drying of hay. Zachariah and Lipper (1966) have suggested use of wet bulb depression rather than relative humidity as a drying variable.

It is evident that people have been concerned about the effects of solar radiation on hay drying characteristics from

the statements, "the protection of leaves from the parching action of the sun seems to greatly reduce the shedding and consequently make a much better grade of hay"; and, "the hay is bleached of some of its green colour by the sun" (Jones and Palmer, 1936). Realizing the importance of this drying variable Fortin (1965) has reported the periods of sunshine in the hay drying studies conducted by him. However, the effects of solar radiation as a climatic variable in hay drying have not been reported in the available literature. One of the objectives of this research was to measure the solar radiation effects on drying of crushed hay in windrows of different configurations and stem orientations.

Shepherd (1965) investigated the effects of air speed on the drying rates of harvested clover and rye grass. He estimated effective external resistances\* of material in swaths and windrows to be 8 to 12 times those of plant units exposed singly. He also reported that swaths and windrows in still air and under low field radiation dried respectively at approximately 0.3 and 0.2 times the rate of single units over the high moisture content range, at 0.45 to 0.4 times over the medium range and at 0.6 times over the low range. When air speed was nonlimiting the rates of drying of both swaths and windrows under low radiation conditions were 0.6, 0.9 and 0.9 times

\*External resistance refers to the resistance offered to diffusive and turbulent vapour flow through the air surrounding the plant.

those of single units over the high, medium and low moisture ranges respectively.

Jones and Palmer (1936) found that the direct exposure of plants to the open air and sunshine dried plants at a rate which was higher than the drying rate of material in swaths but lower than the drying rate of windrowed material. These findings do not agree with results found by Shepherd (1965).

In both the studies mentioned above, a swath consisted of a continuous blanket of mown material resting on pasture stubble in the form in which it fell from the mower. Windrows consisted of one to three swaths raked together in the study conducted by Shepherd and two windrows raked together two hours after cutting in the experiments of Jones and Palmer.

It appears that wind speed plays an important role in the field drying of hay. In view of this fact an additional objective of this study was to determine the effect of wind on drying characteristics of hay windrows having various configurations and stem orientations.

The concepts of equilibrium moisture content, latent heat and latent evaporation are pertinent to the present investigation on the drying effects of environmental variables. A brief review of the significance of these variables with reference to important publications is therefore included here.

#### 2.3.2.1. Equilibrium moisture content

Hay is an hygroscopic material. When exposed to a given set of environmental conditions until equilibrium is reached, it will attain a definite moisture content. This moisture is termed the equilibrium moisture content for the specific conditions. At this moisture content the rate of moisture loss from the product is equal to the rate of moisture gain of the product from the surrounding atmosphere. Thermodynamically, equilibrium is reached when the free energy change for the material is zero.

Equilibrium moisture content is represented by the following empirical equation (Henderson, 1952).

$$1 - RH = e^{-cTM_e^n}$$
 (3)

where

RH = relative humidity represented as decimal
T = absolute temperature, deg R
M<sub>e</sub> = equilibrium moisture content, per cent, db
c and n = constants varying with materials.

The concept of equilibrium moisture content is important because:

- (1) it represents the limiting moisture content of the material for specific conditions of humidity and temperature
- (2) having this information for any specific hay, it would be possible to study temperature and rate of air movement as factors of drying, if the relative humidity of the atmosphere

remained unchanged sufficiently long for the material to reach equilibrium moisture

(3) by superimposing equilibrium moisture content data on a psychrometric chart, the vapour pressure of the material can be readily determined.

Equilibrium moisture contents of various hays have been reported by Davis <u>et al.</u> (1950), Dexter <u>et al</u>. (1947) and Zink (1935).

2.3.2.2. Latent heat

In many drying applications the equilibrium moisture data may be used as a basis for determining latent heat. Based on Clapeyron equation, Othmer (1940) proposed the use of an equation of the form:

$$\frac{dP}{dT} = \frac{L}{(V-v)T}$$
(4)

where

P = vapour pressure, lb per sq ft
T = the absolute temperature, deg R
V = the specific volume of saturated water vapour,
cu ft per lb
v = the specific volume of saturated liquid water,
cu ft per lb

L = the latent heat of vaporization, ft-lb per lb. Gallaher (1951) developed the following equation relating the vapour pressures and latent heats of two substances at the same temperature, namely a farm crop and water vapour.

$$\frac{L}{L^{\bullet}} = \frac{\log P_2 - \log P_1}{\log P_2 - \log P_1}$$
(5)

where L and P represent the latent heat and vapour pressure for the farm crop, and L' and P' represent the latent heat and vapour pressure of free water, respectively. Thus, the latent heat ratio of the product and water can be expressed in terms of the moisture content if equilibrium moisture content data are available for several temperatures.

#### 2.3.2.3. Latent evaporation

Latent evaporation measures the integrated effect of solar radiation, dry and wet bulb temperatures and air velocity on the evaporation rate of water from a wet plane, horizontal black surface exposed to climatic conditions. An equation has been developed by Kemp and Roach (1968) for estimating the drying rate of hay based on latent evaporation of the environmental conditions. This relationship has been expressed in equation (6).

$$\log X = AY + \log B \tag{6}$$

where

- Y = instantaneous drying rate, gms of water per 100
  gms of dry sample weight per hour

A and B = constants.

The value of the constant A, in their investigations, varied from 0.0162 to 0.0358 but there is an indication that A may have a single value. The constant B is the equilibrium moisture content of hay for a specific latent evaporation and

would depend upon plant species, maturity and treatment.

## 2.3.3. Effects of external conditions on internal mechanisms

External conditions have been found to influence physiological behaviour of drying plants. It has been established that cellular permeability to moisture increases with temperature (Meyer and Anderson, 1952). Hassler (1959) demonstrated that under dynamic conditions, the internal mechanisms were affected by higher temperatures in such a manner so as to permit freer movement of moisture at a particular vapour pressure. Based on the principles of thermodynamics and heat transfer, he built up a theoretical model of energy balance equating intensity of radiation or rate of energy input to rate of energy loss from a leaf to its surroundings.

# 2.4. Determination of Moisture Content

The importance of a precise method for determination of moisture content is evident from the literature available on this subject as reviewed by Marshall (1953) and Thompson (1958). But unfortunately standard research procedures have not been established yet. This has resulted in use of many methods for moisture content determination (Table 1) by different researchers investigating drying characteristics of hay.

Methods of determining moisture content of hay have been broadly classified as direct and indirect. Direct methods consist of oven drying, drying with desiccants or distillation. Of these oven drying is most commonly used because it is simple, reasonably rapid and does not involve expensive equipment. Indirect methods measure some electric, dielectric, chemical or hygroscopic property of material which depends on moisture content. The measured value of the variable is then related to the moisture percentage. Because of low accuracy and poor repeatability the use of indirect methods is limited to commercial needs.

Two ways in common use for expressing moisture content are wet basis and dry basis. Wet basis expresses the weight of the moisture as a percentage of sample weight. Dry basis relates the moisture weight to the weight of dry material in the sample. Relative merits of the two ways and common errors in their use are available in literature (Clyde, 1943). Wet basis is used commercially for determining hay prices (Hall, 1957) and was therefore used in the present investigation.

The drying methods reported in Table 1 point out the variability in procedures. Such variability does not permit comparison of results from investigations which are otherwise similar in nature. Temperature, pressure and duration of treatment are variables which will need consideration in standardizing drying technique. The problem, however, is complicated because of the fact that decomposition of biological material has been found to occur at comparatively low temperatures while, on the other hand, the intensity with which some of the moisture is held suggests that it may not all be removed at "safe" temperatures, even at very low vapour pressures.

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No.	Method	Temperature	Duration	Reference
	(1)	(2)	(3)	(4)
1.	Oven drying: 2 gms of air dried sample (Analysis of Fodders Sub-Committee 1931- 1944)	95-105°C (203-221°F)	Until the loss in wt does not exceed l mgm/hr	Agric.Prog. (1945)
2.	Drying over P <sub>2</sub> O <sub>5</sub> at 10 micron pressure	40°C (104°F)		Laidlaw and Wylam(1952)
3.	Drying over P <sub>2</sub> O <sub>5</sub> at a pressure of 50-100 microns (official method recognized by National Institute of Health in U.S. for	50±1°C (112 <sup>±</sup> 1.8°F)	<b>-</b>	Beckett (1954)
	freeze dried biological materials)			
4.	Toluene distillation; Drying under vacuum; Oven drying; Drying in an airblast cabinet	95°C(203°F) 105°C(221°F) 46-54°C (115-129°F)	-	Mitchell (1957)
5.	Oven drying in a forced air oven	77°C(170°F)	24 hrs	Boyd (1959)
б.	Oven drying; Drying over P2O5; Drying under sus- tained pressure of the order of 1 micron	80°C(176°F) 40°C(104°F)	l6 hrs Until con- stant weig is attained (App.72 hrs	Greenhill (1960) ht d s)
7.	Oven drying	125.80C (195°F)	30 hrs	Person & Sorenson (1962)
8.	Oven drying	100°C(212°F)	72 hrs	Hall (1964)
9.	Oven drying	80°C(176°F)		Shepherd(1964)
10.	AOAC oven drying method for grain and stock feeds	135 <u>+</u> 2°C (275 <u>+</u> 3.6°F)	-	Horwitz (1965 Halyk and Bilanski(1966 Kurtz and Bilanski (1967,1968)

Where drying time is not shown in column 3, the duration of the treatment was given as "to constant weight" or "overnight."

TABLE 1. Methods used for determining moisture content of hay

The oven drying methods for determining moisture content of hay involve two main sources of error. The first is associated with continuing metabolic activity causing loss of material during drying of freshly harvested plants. McRostie and Hamilton (1927), Raymond (1951) and Davies <u>et al.</u> (1948) have investigated this problem. The second error arises from difficulty of completely removing the water from plants at a temperature which will not cause serious decomposition of plant material. Greenhill (1960) has conducted a comprehensive study on this aspect. While working with white clover, alfalfa and short rotation ryegrass he concluded: "Sufficient accuracy would be obtained by oven drying at 80°C at atmospheric pressure and for a standard period, say 16 hours."

His experiments consisted of oven drying hay samples at atmospheric pressure and:

(i) at 105<sup>o</sup>C (221<sup>o</sup>F) for periods of 3, 6, 16, 24, 48 and 96 hours

(ii) at  $80^{\circ}$ C (176°F) for the same periods (iii) at  $95^{\circ}$ C (203°F) for 16 hours.

At temperatures of  $105^{\circ}C$  (221°F) and  $80^{\circ}C$  (176°F) the loss of weight in terms of duration of drying was found to be a logrithmic relation of the form:

L = a log T + b

where: L = loss of weight, per cent

T = duration of drying, hrs

a and b = constants.

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(7)

	·	Temper	ature	<u></u>
Material	105°C (221°F)		80°C (176°F)	
	"a"	"L »	"a"	"b"
White clover	1.04	0.85	0.21	0.12
Alfalfa	0.63	0.10	0.17	0.00
Ryegrass	0.94	0.30	0.06	0.08

The reported values of "a" and "b" were as follows:

Greenhill (1960) also found that, white clover and alfalfa would begin to decompose and lose dry matter at a temperature somewhere between  $60^{\circ}C$  (140°F) and  $70^{\circ}C$  (158°F). The value for ryeqrass was estimated to lie between  $70^{\circ}C$  (158°F) and 80°C (176°F). However, while the method proposed by Greenhill has been used in the present study, it is well understood that at 176°F the pasture material does not attain a constant weight but the rate of loss of weight, after moisture removal can be assumed to have ceased, is very low. It is also acknowledged that some small amount of hygroscopic moisture will not be removed because of vapour pressure of air in which samples have been dried. The average residual moisture reported by Greenhill for samples dried at 80°C (176°F) was 0.5 per cent and will vary according to the actual vapour pressure of the atmosphere.

#### III. MATERIALS AND METHODS

#### 3.1. Design of Experiment

Two experimental trials, each consisting of a randomized complete block design having five treatments and four replications, were conducted. Table 2 summarizes the treatments.

Treatment no	Treatment	Figure no
1	Natural windrow	la; 4a
2	Inverted windrow	1b; 4b
3	Trampled windrow	lc; 4c
4	Trampled windrow shaded	ld
5	Natural windrow shaded	le
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TABLE 2. Treatments performed on hay windrows

Natural windrow refers to the undisturbed windrow as formed by the self-propelled windrower. The plants in this windrow were placed by the machine in a nearly upright position with heads pointing upward (Figures 1a; 4a). The inverted windrow was made by turning the natural windrow upside down. The heads of the plants in this windrow were pointing down (Figures 1b; 4b). The trampled windrow was formed by trampling the natural windrow. Trampling was used to reduce the included angles of the plants with the horizontal and increase the windrow density (Figures 1c; 4c).



Fig. 1. Treatments performed on hay windrows.


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Fig. 1. Treatments performed on hay windrows.

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Shade was provided by 3/4 inch thick, 5 x 10-foot plywood sheets (Figures 1d, 1e) supported at a height of 2 1/2 feet over the windrow sections. Both sides of the plywood sheets were painted with two coats of white enamel paint. Complete shade was observed on the shaded sections between 8:00 am and 6:00 pm throughout the duration of the experiment. Shades were removed at 6:00 pm to provide similar conditions for moisture regain at night by the shaded and unshaded sections.

In the first trial which was conducted at the Macdonald College Farm, the first cut of a mixture of bromegrass and timothy was used as experimental material. The second trial was performed on the first cut of a red clover and alfalfa mixture on a private farm in the vicinity of Macdonald College.

## 3.2. Machine Description

The New Holland model 905 self-propelled windrower equipped with a 10-foot draper header and bat reel (Figure 2a) was used in this investigation. The plants cut by the central part of the cutter bar were guided by the reel to the central delivery opening which was 40 inches wide. The crop cut by the knife sections on either side of this central part fell on two rubberized canvas aprons with wooden slats which carried the material to the central delivery opening. The plants from the windrow thus formed passed through the "spiroll conditioner" consisting of a pair of counter-rotating crushing rolls, 8 inches in



Fig. 2a. New Holland self propelled windrower model 905 (Sperry Rand Corp.).



Fig. 2b. Spiroll Conditioner - 49 inches long, 8 inches in diameter counter rotating crushing rolls (Sperry Rand Corp.).



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Fig. 2a. New Holland self propelled windrower model 905 (Sperry Rand Corp.).



Fig. 2b. Spiroll Conditioner - 49 inches long, 8 inches in diameter counter rotating crushing rolls (Sperry Rand Corp.). diameter and 49 inches long (Figure 2b). After passing through the crushing rolls, the material was placed in windrows by a deflector shield on the rear of the machine.

The machine was operated at approximately 4 miles per hour. It was felt that uniform forward speed was important for uniformity of windrow configuration.

### 3.3. Experimental Procedure

A test area approximately 40 x 70 feet (Figure 3) was chosen at each of the two locations. Treatments as listed in Table 2 were performed on the hay windrows soon after they were formed. The experimental blocks were designed to contain 70foot lengths of four successive windrows. The treatments within the blocks were applied to 10-foot long sections of the windrows within each experimental block, leaving a 5-foot length of untreated windrow between adjacent treatments.

Time involved in carrying out the required treatments subsequent to cutting affects results considerably (Shepherd, 1957). Therefore, treatments within the blocks were completed simultaneously, limiting the total time for treatments in all four blocks to 30 minutes. The order of treatments was randomized within each of the four blocks.

# 3.3.1. <u>Measurement of physical characteristics</u> of windrows

Orientation of plants in the natural windrow were measured by recording prominent vertical and horizontal angles





Letters (A, B, C, D) refer to the blocks Numbers (1, 2, 3, 4, 5) refer to the treatments as listed numerically in Table 2 W denotes the windrow width

Fig. 3. Layout of the experimental field.





Letters (A, B, C, D) refer to the blocks Numbers (1, 2, 3, 4, 5) refer to the treatments as listed numerically in Table 2 W denotes the windrow width

Fig. 3. Layout of the experimental field.

at which stems were arranged. The altered orientation of plants after the processes of inversion and trampling were described by measuring windrow configuration before and after the treatment. Windrow configuration was described by measuring width and height of the cross-section of windrows under each of the five treatments at 2-foot intervals along the windrow length. At each interval, height was measured at the center of the windrow and at one edge of it. Equivalent height of the windrow was defined as the average of these two heights. From these width and height measurements, cross-sectional areas at 2-foot intervals of the windrow length were computed on an IBM system 360/75.

## 3.3.2. Measurement of environmental conditions

A portable weather station was set up in the experimental field. The climatic variables that were recorded at regular intervals included dry bulb and wet bulb air temperatures, grass temperature by the side of the windrow, wind velocity and net solar radiation absorbed by the windrow.

A sling psychrometer was used for recording dry bulb and wet bulb air temperatures. Wind velocity was measured at an approximate height of 6 feet above ground level using a hand-held anemometer. The climatological data thus recorded appears in Appendix B.

A black globe thermometer proposed by Pereira, Bond and Morrison (1966) and a "Multiriter" recorder manufactured by

Texas Instruments were used to determine net radiation supplied to the windrow by the sun. The values of net radiation at 1/2 hour intervals are shown in Appendix C.

# 3.3.3. <u>Sampling technique and moisture</u> determination

Samples were required at various stages of drying for moisture determination. The "grab" sampling technique of Halyk and Bilanski (1966) was used. Two samples from each replication of a treatment were taken at the time of cutting, at 12:00 noon and at 6:00 pm on the first day and at 8:00 am, 12:00 noon and 6:00 pm on days subsequent to cutting. Additional samples (two from each replication) were taken during the second trial from the shaded and unshaded natural windrows to provide moisture contents at two-hour intervals between 8:00 am and 10:00 pm. Samples scheduled at 6:00 pm on July 16 were not taken because it was raining then. The sampling was resumed at 9:00 am on July 17.

Drying which occurs during the time of sampling of plots demands that sampling time be kept to a minimum. This time was limited to a maximum of 25 minutes for 40 samples taken at each of the 8:00 am, 12:00 noon and 6:00 pm samplings and a maximum of 10 minutes was allowed for the 16 samples taken at two-hour intervals mentioned above.

Samples were sealed in polythene bags and stored at  $35^{\circ}F$ until they were used for moisture determination. The moisture contents were determined by oven drying the samples at  $80^{\circ}C$ 

(172<sup>0</sup>F) for 16 hours according to the recommendation of Greenhill (1960).

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## IV. RESULTS AND DISCUSSION

The effects of physical characteristics of windrows and environmental conditions on the drying characteristics of hay have been evaluated in three ways:

- (1) comparison of drying curves obtained by plotting moisture content versus drying time
- (2) comparison of time required for hay to reach a specific moisture level
- (3) comparison of moisture content at selected times after cutting by amalysis of variance techniques.

Comparison of the drying curves illustrates the relative drying characteristics of hay but the utility of this method is limited because the application of rigorous statistical approaches is difficult. The methods (2) and (3) listed above have an advantage in that the conventional methods of statistical amalysis can be used to establish significant differences. A comparison of moisture contents at selected times after cutting is particularly useful because the hay harvesting operations are usually scheduled on the basis of moisture content of hay at a given time of day.

### 4.1. Physical Characteristics of Windrows

Observations on the orientation of plants in the natural windrows revealed that such windrows consisted of two distinct

zones (Figure 4a). A zone of systematically arranged plants in sections 1 and 2 occupied either side of a narrow trough. The plants in these sections were placed in a nearly upright position with the heads pointing upward. Their included angles with the horizontal plane ranged from 45 to 60 degrees. These plants formed an angle of approximately 115 degrees with the direction of machine travel. The second zone consisted of some plants in random orientation in the central portion (section 3) of the windrow. The altered orientation of plants and windrow configuration after the processes of inversion and trampling are illustrated in Figures 4b and 4c, respectively.

The means and standard deviations of height, width and cross-sectional area of windrows under various treatments are shown in Tables 3, 4, 5 and 6. These values were obtained from the height and width measurements at 2-foot intervals along the windrow length. The computer programs used for these computations on an IBM system 360/75 appear in Appendix A.

The variability in cross-sectional area of natural windrows is illustrated in Figure 5. The coefficients of variability for width, height and cross-sectional area are shown in Table 7. The coefficients of variability for height and cross-sectional area of the natural windrows were found to be about 2 3/4 times greater than the corresponding value for width. There was no evidence that differences in variability exist between natural windrows and those that have been inverted or trampled. The densities of the inverted and



Fig. 4. Orientation of stems in the natural, inverted and trampled windrow.

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			TABLE	3			
MEAN	NS AND	STANDARD	DEVIAT	IONS OF V	INDROW	HEIGHTS	.х.
			TRIAL	1			
BLOCK	OBS. PER	Н	E	I G	н	Т	S
	BLOCK		~ F	C T N1		CONTVAL	C NIT
		MEAN	S D	MEAN	S D	MEAN	S D
TREATMENT	1						
٨	6	7 1	1.2	10.4	2.1	8.8	1.7
B	6	8.9	2.1	15.1	0.7	12.0	1.6
Ċ	6	7.5	2.0	9.9	2.0	8.7	2.0
D	6	7.2	3.3	13.3	4.3	10.2	3.8
AVERAGE	24	7.7	2.3	12.2	2.6	9.9	2.5
TREATMENT	2						
Δ	6	8.1	1.9	10.2	2.2	9.2	2.1
В	6	9.1	1.8	9.4	1.5	9.2	1.6
C	6	6.1	2.2	8.7	2.5	7.4	2.3
D	6	7.8	3.1	8.6	1.8	8.2	2.5
AVERAGE	24	7.8	2.3	9.2	2.0	8.5	2.2
TREATMENT	3						
Δ	6	4.7	0.5	5.5	0.7	5.1	0.6
B	6	4.0	0.5	4.4	1.8	4.2	1.3
C	6	5.9	1.5	6.3	2.4	6.1	2.0
D	6	5.1	0.5	6.4	1.6	5.8	1.2
AVERAGE	24	4•9	0.9	5.6	1.7	5.3	1.4
TREATMENT	4						
Δ	6	4.2	1.2	5.8	1.1	5.0	1.2
B	6	5.3	0.6	5.0	1.1	5.1	0.9
Ċ	6	5.0	0.6	6.4	1.0	5.7	0.8
D	6	4.2	1.0	5.7	1.3	5.0	1.2
AVERAGE	24	4.7	0.9	5.7	1.2	5.2	1.0
TREATMENT	5						
Δ	6	7.3	1-8	10-4	1.5	8.9	1.6
В	6	10.6	1.0	12.7	1.3	11.7	1.2
С	6	9.7	4.0	12.2	3.5	11.0	3.8
D	6	7.4	2.2	10.0	2.2	8.7	2.2
AVERAGE	24	8.8	2.5	11.3	2.3	10.1	2•4

S D = STANDARD DEVIATION

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			TABL	Ξ 3			
MEA	NS AND	STANDARD	DEVIAT	IONS OF	WINDROW	HEIGHTS	36
			TRIAL	1			
BLOCK	OBS. PER	н	E	I G	; н	т	S
	BLUCK	ED	GE	CEN	ITER	EQUIVAL	ENT
		MEAN	S D	MEAN	S D	MEAN	S D
TREATMENT	1		و				
Α	6	7.1	1.2	10.4	2.1	8.8	1.7
В	6	8.9	2.1	15.1	0.7	12.0	1.6
С	6	7.5	2.0	9.9	2.0	8.7	2.0
D	• 6	7.2	3.3	13.3	4.3	10.2	3.8
AVERAGE	24	7.7	2.3	12.2	2.6	9.9	2.5
TREATMENT	2						
А	. 6	8.1	1.9	10.2	2.2	9.2	2.1
В	6	9.1	1.8	9.4	1.5	9.2	1.6
Ċ	6	6.1	2.2	8.7	2.5	7.4	2.3
D	6	7.8	3.1	8.6	1.8	8.2	2.5
AVERAGE	24	7.8	2.3	9.2	2.0	8.5	2.2
TREATMENT	3						·.
А	6	4.7	0.5	5.5	0.7	5.1	0.6
В	6	4.0	0.5	4.4	1.8	4.2	1.3
С	6	5.9	1.5	6.3	2.4	6.1	2.0
D	6	5.1	0.5	6.4	1.6	5.8	1.2
AVERAGE	24	4.9	0•9	5.6	1.7	5.3	1.4
TREATMENT	· 4						
Α	6	4.2	1.2	5.8	1.1	5.0	1.2
В	6	5.3	0.6	5.0	1.1	5.1	0.9
С	6	5.0	0.6	6.4	1.0	5.7	0.8
D	6	4.2	1.0	5.7	1.3	5.0	1.2
AVERAGE	24	4.7	0.9	5.7	1.2	5.2	1.0
TREATMENT	Г 5						
А	6	7.3	1.8	10.4	1.5	8.9	1.6
В	6	10.6	1.0	12.7	1.3	11.7	1.2
С	6	9.7	4.0	12.2	3.5	11.0	3.8
D	6	7•4	2.2	10.0	2.2	8.7	2.2
AVERAGE	24	8.8	2.5	11.3	2.3	10.1	2.4

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S D = STANDARD DEVIATION



TABLE 4

MEANS AND	STANDARD	DEVIATIONS	OF	WINDROW	HEIGHTS	

TRIAL 2

BLOCK	OBS. PER	н	E	Ι	G H	т	S
	BLOCK	ED		<b>C G</b>	NTED	FOUTVA	
		EU	UE _		INTER	EQUIVA	
		MEAN	50	MEAN	SD	MEAN	SD
TREATMENT	1						
А	6	7.5	1.4	10.5	2.0	9.0	1.7
В	6	5.6	1.0	12.3	2.9	8.9	2.1
C	6	9.1	1.0	11.6	2.8	10.3	2.1
D	6	8.5	1.8	10.8	3.4	9.7	2.7
AVERAGE	24	7.7	1.3	11.3	2.8	9.5	2.2
TREATMENT	2						
Δ	6	9.7	2.0	11.3	2.1	10.5	2.1
B	6	6.8	0.6	8.9	2.4	7.8	1.8
ř	6	7.0	15	10.8	2.0	8.9	1.7
	4		27	10.0	2.00	0.4	2 5
U	0	9.0	2	10.2	2 • 5	9.0	205
AVERAGE	24	8.1	1.8	10.3	2.2	9.2	2.0
TREATMENT	3						
Α	6	5.7	0.7	5.3	0.7	5.5	0.7
В	6	4.7	1.1	5.4	1.3	5.0	1.2
C C	6	4.2	1.2	6.0	1.9	5.1	1.6
ט ה	6	4 7	1•2 0 4	5 2	1.0	2 Q	0 7
U	0	7.1	0.4	5.2	0.9		0.1
AVERAGE	24	4.8	0.9	5.5	1.3	5.1	1.1
TREATMENT	4						
А	6	4.8	0.7	5.6	2.2	5.2	1.6
B	6	5.6	1.0	5.1	0.8	5.3	0.9
C C	6	5 /	2 0	5 6	1 2	5 5	17
	6	J•4 5 1	2.0	2 • 0 4 · 2	1 2	54	1 1
U	0	2.1	0.9	0.2	1•2	2.0	1•1
AVERAGE	24	5.2	1.3	5.6	1.5	5.4	1.4
TREATMENT	5						
А	6	8.9	1.9	10.4	3.4	9.7	2.7
В	6	7.0	1.6	12.2	1.8	9.6	1.7
Ċ.	6	9.7	1.3	12.7	2.9	11.2	2.2
Ď	6	10.4	3.1	10.7	2.0	10.5	2.6
AVERAGE	24	9.0	2.1	11.5	2.6	10.2	2•4

S D = STANDARD DEVIATION

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MEANS AND STANDARD DEVIATIONS OF WINDROW WIDTHS

TRIAL 1.

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BLOCK	OBS. PFR		т	R	E	А	т	M E	N	Т	
	BLOCK		1		2		3		4	1	5
		MEAN	S D	MEAN	S D	MEAN	S D	MEAN	S D	MEAN	S D
А	6.	41.1	3.3	30.1	2.9	46.9	4.5	44.0	1.9	38.4	4.5
В	6	42.5	2.7	29.2	5.0	43.2	4.1	44.3	4.9	33.2	2.4
С	6	38.2	2.5	30.8	2.9	47.3	6.9	42.3.	7.4	45.0	8.8
D	6	39.7	4.0	31.1	4.7	39.0	6.0	43.2	4.1	41.8	3.7
AVERAGE	24	40.4	3.2	30.3	4.0	44.1	5.5	43.5	5.0	39.6	5.4
TRIAL 2.											
А	6	45.3	4.5	28.7	4.0	46.8	7.1	47.8	1.9	45.2	4.7
В	6	48.5	2.9	32.7	4.5	45.5	3.4	47.0	3.5	46.3	6.0
С	6	42.7	6.1	30.5	4.5	50.7	4.0	45.7	4.2	46.2	1.7
D	6	51.7	4.8	36.8	8.2	45.2	1.9	48.7	2.3	52.3	6.9
AVERAGE	24	47.0	4.7	32.2	5.6	47.0	4.5	47.3	3.1	47.5	5.2

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S D = STANDARD DEVIATION

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TRIAL 1.											
BLOCK	OBS. PER		Т	R	E	А	Т	М	E N	т	
	BLOCK		1		2		3		4		5
		MEAN	S D	MEAN	S D	MEAN	S D	MEAN	S D	MEAN	S D
А	6	361.0	58.9	275.1	59.9	239.0	32.7	219.1	45.5	342.2	54.7
В	6	513.4	80.5	264.8	34.2	178.7	41.3	226.5	39.0	386.3	24.9
С	6	329.0	62.4	227.2	40.4	285.9	72.6	236.1	21.4	499.9	159.7
D	6	412.3	173 <b>.</b> 2	253.8	59.9	227.5	62.1	216.1	60.5	364.5	87.7
AVERAGE	24	403.9	104.7	255.2	49•9	232.8	54•6	224.5	43.9	398.2	95.9
TRIAL 2.											
Δ	6	408.4	71.1	304.9	88.1	255:7	34.0	247.5	54.0	442.0	142.1
B	6	435.8	105.2	252.7	38.6	228.5	46.6	251.2	46.6	446.7	98.9
C	6	442 5	109 3	270 6	56 2	258 1	46 0	255 1	71 3	515 2	87 2
D D	6	500.1	87.7	350.9	87.9	223.1	22.3	273.3	30.0	561.5	183.6
U	0	20001	0101	550.7	0107	<i>LLJ</i> • I	~~• /	21000	20.0	20102	10300
AVERAGE	24	446.7	94.3	294.8	71.0	241.4	38.5	256.8	52.6	491.4	133.5

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TABLE 6

# MEANS AND STANDARD DEVIATIONS OF WINDROW CROSSECTIONAL AREAS

S D = STANDARD DEVIATION



Fig. 5. Variability in computed values of cross-sectional area of the natural windrow at 2-foot intervals along the windrow length.

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trampled windrows were found to be 1.5 and 1.8 times the density of the natural windrows respectively. These estimates of windrow densities were based on cross-sectional area of windrows.

Treat <b></b> ment no		Trial l		Trial 2				
	Width	Height	Cross <b>-</b> sectional area	Width	Height	Cross <b>-</b> sectional area		
1 2 <sup>.</sup> 3 4 5	7.9 13.1 12.4 11.4 13.6	25.2 25.9 26.4 19.6 23.7	25.9 19.3 23.4 19.5 24.0	10.0 17.3 9.5 6.5 10.9	23.1 21.7 21.5 25.9 23.5	21.0 24.0 15.9 20.4 27.1		

TABLE 7. Coefficients of variability for width, height and cross-sectional area of windrows under various treatments

#### 4.2. Environmental Conditions

The values of wind velocity, grass temperature by the side of the windrow, air temperature, wet bulb depression, relative humidity, and precipitation, recorded at different times of the day during the periods of the two experimental trials, are shown in Appendix B. The net solar radiation absorbed by the windrows was computed on an IBM system 360/75 using the black globe thermometer readings. The computer program and printout of results appear in Appendix C. These data illustrate variability of the environment during the drying period of hay in a typical climate of southwestern Quebec. The wind velocity and solar radiation data have been used to study the effects of these variables on drying characteristics of hay in windrows of different configurations and stem orientations.

# 4.3. Drying Characteristics

## 4.3.1. Comparison of drying curves

The drying curves for the various treatments (Figures 6 through 13) have been developed from the moisture content data shown in Appendix D. Each point on these drying curves is an average of 8 observations obtained by taking two samples from each of the four replications of each treatment. The tables of moisture content data have been arranged according to the sampling schedule that was followed. The experimental site, date and time of each sampling are indicated in the table headings. The first sampling was made at the time of cutting. The program used for computations of moisture contents on the IBM system 360/75 computer appears in the beginning of Appendix D.

In the first experimental trial with a mixture of bromegrass and timothy, only small differences appeared between the drying rates of the natural and the inverted windrows. But after the hay was rained on, the inverted windrows dried faster than the natural windrows (Figure 6). In the second trial, using a mixture of red clover and alfalfa, the natural windrows dried faster than the inverted windrows (Figure 7).

Trampled windrows dried at a rate much lower than either natural or inverted windrows in both the trials (Figures 6 and 7). This appears logical because the external resistance to diffusive and turbulent vapour flow through air surrounding the plant surfaces would increase as density of the bulked material increased and wind speed decreased. Because the trampled windrows were 1.8 times more dense than the natural windrows, their external resistance would be greater than that of the natural windrows. Above a given wind speed the natural windrows would be expected to dry faster than the trampled windrows.

The curve of wind speeds recorded at half-hour intervals on the experimental site was superimposed on the drying curves (Figures 8 and 9). These figures provide evidence of a steeper slope of drying curves during periods of high wind speeds. This can be attributed to decrease in external resistance with increasing wind speeds. In the windrowed material, an accumulation of vapour within the air spaces results in a decrease of plant to air vapour pressure gradients and lower rates of drying. Higher wind speeds could remove accumulated vapour from the air spaces and accelerate drying.

During the first trial wind was very calm. The average and maximum wind speeds for the three-day period were 2 and 7 mph respectively. The wind speeds were exceptionally high during the second trial and the corresponding values during this period were 5 and 16 mph.

In comparing the drying characteristics of the natural and the inverted windrows, external resistance to the vapour movement due to the influence of windrow density and wind velocity require consideration. The inverted windrows were found to have a density of 1.6 and 1.5 times the density of the natural windrows in trials 1 and 2 respectively. Direct comparisons are therefore not possible, because the slower drying in the trampled windrows shows that windrow density is an important factor influencing drying rate. The drying rate of the inverted windrows was close to that of the natural windrows in the first trial because wind speeds were very low. The increase in external resistance due to increase in density that accompanied inversion was probably much less than the high value of external resistance that prevailed due to calm wind.

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In comparing results of the first and second trials for comparative drying rates in the natural and inverted windrows, differences in crop characteristics must be considered in addition to the possible differences in external resistance due to different windrow densities and air speeds in the two cases. In spite of the higher density of the inverted windrows in the first trial as compared to the second, the drying rates of the inverted windrows were closer to that of natural windrows in the first trial. The higher drying rate for the natural windrow than the inverted windrow, in the second trial may be attributed to:

(a) lower value of external resistance due to lower windrow

density accompanied by high wind speed

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(b) the presence of more leaves in the mixture of red clover and alfalfa than in the bromegrass and timothy mixture used in the first trial. This is in agreement with the claim of Jones and Palmer (1933) that the leaves of plants are natural agencies for disposal of plant moisture. As such, they should remain more exposed to the external drying conditions for a higher evaporation rate of the water conducted to them by the stems.

The conclusions from these findings are as follows: (a) in wind regimes having high wind speeds, windrow density would be a critical factor influencing drying rate

(b) the relative advantage obtained from drying hay in windrows with heads pointing upward versus heads pointing downward will vary with different hay crops. In the case of hay species having a high percentage of leaves, an upright orientation of the plants with the heads pointing upward is more desirable.

Estimates of stomatal, cuticular and external resistances of clover (Shepherd, 1964) show that the drying rate of hay would increase by 200 per cent if the external resistance could be reduced to zero.

Shepherd (1965) reported a lower rate of drying of high moisture bulked material than of single units when the upper air speeds were non-limiting. This indicated some retention of external resistance by units within the bulk. The external resistance, therefore, cannot become zero, but could be reduced to a certain minimum value which will be influenced jointly by wind velocity, windrow density and possibly orientation of plants within the windrow. In natural drying of hay, very little control over wind speed is possible. It is therefore important to define the structure of an ideal windrow which will have minimum external resistance.

Shaded windrows were found to dry much slower than the unshaded windrows (Figures 10 through 13). In general the moisture differential between the shaded and unshaded windrows increased during the period between 12:00 noon and 6:00 pm when the intensity of solar radiation was highest (Figures 12 and 13). These statements are not true for the drying period following 0.38 inch rain during the first trial. The reason is that the shades remained on the shaded treatments during the period of rain and the rewetting of the hay was less in these treatments than the unshaded treatments.

The moisture differential between shaded and unshaded windrows was higher when hay was left to dry in the trampled windrows (Figures 11 and 13) compared with corresponding moisture differential in the natural windrows (Figures 10 and 12). This shows that the effect of solar radiation on the drying rate of hay in windrows depends upon windrow configuration, the results being in favour of the trampled windrows as compared with the natural windrows.

The moisture differential between shaded windrows in natural and trampled conditions (Figure 9) was found to be considerably greater than the corresponding moisture differential in unshaded windrows (Figure 8). This variability in moisture differential in the two cases confirms the earlier finding that the drying effect due to solar radiation was more pronounced in the trampled than in the natural windrows. Under shaded conditions this drying advantage of trampled windrows was controlled which resulted in a greater moisture differential compared with corresponding moisture differential in the windrows exposed to the sun.

The results showed that the amount of water evaporated (lbs/btu) from the inverted and trampled windrows was approximately 1 1/4 times greater than the corresponding moisture loss from the natural windrows (Table 8). The calculations were based on drying periods between 8:00 am and 6:00 pm for three days following cutting of the hay.

Since the surface areas of the natural windrows were approximately 1 1/4 times greater than those of the inverted and trampled windrows, this difference in the drying characteristics was not due to the lower value of net radiation on the natural windrows. However, it can be attributed to different methods of heat transfer in the two cases.

In drying with solar radiation the hay becomes warmer than the surrounding air and hay loses heat to the air. An increase in air velocity when heating by radiation decreases

surface temperature of the hay, increasing the heat losses and decreasing the rate of drying. Favourable drying effects of 'solar radiation in the case of the trampled windrows compared with the natural windrows may be attributed to lower rates of air movement in the trampled windrows.

During the transfer of solar radiant heat from the windrow surface to the interior of the windrow, the process of conduction would be dominant in the system consisting of plants in the trampled windrows. In the case of the natural windrows, heat transfer would be controlled by convection rather than conduction. In convection drying heat moves from the air to the product. Since the hay would be at a higher temperature than the surrounding air when solar drying is prominent, convection drying does not occur.

It can be concluded from these results that solar radiation is effective in augmenting heat transfer and accelerating drying rates. Furthermore, compact windrows would be desirable to accelerate drying effects due to this environmental variable alone. It is well understood, however, that the compaction of windrows may slow down drying effects due to other climatic variables.



Fig. 6. Effects of stem orientation on the drying of crushed hay in windrows (Trial 1).



Fig. 7. Effects of stem orientation on the drying of crushed hay in windrows (Trial 2).



Fig. 8. Wind speed effects on drying of crushed hay in the unshaded windrows of different configurations (Trial 2).



Fig. 9. Wind speed effects on drying of crushed hay in the shaded windrows of different configurations (Trial 2).



Fig. 10. Solar radiation effects on drying of crushed hay in the natural windrows (Trial 1).



Fig. 11. Solar radiation effects on drying of crushed hay in the trampled windrows (Trial 1).

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Fig. 12. Solar radiation effects on drying of crushed hay in the natural windrows (Trial 2).





Fig.13. Solar radiation effects on drying of crushed hay in the trampled windrows (Trial 2).

TABLE 8. Effects of stem orientation on drying due to solar radiation

Natural windrow			Inv	erted wi	ndrow	Trampled windrow			
·Day 1	Day 2	Day 3	·Day·l·	Day 2	Day 3	Day 1	Day 2	Day 3	
70.2	35.7	26.3	70.2	34.9	25.2	70.2	50.7	28.3	
36.1	13.6	13.6	42.1	17.0	16.0	47.1	32.9	22.9	
8.82	4.23	2.43	8.02	3.56	1.81	7.22	6.11	1.16	
52.30	89.24	76.92	52.30	89.24	76.22	52.30	89.24	76.22	
58.62	58.62	. 58.62	47.10	47.10	47.10	47.05	47.05	47.05	
3065.82	5231.24	4509.05	2463.33	4203.20	3622.93	2460.72	4198.74	3619.09	
.002880	.000808	.000539	•003256	.000847	.000499	.002934	.001455	.000320	
- 	.004270			.004602			.004709	•	
	Nati Day 1 70.2 36.1 8.82 52.30 58.62 3065.82 .002880	Natural wind   Day 1 Day 2   70.2 35.7   36.1 13.6   8.82 4.23   52.30 89.24   58.62 58.62   3065.82 5231.24   .002880 .000808   .004270	Natural windrow     Day 1   Day 2   Day 3     70.2   35.7   26.3     36.1   13.6   13.6     36.1   13.6   13.6     8.82   4.23   2.43     52.30   89.24   76.92     58.62   58.62   58.62     3065.82   5231.24   4509.05     .002880   .000808   .000539     .004270   .004270   .004270	Natural windrow   Invi     Day 1   Day 2   Day 3   Day 1     70.2   35.7   26.3   70.2     36.1   13.6   13.6   42.1     8.82   4.23   2.43   8.02     52.30   89.24   76.92   52.30     58.62   58.62   58.62   47.10     3065.82   5231.24   4509.05   2463.33     .002880   .000808   .000539   .003256     .004270   .004270   .003256   .004270	Natural windrow   Inverted windrow     Day 1   Day 2   Day 3   Day 1   Day 2     70.2   35.7   26.3   70.2   34.9     36.1   13.6   13.6   42.1   17.0     8.82   4.23   2.43   8.02   3.56     52.30   89.24   76.92   52.30   89.24     58.62   58.62   58.62   47.10   47.10     3065.82   5231.24   4509.05   2463.33   4203.20     .002880   .000808   .000539   .003256   .000847     .004270   .004602   .004602   .004602	Natural windrow   Inverted windrow     Day 1   Day 2   Day 3   Day 1   Day 2   Day 3     70.2   35.7   26.3   70.2   34.9   25.2     36.1   13.6   13.6   42.1   17.0   16.0     8.82   4.23   2.43   8.02   3.56   1.81     52.30   89.24   76.92   52.30   89.24   76.22     58.62   58.62   58.62   47.10   47.10   47.10     3065.82   5231.24   4509.05   2463.33   4203.20   3622.93     .002880   .000808   .000539   .003256   .000847   .000499     .004270   .004602   .004602   .004602   .004602	Natural windrow   Inverted windrow   Train     Day 1   Day 2   Day 3   Day 1   Day 2   Day 3   Day 1     70.2   35.7   26.3   70.2   34.9   25.2   70.2     36.1   13.6   13.6   42.1   17.0   16.0   47.1     8.82   4.23   2.43   8.02   3.56   1.81   7.22     52.30   89.24   76.92   52.30   89.24   76.22   52.30     58.62   58.62   58.62   47.10   47.10   47.05     3065.82   5231.24   4509.05   2463.33   4203.20   3622.93   2460.72     .002880   .000808   .000539   .003256   .000847   .000499   .002934     .004270   .004602   .004602   .004602   .004602	Natural windrow   Inverted windrow   Trampled windrow     Day 1   Day 2   Day 3   Day 1   Day 2   Day 3   Day 1   Day 2     70.2   35.7   26.3   70.2   34.9   25.2   70.2   50.7     36.1   13.6   13.6   42.1   17.0   16.0   47.1   32.9     8.82   4.23   2.43   8.02   3.56   1.81   7.22   6.11     52.30   89.24   76.92   52.30   89.24   76.22   52.30   89.24     58.62   58.62   58.62   47.10   47.10   47.05   47.05     3065.82   5231.24   4509.05   2463.33   4203.20   3622.93   2460.72   4198.74     .002880   .000808   .000539   .003256   .000847   .000499   .002934   .001455     .004270   .004602   .004709   .004709   .004709	

Note: Calculations are based on 10-foot length of the windrow and for drying period between 8:00 am and 6:00 pm.

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## 4.3.2. <u>Comparison of time required for hay to</u> reach 25 per cent moisture level

Time required for the hay windrows under various treatments to dry to 25 per cent moisture content is shown in Figure 14. In the first experimental trial, natural and inverted windrows required 25 1/2 and 25 hours respectively. The corresponding times for these same treatments in the second trial were 27 1/4 and 30 1/2 hours. The possible reason for inverted windrows to dry slightly faster in the first and considerably slower in the second trial, as compared with natural windrows, has been discussed in the section on comparison of drying curves. Natural windrow shaded and trampled windrow of trial 2 were the only other treatments that reached 25 per cent moisture level. The exposure times were 50 and 53 hours, respectively. The times represented by the broken bars could not be recorded because the windrows under these treatments did not reach 25 per cent moisture during the periods for which the experiments were conducted.

During the first trial, 0.38 inch rain fell between 5:30 pm on the second day and 8:00 am on the third day, following the morning on which the material was cut. Moisture contents of the hay after rewetting in the unshaded treatments, recorded at 9:00 am on the third day since cutting, were somewhat higher than those at the time of cutting. The corresponding moisture content recorded simultaneously for the shaded treatments was slightly lower than those at the time of cutting because the shades remained on these treatments during the period of rain and rewetting of the hay was to a lesser extent. Following the rain, only the



Fig. 14. Time required for crushed hay in windrows under various treatments to dry to 25 per cent moisture content (wb).



Fig. 14. Time required for crushed hay in windrows under various treatments to dry to 25 per cent moisture content (wb).

. 9 hay in the natural and the inverted windrows reached a 25 per cent moisture level within the duration of the experiment. Thus, the hay which had reached the moisture content of 25 per cent 25 hours after it was cut, could not be bailed for over 70 hours since cutting because of 0.38 inch rainfall. This single example points out the kinds of delays that may be expected when such rain showers occur during hay harvesting.

#### 4.3.3. <u>Comparison of moisture contents at</u> selected times after cutting

Analysis of variance of moisture contents at 12:00 noon on the day following the morning on which the material was cut appears in Table 9. Differences in moisture content amongst treatments were highly significant and differences amongst blocks were non-significant at the 1% level in both trials. Experimental error was used as a basis for testing the hypothesis concerning the differences of moisture contents of the treatments and blocks. An analysis of variance after angular transforms of moisture content percentages (Snedecor, 1961) did not alter these conclusions.

A comparison of the treatment means, using Duncan's new multiple range test, is shown in Table 10. Any two means not underscored by the same line are significantly different from each other. The means underscored by the same line are not significantly different from each other.

Source of variation	df	SS	MS	F
Trial 1 - 25 hours aft	er cut	ting		•
Blocks Treatments Experimental error Sampling error	3 4 12 20	2.22 455.28 7.18 31329.36	0.74 113.82 0.59 1566.46	1.234 ns 190.333 **
Trial 2 7 28 hours aft	er cut	ting		
Blocks Treatments Experimental error Sampling error	3 4 12 20	1.36 1402.63 24.31 43169.72	0.45 350.66 2.03 2158.48	0.224 n 173.078 **
ns denotes a non-sign ** denotes a highly s (Steel and Torie,	ifican ignific 1960)	t difference cant differen	nce at 1% 1	evel
ns denotes a non-sign ** denotes a highly s (Steel and Torie, TABLE 10. Comparison various treatment	ifican ignific 1960) of tl s (Dund	t difference cant differen ne mean mo can's new mu	nce at 1% 1 isture con ltiple rang	evel tents of the e test)
ns denotes a non-sign ** denotes a highly s (Steel and Torie, TABLE 10. Comparison various treatment	ifican ignific 1960) of tl s (Dund	t difference cant differen ne mean mo can's new mu	nce at 1% 1 isture con ltiple rang	evel tents of the e test)
TABLE 10. Comparison various treatment	ifican ignific 1960) s (Dund er cut	t difference cant differen ne mean mo can's new mu ting	nce at 1% 1 isture con ltiple rang	evel tents of the e test)
TABLE 10. Comparison various treatment Trial 1 - 25 hours aft 2 25.0	ifican ignific 1960) s (Dund er cut 1 25.2	t difference cant differen ne mean mo can's new mu ting 5 28.2	nce at 1% 1 isture con ltiple rang 3 35.2	evel tents of the e test) 4 <sup>a</sup> 42.6 <sup>b</sup>
TABLE 10. Comparison various treatment Trial 1 - 25 hours aft 2 25.0 Trial 2 - 28 hours aft	ifican ignific 1960) of the s (Dund er cut 1 25.2	t difference cant differen can's new mu ting 5 28.2 ting.	nce at 1% 1 isture con ltiple rang 3 35.2	evel tents of the e test) 4 <sup>a</sup> 42.6 <sup>b</sup>

TABLE 9. Analysis of variance of the moisture contents

b Moisture content (% wb).

#### V. SUMMARY AND CONCLUSIONS

1. The drying advantage obtained due to orientation of plants in hay windrows, with plant heads pointing upward versus downward, will vary with different species of hay crops. An upright orientation with plant heads pointing upward is desirable for faster drying of plant species having a high percentage of leaves.

2. The variability associated with configuration of windrows formed by a self-propelled windrower was found to be high. The coefficient of variability for windrow width was approximately 9 per cent and the corresponding value for height and cross-sectional area was about 2 3/4 times as great. A comparison of the calculated values of the coefficient of variability for windrow width, height and cross-sectional area, as a measure of machine performance, was not possible because data on physical characteristics of windrows were not available in the published literature.

3. The rate of drying crushed hay in windrows increased as wind velocity increased and windrow density decreased. The higher drying rate may be attributed to a lower value of external resistance to diffusive and turbulent vapour flow through air surrounding the plant surfaces under these external conditions.

4. Important changes in windrow density occur during manual handling of windrows. It was found that even in careful inversion, windrow density increased to 1 1/2 times. Since drying rate was found to decrease with increase in windrow density, the importance of eliminating operations on windrows which would cause an increase in their density becomes obvious.

5. Compact windrows are desirable to accelerate drying on account of solar radiation heat input alone. This may be attributed to lower rates of air movement in compact windrows and increased heat transfer by conduction as compared to convective heat transfer. When heating by solar: radiation, increased air velocity in fluffy windrows decreases surface temperature of the hay, increasing the heat loss and decreasing the rate of drying.

VI. APPLICATION OF THE FINDINGS

Of the hay conditioners now available on the market, some place plants in windrows with heads pointing upward whereas others cause stems to stick upward. For example, the New Holland self-propelled windrower model 905 used in this study placed crushed hay plants with heads pointing upward. International Harvester (n.d.) claims in its advertising literature that its hay conditioners models 33, 34 and 2A "deposit crushed hay with stems up". Based on our finding that the drying rates obtained in these two orientations will vary with different species of hay crops, a design capable of providing any desired orientation is ideal from the standpoint of functional requirement. However, the machine design aspects of additional mechanisms and increased cost may not justify On the farms where a single hay crop is grown, additional this. features to alter stem orientation may not be required in the machine. The choice of a favourable orientation for this crop could be possible at the time of machinery selection.

The machine used in the present investigation placed stems in windrows with plant heads pointing upward. The heads were pointing inward in section 1 and outward in section 2 as shown in the plan of windrow (Figure 4a). For greater exposure of leaves to environmental conditions which is the reason for

placing the plants with heads pointing upward, the plant heads in both the sections should point outward.

Placing hay in the inverse orientation with heads down and stems up shields the leaves from the sun and suppresses their drying rate compared to the drying rate of the stems. This would be desirable for reducing leaf loss. However, in this orientation the weaker part of the stem was at the bottom of the windrow. This caused the stems to bend, resulting in an apparent increase in windrow density. Since windrow density affects the drying rate of hay, these considerations are important in evaluating the relative merits of various orientations and in establishing a design criterion.

#### VII. RECOMMENDATIONS FOR FURTHER RESEARCH

1. Difficulties encountered with experimental methods and interpretation of results obtained emphasize the need for standardization of sampling techniques and procedures for moisture content determination. Shepherd (1957) attests to the practical difficulties associated with the variability of hay material and has suggested sampling methods. Based on a review of previous researches and results obtained from laboratory experiments, Greenhill (1960) has recommended procedures for determining moisture content of herbage. Association of Official Agricultural Chemists has established official methods for moisture content determination for several materials. Unfortunately, standard research procedures for hay have not been established yet.

2. The resistance to diffusive and turbulent vapour flow through air surrounding the plant surface slows the drying rate of windrowed hay. This resistance is influenced jointly by wind velocity, windrow density and orientation of plants in a windrow. In the field drying of hay no control over wind speeds is practical. Future research in this area should therefore be directed towards defining the structure of a windrow which is ideal for highest rate of drying.

3. Once the desired orientation of plants in windrows from the standpoint of faster drying rates is established for individual species of hay crops, estimates on leaf loss in different orientations will be required before the choice of an acceptable orientation can be made.

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4. Control of environmental factors influencing the drying rate of hay is not practical in field experiments. This complicates the analysis of results. Theoretical models and controlled laboratory experiments are recommended for establishing external drying effects of environmental conditions. For example, wind tunnel studies could provide an answer to air speed effects on drying.

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# APPENDICES

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# APPENDIX A

Programs for computing means and standard deviations of heights, widths and cross-sectional areas of windrows under five treatments, on an IBM system 360/75

	с	DRYING HAY IN WINDROWS
	č	MEANS AND STANDARD DEVIATIONS OF HEIGHTS
	õ	D. S. DUGGAL
0001	•	DIMENSION MAG(4)
0001		DATA MAG/141.181.1C1.1D1/
0002		
0003		
0004	116	
0005	110	
0000	,	EDEMATI (11, 73, MEANS AND STANDARD DEVIATIONS OF WINDROW HEIGHTS
0007	1	PORMALL /INVISATING AND STANDARD SELECTIONS OF ALL ALL ALL ALL ALL ALL ALL ALL ALL AL
0000		L'// UDITE(6.2) KDO
0008	2	$W_{L1} = [0] (2) (7) (2) (2) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1$
0009	2	
0010	2	FORMATIN 47Y 2Y, 1910CK1.4Y, 1085, 1.5X, 1H1.5X, 1F1.5X, 111.5X, 1G1.5X, 1H1.5X, 1
0011	5	PURMAILIAIDIAIZAY DEGGA YAAY GOST YAAY H YAAY E YAAY E YAAY E YAAY E YAAY
		L'TT'\$2A\$'1'\$2A\$'5'1
0012		NRIE(0)*/
0013	4	FURMAI(1/4,0/A)1/A, 'PER')
0014	6	ROPAT(1), 672, 102, 1810(X))
0015	2	
0015	4	EOPMAT(1), 672, 222, 1EDGE1, 102, 1CENTER1, 62, 1EQUIVALENT1)
0017	0	TURNAL (1A) DIAY 22AY 2002 YIOAY OLAREA YOAY 2007 MADA Y
0018		RODMATIN 474-144-2/44-10FANI-44-15 01)/)
0019		$\frac{1}{10000000000000000000000000000000000$
0020		
0021		$\frac{1}{1} \frac{1}{1} \frac{1}$
0022	9	TOREAL AND TAKEN THE ATTENT ALL A
0023		
0024		
0025		
0026		STUTEEUA

FORTRAN IV G LEVEL 1, MOD 4

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DATE = 69191

12/08/24

MAIN

- 'S D')/)

COUNT=0.

SUMSQE=0.

SUMSQC=0.

SUME=0.

SUMC=0. SUMQ=0.

- DO 10 KOR=1,4
- STOTC=0.

SUME=SUME+EDGE

SUMC=SUMC+CENTER

SUMQ=SUMQ+EQUIV

COUNT=COUNT+1. GO TO 1000

AVC=SUMC/COUNT

AVQ=SUMQ/COUNT

35 AVE=SUME/COUNT

- STOTQ=0.

1000 READ(5,11) JQ.EDGE.CENTER

11 FORMAT(2X,11,2X,10X,2F10.1) IF(JQ.NE.0) GO TO 35

SUMSQE=SUMSQE+EDGE\*EDGE

SUMSQC=SUMSQC+CENTER#CENTER

EQUIV=(EDGE+CENTER)/2.

FORTRAN IV G LEVEL	1, MOD 4	MAIN	DATE = 0
0050	SDE=SURT((SUMSQE-CO	UNT*AVE*AVE)/(COUN	T-1.))
	SDC=SURT((SUMSQC-CO	UNT*AVC*AVC)/(COUN	T-1.))

69191 12/08/24 PAGE 0002

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0050		SDE=SURT((SUMSQE-COUNT*AVE*AVE)/(COUNT-1.))
0051		SDC=SQRT((SUMSQC-COUNT*AVC*AVC)/(COUNT-1.))
0052		SDQ=SQRT((SDE*SDE+SDC*SDC)/2.)
0053		TOTE=TOTE+AVE
0054		TOTC=TOTC+AVC
0055		TOTQ=TOTQ+AVQ
0056		STOTE=STOTE+SDE*SDE
0057		STOTC=STOTC+SDC*SDC
0058		STOTQ=STOTQ+SDQ*SDQ
0059		MCOUNT=COUNT
0060		WRITE(6,36) MAG(KOR), MCOUNT, AVE, SDE, AVC, SDC, AVO, SDO
0061	36	FORMAT(1X,67X,4X,A1,5X,I3,1X,3(F8.1,F7.1))
0062		NC=KOR
0063	10	CONTINUE
0064		TOTE=TOTE/4.
0065		TOTC=TOTC/4.
0066		TOTQ=TOTQ/4.
0067		STDE=SQRT(STOTE/4.)
0068		STDC=SQRT (STUTC/4.)
0069		STDQ=SQRT(STOTQ/4.)
0070		MZZ=MCOUNT*NC
0071		WRITE(6,38) MZZ, TUTE, STDE, TUTC, STDC, TOTQ, STDQ
0072	38	FORMAT(/1X,67X,1X,'AVERAGE',1X,14,1X,3(F8.1,F7.1)/)
0073	88	CONTINUE
0074		WRITE(6,90)
0075	90	FORMAT( /1X,68X,'S D = STANDARD DEVIATION')
0076	8	CONTINUE
0077		STOP
0078		END

TOTAL MEMORY REQUIREMENTS 0007DA BYTES

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FORTRAN	I۷	G	LEVE	i.	1.	MOD	4	MAIN		DATE =	69223	13/46/45
			с		DRY	ING	HAY	IN WINDROWS				
			Č		MEA	NS	AND	STANDARD DEVIATIONS	OF WIDTH	S		
			C		D .	S.	DUGG					
0001						TEA	10N	STUT(5),TUTIME(5),M/	AG(4),AV(	5),SD(	5),SDTO	(5)
0003			11	8	FOR	MAT	(1H)	1				
0004					00	115	KOS	=1,23				
0005					WRJ	TE (	6,11	1)				
0006			- 11	1	FOR	MAT	(1H	)				
0007			11	. ว	UD	TEL	UE 6.13					
0009				1	FOR	MAT	(1X	34X.17X. MEANS AND	STANDARD	DEVIA		E WINDROW WIDTH
				1	s'/	)						
0010				_	WRI	TE(	6,2)					
0011				2	FOR	MAT	(1X,	34X,'TRIAL 1.'/)				
0012				3	FOR	MAT	(1X.	34X.1X. BLOCK .5X. 1	085.1.108		Y. IR1.5	Y. 161.57.141.57
				1	, 17	1,5	X . "M	',5X,'E',5X,'N',5X,	· T· )		A. A	V1.C.17V1.V.17V
0014					WRI	TE (	6,4)		-			
0015				4	FOR	MAT	(1X,	34X,11X,"PER")				
0018				5	HK1	MAT	0;2] (18.	34X-10Y-1810CK1-8Y-1		21.124	121 12	V 141 198 15171
0018				-	WRI	TEG	6,6)	STATIONT DEGCK TONT		2.9154	9.2.915	×1.4.115¥1.3./1
0019				6	FOR	MAT	(1X,	34X,15X,5(3X,'HEAN',	,3X,'S D'	)/)		
0020					DAT	AM	AG/	A*,*B*,*C*,*D*/				
0021					DD	31	KC=1	2				
0022					STC	TUK	m=19 M}=(					
0024			· 1	0	TOT	IME	(KM)	=0.				
0025					DO	32K	=1 <b>,</b> 4					
0026					DO	33L	=1,5					
0021					CUL		0.					
0029					SUM	1=0.	•					
0030			100	00	REA	D(5	,34)	JQ,WIDTH				
0031			3	54	FOR	MAT	(2X,	11,2X,F10.2)				
0032					IF(	JQ.	NE .C	160 TO 35				
0034					SUN	13 Q 1= 5 1 I	30M3 M+⊎1	ATHIDIA*WIDIA DTH				
0035					COL	INT=	COUN	T+1.				
0036					GO	TO	1000					
0037			3	5	AV (	L)=	SUM/	COUNT				
0038					SUL	しり=. )す <i>(</i> )	5QR1 )=ST	( SUMSQ=COUN #AV(L]) GT( )+SD( )#SD( )	*AV(L))/(	COUNT-	1.))	•
0040					TOT	IME	(L)=	TOTIME(L)+AV(L)				
0041			3	33	COM	IT IN	UE					
0042					MCC	UNT	=COU	NT				
0043			1	8	WRI	TE(	6,18 /1 V.	JMAG(K),MCOUNT,(AV()	LP),SD(LP	),LP=1	,5) <sub>j</sub>	
0045			-		NTC	I=K	1141	547,557,81,77,912,27,9	2111010	• 1 / )		
0046			3	32	CON	TIN	UE					
0047					DO	88K	N=1,	5				
0048				00	TOT	INE	(KN)	TOTIME(KN)/4.				
0049			0	00	PULC L	11 U (K )=MC	N / = 5 N I N T	2KI(5+U)(KN)/4.) #NTA				
0050					WR 2	TE	6,20	) NCO, (TOTIME(NP),S	DTO(NP),N	IP=1,5)		
0052			2	20	FOF	MAT	(/1)	,34X, 'AVERAGE',2	X,I4,2X,5	(F7.1,	F6.1)//	)
0053					IF	KC.	EQ.2	1GO TO 31				
0054				"	WK)		114	7 34X. TRIAL 2.1/)				
0055			3	31	00	NT IN	UÊ	JUNT INTUM FO 11		•		
0057			-		WR	ITE (	6,89	)				
0058			٤	89	FOI	RMAT	( )	/35X, 'S D = STANUAR	D DEVIATI	(ON')		
0059					STO	JP G						
0060					E NI							
TOTAL	ME	40	DV DE	<b>6</b> 01	IT D		י אדו	00706 BYTES				

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TOTAL MENDRY REQUIREMENTS 000706 BYTES

FORTRAN	IV G LE	VEL	1, 1	DOM	4	MAIN	DATE = 69220	15/11/38
	c		nev:	ING				
	č		MEAN	NS A	ND ST	ANDARD DEVIATIONS D		
	č		D. 5	S. D	UGGAL		OROSSECTIONAL AREAS	
0001			DIM	ENS I	ON STO	DT(5),TOTIME(5),MAG	(4).AV(5).SD(5).SDTO(5	)
0002			WRIT	TE (6	,118)			
0003		118	FORM	MAT (	1H1)			
0004			00 1	115	KOS=1	,23		
0005			WRIT	TE (6	,111)			
0006		111	FURM	MATI	1H )			
0007		115		TEIA				
0000		1	EUDY	1 E ( 0 4 A T /	14 . 3/	Y. MY INCANE AND C	TANDADD DENTATIONS OF	
0007		î	FOR	1 ΠΝΔ	LA JS	SILA MEANS AND S	TANDARD DEVIATIONS OF	AINDRUW CROSS
0010			WRIT	TE (6	.2)		•	
0011		2	FORM	ATI	1X+34)	(+'TRIAL 1.'/)		
· 0012			WRIT	FE ( 6	,3)			
0013		3	FORM	AT (	1X,34)	(,1X, 'BLOCK',5X, 'OB	S. 1, 10X, 1T1, 5X, 1R1, 5X,	1E1,5X,1A1,5X
		1	L, "T'	• • 5 X	• • M • • 5	5X, 'E', 5X, 'N', 5X, 'T	• )	
0014			WRIT	TE(6				
0015		4	FUK	MATI	1X+34)	(,IIX, PER')		
0010		5	WK11	1210	121	104 1010CK1 04 11	1 104 404 104 404 104	
0018			WRIT	7AI ( Te (6	18934/	(110X1.BEDCK.18X1.1	•••••••••••••••••••••••••••••••••••••••	4 + 12X + 15 / / )
0019		6	FORM	4AT (	18.341	(.151.5/31.1MEAN1.3	X-15 DEX)	
0020		-	DATA	A MA	G/ IAI	181.1C1.1D1/	x4-3 D-171	
0021			DO 3	31 K	C=1,2			•
0022			00 1	10KM	=1,5			
0023			STOT	T (KM	)=0.			
0024		10	TOT	IME (	KM)=0	•		
0025			DO 3	32K =	1,4			
0026			DO 3	33L=	1,5	•		
0027			CUUN	NT=0	•		•	
0028			SUMS	50=0	•			
0030	1	000	REAT	-v.	341 .10	.WIDTH COCC. CENTER		
0031	•	34	FORM	мат <i>і</i>	28.11	28.510.2.2510.11		
0032		5.	IF(	JO.N	E.0)G	TO 35		
0033			ABB	= ( E D	GE+CE	TER)/2.		
0034			CROS	5=WI	DTH#A8	3B		
0035			SUMS	SQ=S	UMSQ+(	CROS*CROS		
0036			SUM:	≠SUM	+CROS			
0037			COUN	VT =C	OUNT+	L.	•	
0038		26	GO 1	TQ 1	000	1417		
0039		55	AVIL CO/I	1=3				
0040			STOT	L/=3 T/  1		50M34+600N1+AV(L)+A	V(L))/(COUNI-1.))	
0042			TOT	IME	L)=T01	[[ME(L)+AV(L)		
0043		33	CONT	TINU	E			•
0044			MCOL	JNT=	COUNT	•	•	
0045			WRII	TE ( 6	,18)M/	AG(K),MCOUNT,(AV(LP	),SD(LP),LP=1,5)	
0046		18	FORM	MAT (	1X,34)	(,3X,A1,7X,I2,2X,5(	F7.1,F6.1))	
0047			NTO	¤K	_			
0048		32	CONT	TINU	E _		,	
0049			DU E	88KN	=1,5			
0050		~~	TOTI	IME(	KN)=T(	DTIME(KN)/4.		
0051		88	SUIL		1)=SQR1	(STUT (*N)/4.)		
0052 /				-MU() TG 74		U CO. (TOTING(ND) SOT	0(ND) NO-1 E)	
0054		20	FORM	1 C 1 O	/)8-24	X. IAVERAGEL.2V.	UINFJ+NF#1+2] 14,28,5157,1.54 11//1	
0055			IF(K	<c _="" f<="" td=""><td>0.216</td><td>1 TO 31</td><td>• - 7 = ~ 7 = 1 = 1 + 1 + 1 0 + 1 / / / )</td><td></td></c>	0.216	1 TO 31	• - 7 = ~ 7 = 1 = 1 + 1 + 1 0 + 1 / / / )	
0056			WRIT	TE(6	.441			
0057		44	FORM	MATO	1X,34)	(,'TRIAL 2.'/)		
0058		31	CONT	TINU	E			
0059			WRIT	TE (6	,89)			
0060		89	FORM	MAT (	//3	5X,'S D = STANDARD	DEVIATION")	
0061			STOP	Р				
0025			END					

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TOTAL MEMORY REQUIREMENTS 000756 BYTES

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# APPENDIX B

# Climatological data recorded at the test site during the period of the experimental trials

# CLIMATOLOGICAL DATA

# July 15-18 1968

Date and time	Wind velocity m.p.h.	Minimum grass temp. <sup>O</sup> F.	Dry bulb temp. °F.	Wet bulb temp. <sup>O</sup> F.	Wet bulb depression <sup>O</sup> F.	Relative humidity %
July 15 am 8:00 10:00	) () ) ()	63.0 74.0	76.0 82.0	73.0 76.0		87.5 77.0
July 16 am 9:04 ll:01 pm 1:01 3:04 5:04 5:34 7:04	D 2 D 2 D 7 D 5 D 0 D* D 0	84.0 100.0 87.0	80.0 86.0 87.5 89.5 91.0 80.0	76.0 79.0 80.0 80.5 82.0 77.0	4.0 7.0 7.5 9.0 9.0 3.0	83.0 73.5 72.5 67.5 68.0 87.0
July 17 am 9:00 11:00 pm 1:00 3:0 5:0	D D D D D D D 1 D D	75.0 75.0 97.0 101.0 89.0	79.0 84.0 80.5 86.0 88.0	76.0 77.0 77.5 79.0 79.0	3.0 7.0 3.0 7.0 9.0	87.0 73.0 87.5 73.5 67.5
July 18 am 9:0 11:0 pm 1:0	0 0 0 4 0 2	80.0 85.0 86.0	82.0 86.0 85.0	78.0 79.0 79.0	4.0 7.0 6.0	82.5 73.5 76.5

\*0.38 in. rain



# CLIMATOLOGICAL DATA July 29-31 1968

	Date and time	Wind velocity m.p.h.	Minimum grass temp. °F.	Dry bulb temp. <sup>O</sup> F.	Wet bulb temp. <sup>O</sup> F.	Wet bulb depression <sup>O</sup> F.	Relative humidity %
Ju am noon pm	ly 29 8:30 10:30 11:00 11:30 12:00 2:00 2:30 3:00 3:30 4:00 5:00 5:30 6:00 7:00 7:30	9 9 12 11 9 9 13 11 9 16 15 12 7 8 8 12	71.0 67.5 78.0 77.0 76.0 80.0 82.0 74.0 80.0 67.0 60.0	59.0 63.0 62.0 68.0 70.0 63.0 70.0 63.0 66.0 78.0 62.0 68.0 68.0 68.0 63.0	55.0 58.0 60.0 63.0 58.0 61.0 57.0 56.0 58.0	5.0 4.0 8.0 7.0 5.0 9.0 6.0 10.0 10.0 10.0 10.0 10.0 3.0 7.5 7.0	77.0 74.0 79.0 63.0 68.0 74.0 60.0 70.0 54.0 60.0 64.0 55.0 55.0 69.0 83.0 62.0
	8:00 8:30 9:00 9:30 10:00 10:30	12 12 6 0 2 2	56.0 54.0 52.0	60.0 56.0 53.0 53.0 53.0 53.0	53.0 51.0 51.5 52.0 51.0 50.0	7.0 5.0 4.5 1.0 2.0 3.0	63.0 71.0 73.0 93.0 87.0 82.0
Ju am noon pm	ly 30 8:30 9:00 9:30 10:00 10:30 11:00 11:30 12:00 2:30	2 7 4 6 3 2 9 2 0	59.0 64.0 76.0 80.0 82.0 86.0 90.0 95.0 100.0	58.0 59.0 66.0 68.0 70.0 72.0 70.0 79.0	54.0 56.0 58.0 62.0 60.0 60.0 63.0 60.0 67.0	4.0 3.0 8.0 6.0 8.0 10.0 7.0 10.0 12.0	78.0 83.0 62.0 72.0 63.0 56.0 56.0 56.0 54.0
	3:00 3:30 4:00 4:30	1 0	98.0 95.0 95.0	79.0 75.0	69.0 61.0	10.0 14.0	61.0 45.5

(continued)

# CLIMATOLOGICAL DATA July 29-31 1968 (continued)

	Date and time	Wind velocity m.p.h.	Minimum grass temp. <sup>O</sup> F.	Dry bulb temp. °F.	Wet bulb temp. <sup>o</sup> F.	Wet bulb depression <sup>o</sup> F.	Relative humidity %
Ju pm	1 y 30 5:00 5:30 6:00 6:30 7:30 8:00 8:30	(continue 0 0 0 0 0 0 0	d) 76.0 56.0 52.0 48.0	80.0 72.0 72.0 70.0 79.0 63.0 54.0	63.0 60.0 60.0 58.0 61.0 58.0 58.0 54.0	17.0 12.0 12.0 12.0 18.0 5.0 0.0	38.0 50.0 50.0 48.0 35.0 74.0 100.0
noor pm	<pre>1 y 31 7:30 8:30 9:00 9:30 10:00 10:30 11:00 11:30 11:30 12:00 2:30 3:00 3:30 4:30 5:00 5:15 6:00</pre>	0 36310433480000000000	60.0 82.0 88.0 84.0 101.0 88.0 82.0 81.0 90.0 88.0 90.0 98.0 98.0 90.0 88.0	65.0 72.0 74.0 78.0 79.0 86.0 79.0 77.0 83.0 85.0 85.0 87.0 94.0 83.0 85.0 83.0 85.0	62.0 61.0 66.0 69.0 71.0 74.0 70.0 75.0 74.0 75.0 75.0 75.0 75.0 73.0 73.0 75.0 71.0	3.0 11.0 8.0 9.0 8.0 12.0 9.0 7.0 8.0 11.0 12.0 6.0 10.0 13.0 8.0 8.0	85.0 53.0 66.0 63.0 68.0 57.0 64.0 71.0 69.0 69.0 61.0 62.0 54.0 69.0 64.0 69.0 61.0 62.0 54.0 69.0 64.0 61.0 62.0 54.0 64.0 61.0 62.0 54.0 64.0 61.0 62.0 54.0 61.0 64.0 57.0 61.0

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### APPENDIX C

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Computer program and printout of radiation results computed on an IBM system 360/75 from data recorded at the experimental site

C DRYING HAY IN WINDROWS C NOT RADIATION TO WINDROW C D-S-DUGGAL 0001 01MENSION MAP(40),MIT(40),MTIME(4) RA=9./5. 0003 6004 6 READ(5,1,END=88) MAP 0005 1 FORMAT(402) 0006 WRITE(6,112) 0007 1012 0008 1012 0010 112 FORMAT(14,11) 0019 1010 101 0010 111 FORMAT(14,11,16) 0010 111 FORMAT(14,14,25X,882//) 0011 7 FORMAT(14,14,25X,882//) 0015 7 FORMAT(14,14,25X,882//) 0015 1014 1017	FORTRAN	I۷	G	LEV	EL	1,	MOD	4		MAIN		. DA	T <del>E</del> = 69	220		;	15/4	0/11
C NET KADJATION TO HANDON C D1: ADJATION TO HANDON D DATA CONTRACT AND A DECIDENT A DECIDENT AND A DECIDENT A DECIDENT AND A				ç		DRY	ING	HAY I	N WIND	ROWS								
0001 R = 9 - 5. 0002 R = 9 - 5. 0003 E = 0 - 5. 0004 6 READ(5.1,END=88) HAP 0005 1 FORMAT(402) 0006 WRITE(6.112) 0007 112 FORMAT(14) 0018 D 0 200 1=.2 0009 200 WRITE(6.111) 0011 PRINT 0011 PRINT 0011 PRINT 0011 PRINT 0011 PRINT 0012 7 FORMAT(14) + 64×,19×,27HR A D I A T I O N D A T A) 0013 PRINT(3,64×,25×,482//) 0014 8 FORMAT(14,64×,25×,44WTINE,2×,4+WIND,3×,31HT E M P E R A T U 1 R E_TX,7HRADIANT) 0015 PRINT(3,64×,35×,447/HE,2×,4+WIND,3×,31HT E M P E R A T U 1 R E_TX,7HRADIANT) 0016 10 FORMAT(14,54×,35×,447/HE,2×,4+WIND,3×,31HT E M P E R A T U 1 R E_TX,7HRADIANT) 0017 PRINT(3,64×,16×,95(20,000) L,2×,5HGLOBE,1×,6HSHIELD,1×,5H 10020 11 FORMAT(14,54×,16×,416×,94(20,000),2×,4HFRUH,2×,4HWIN-,1×,4HWIN-) 0021 12 FORMAT(14,54×,16×,16×,3HSUN,2×,3HNET) HOU/HR FT**2) 0022 13 FORMAT(14,54×,16×,16×,3HSUN,2×,3HNET) HOU/HR FT**2) 0023 PRINT13 0024 13 FORMAT(14,54×,16×,3HSUN,4×,3HSUN,2(1×,6HFROH,2×,4HAMB.,2×,4HDRO 1 H,1×,4HDROM) 0027 26 READ20,HTT 0028 14 FORMAT(14,54×,16×,3HSUN,4×,3HSUN,2(1×,6HFROUND),2×,4HAMB.,2×,4HDRO 1 H,1×,4HDROM) 0027 26 READ20,HTT 0028 12 FORMAT(14,54×,16×,16×,3HSUN,5HSUN,8G,SG,JO 0030 15 FORMAT(14,54×,302) 0031 24 READ16,VEL,(MTIME(1),1=1,4),BSUN,SHSUN,8G,SG,JO 0032 12 FACT=0,232PSORT (SD) 0033 1F(JO-117,18,6 0034 17 IF(UE)212,12,22 0035 21 FACT=0, 0035 22 FORMAT(14),54×,342,15,F8.1,3F7.1,2F6.1,2F6.1,2F6.1) 0044 TA2=SGRAA.322. 0045 RAL1=FACT=(T1C2-TA1)+EW+(460,+TG1)+#A 0046 RAL+FFACT=(T1C2-TA1)+EW+(460,+TG1)+#A 0047 TA2=SGRAA.322. 0046 RAL+FFACT=(T1C2-TA1)+EW+(460,+TG1)+#A 0047 PRINT23,(MTIME(1),1=1,4),1HVEL,TG1,TA1,TG2,TA2,AMB,RHL1,RHLF, 1TWET 0050 23 FORMAT(14) 0459 FORMAT(14) 0550 86 CALL EXIT 0550 85 CALL EXIT 0				ř		D.S			NIUW	INDKUW	•							
0002 RA=9,75. Marticle and a second	0001			C		DIN	IFNS	ΙΟΝ ΜΔ	P(40).	MIT140	.MTIME(	41						
0003     EM=0.173E=08       0004     6     READ[51,END=8B) MAP       0005     1     FGRMAT(140,02)       0006     WRITE(6,111)       0010     111     FGRMAT(141)       0011     PRINT3     MAP       0012     7     FGRMAT(141)       0013     PRINT3 (MAP(1),1=1,8)       0014     B FGRMAT(141,64X,25X,84Z//)       0015     PRINT3 (MAP(1),1=1,8)       0016     PRINT3 (MAP(1),1=1,8)       0017     PRINT3 (X,64X,3X,4HTUME,2X,4HWIND,3X,3HT E M P E R A T U       018     PGRMAT(1X,64X,10X,3HFPS,18X,1HF,19X,12HBU/HR FT**2)       0019     PRINT13       0020     112       0021     PRINT14       0022     PRINT13       0023     PRINT14       0024     13       10     FGRMAT(1X,64X,10X,3HFPS,18X,1HF,19X,2HRGMUD),2X,4HWIN-,1X,4HWIN-)       0025     PRINT13       0026     14       1027     26       1028     20       1029     PRINT14       00201     PRINT15,MIT	0002					RA=	9./	5.				<b>4</b>						
0004     6     READ(5.1,END=8B) MAP       0005     I FGRMAT(40.2)       0006     WRITE(6,112)       0007     112     FGRMAT(41)       0010     111     FGRMAT(41)       0011     PRINT7     OUTE(6,111)       0012     7     FGRMAT(41,1,1+1,63)       0013     PRINT9     FGRMAT(41,1,1+1,63)       0014     B FGRMAT(11,1,64,7,33,4,4HTIHe,2,1,4HWIND,33,31HT E M P E R A T U       1     R F,7X,7HAROIANT       0015     PRINT9       0016     D FGRMAT(11,4,64,93,4,4HVEL,4,40X,9HHEAT LDAD)       0017     PRINT10       0018     D FGRMAT(11,4,64X,19X,4HVEL,40X,9HHEAT LDAD)       0019     PRINT11       0020     I FGRMAT(11,4,64X,19X,4HVEL,40X,9HHEAT LDAD)       0021     PRINT11       0022     I FGRMAT(11,464X,10X,3HFPS,18X,1HF,19X,12HBTU/HR FT**2)       0021     PRINT11       0022     I FGRMAT(11,464X,10X,4HFR0H,3X,3HET)       0022     PRINT11       0023     I FGRMAT(11,464X,14X,4HRCH,3X,3HET)       0024     I PGRMAT(11,464X,14X,4HRCH,3X,3HSUN,2(1X,4HFROH,2X,4HWIN-,1X,4HWIN-,1X,4HWIN-) <td>0003</td> <td></td> <td></td> <td></td> <td></td> <td>EM=</td> <td>-0.1</td> <td>73E-08</td> <td></td>	0003					EM=	-0.1	73E-08										
<pre>0005 1 FORMAT(4002) 0006 WRITE(6,112) 0007 112 FORMAT(1H) 0010 111 FORMAT(1H) 0011 PRINT7 0012 7 FORMAT(1H,64X,19X,27HR A D I A T I O N D A T A) 0013 PRINT8,(MAP(1),1=1,8) 0016 8 FORMAT(1X,64X,25X,862//) 0015 PRINT9 0016 9 FORMAT(1X,64X,9X,4HVIL,40X,9HHEAT LOAD) 0017 PRINT10 0018 10 FORMAT(1X,64X,9X,4HVEL,40X,9HHEAT LOAD) 0018 10 FORMAT(1X,64X,9X,4HVEL,40X,9HHEAT LOAD) 0019 PRINT11 0020 11 FORMAT(1X,64X,19X,3HFPS,18X,1HF,19X,12H8TU/HR FT**2) 0021 PRINT12 0022 12 FORMAT(1X,64X,14X,4HVEL,40X,9HHEAT LOAD) 0023 14 FORMAT(1X,64X,14X,4HVEL,40X,9HHEAT LOAD) 0024 13 FORMAT(1X,64X,14X,4HVEL,40X,9HHEAT LOAD) 0025 14 FORMAT(1X,64X,14X,4HVEL,40X,9HHEAT LOAD) 0026 14 FORMAT(1X,64X,14X,4HVEL,40X,9HHEAT LOAD) 0027 16 READ20,HIT 0028 20 FORMAT(1X,64X,14X,4HVEL,40X,9HHEAT) 0028 19 FORMAT(1X,64X,14X,4(1X,6HFACING),2X,4HFROH,2X,4HWIN-,1X,4HWIN-) 0029 PRINT14 0028 20 FORMAT(1X,64X,30A2) 0030 15 FORMAT(1X,64X,30A2) 0031 15 FORMAT(1X,64X,30A2) 0033 16 FORMAT(1X,64X,30A2) 0033 17 F(1U,21),21,22 0033 11 F(1U,21),21,22 0034 17 1F(VEL)21,21,22 0035 21 FACT-0.2324SQRT (SO) 0036 1MVEL=0 0037 GO TO 29 0038 22 SO-VEL#1,4667 0038 22 SO-VEL#1,4667 0039 FACT-0.2324SQRT (SO) 0030 25 FORMAT(1X,64X,22,4F5.1,44X,11) 0031 17 F(VEL)21,21,22 0044 TA2=SGRA4322. 0044 TA2=SGRA4322. 0045 RHL(1=FACT+(TG)=TA1]+EM*(450,+TG])**4 RHL=FACT+(TG)=TA1]+EM*(450,+TG])**4 RHL=FACT+(TG)=TA1]+EM*(450,+TG])**4 RHL=FACT+RHLF 0046 AM=TG]=TA1 0046 PRINT23 (NTIME(1),1=1,4),INVEL,TG],TA1,TG2,TA2,AMB,RHLI,RHLF, 1TNET 0050 C3 5 FORMAT(1H) 0051 C0 TO 24 0055 80 CALL EXIT 0056 END</pre>	0004			6		REA	D(5	,1,END	=88) M	AP								
0000     MRIEKONIZJ       0001     112     FORMATI(H1)       0000     200 WRITE(6,111)       0011     111     FORMATI(H1,10,11,10,10)       0012     7     FORMATI(H1,10,11,10,10)       0013     112     FORMATI(H1,10,11,10,10)       0014     8     FORMATI(H1,06X,13X,44HIME,2X,44HIND,3X,31HT E M P E R A T U       0015     9     FORMATI(X,66X,13X,44HIME,2X,44HIND,3X,31HT E M P E R A T U       0016     10     FORMATI(X,66X,13X,44HIME,2X,44HIND,3X,31HT E M P E R A T U       0017     PRINTIO     10       0018     10     FORMATI(X,66X,10X,3HFPS,18X,1HF,19X,12HBTU/HR FT**2)       0020     11     FORMATI(X,66X,14X,44HTK,40X,9HHEAT LDAD)       0021     PRINTI     FORMATI(X,66X,14X,44HFROM,3X,3HNET)       0022     12     FORMATI(X,66X,14X,44(1X,64FACING),2X,4HFROM,2X,4HHIN-,1X,4HWIN-)       0023     PRINTI     FORMATI(X,66X,14X,44(1X,64FACING),2X,4HFROM,2X,4HMIN-,1X,44WIN-)       0024     13     FORMATI(X,66X,14X,44(1X,64FACING),2X,4HFROM,2X,4HMIN-,1X,44WIN-)       0025     PRINTIA     FORMATI(X,66X,16X,242,4F5,1,45X,110)       0026     14     FORMATI(X,66X,16X,242,	0005				1	FOR	MAT	(40A2)										
0006     112     001701111       0009     200     HRITE(6,111)       0011     PRIMATI1     +       0012     7     FORMATI1     +       0013     FORMATI1     +     +       0014     FORMATI1     +     +       0015     FORMATI1     +     +       0016     FORMATI1     +     +       0017     PRINT     +     +       0018     10     FORMATI1     +     +       0019     PRINT1     +     +     +       0011     PRINT1     +     +     +       0016     9     FORMATI1     +     +       0017     PRINT1     +     +     +       0019     10     FORMATI1     +     +     +       0020     11     FORMATI1     +     +     +       0021     12     FORMATI1     +     +     +       0022     13     FORMATI1     +	0008			112		MK1	1 E ( (	5#112J										
0009 200 WRTETA,111 0010 111 FRINTT 0012 7 FORMAT(1H,54X,19X,27WR A D I A T I O N D A T A) 0013 FRINTG (MAP(1),1=1,6) 0014 8 FORMAT(1X,64X,2X,4WTIME,2X,4HWIND,3X,31HT E M P E R A T U 1 R E,7X,7HRADIANT) 0017 PRINT10 0017 PRINT10 0017 PRINT11 0020 11 FORMAT(1X,64X,9X,4HVEL,40X,9HHEAT LOAD) 0019 PRINT12 0021 01 FORMAT(1X,64X,10X,3HFPS,18X,1HF,19X,12HBTU/HR FT**2) 0021 0201 11 FORMAT(1X,64X,16X,5HGLOBE,1X,6HSHIELD,2X,5HGLOBE,1X,6HSHIELD,1X,5H 1GLOBE,4X,2HTO,1X,4HFROM,3X,3HNET) 0023 PRINT13 0024 13 FORMAT(1X,64X,14X,4(1X,6HFACING),2X,4HFROM,2X,4HWIN-,1X,4HWIN-) 0025 PRINT14 0026 14 FORMAT(1X,64X,18X,3HSUN,4X,3HSUN,2(1X,6HFROM,2X,4HWIN-,1X,4HWIN-) 0027 26 READ20,MHT 0028 20 FORMAT(1X,64X,18X,3HSUN,4X,3HSUN,2(1X,6HFROM,2X,4HWAMB,2X,4HORO 1W,1X,4HDROM) 0027 26 READ20,HIT 0030 15 FORMAT(1X,64X,18X,3HSUN,4X,3HSUN,5HSUN,5G,5G,JO 0031 24 READ16,VEL,(HTIME(1),1=1,4),5SUN,5HSUN,5G,SG,JO 0032 16 FORMAT(15,0,2X,442,455.1,44X,11) 0033 17 F(JO-1)17,18,6 0034 17 IF(VEL)21,22 0035 21 FACT=0. 0037 GO TO 29 0038 22 SOVEL*1,46667 0039 FACT=0,232*SQRT(SO) 0040 IMVEL=50 0044 TA2=SGRAA.32. 0045 RNLT=FACT*(TG2-TA2)+EM*(460,+TG])**4 RNLT=FACT*(TG2-TA2)+EM*(460,+TG])**4 0046 RNLT=FACT*(TG2-TA2)+EM*(460,+TG])**4 0047 THET=RNLT-RNLF 0048 AMB=TG[-TA1] 0050 23 FORMAT(1H,64X,15,F8,1,3F7,1,2F6,1,2F6,1) 0051 GO TO 24 0055 88 GALL EXIT 0055 88 GALL EXIT 0056 FND	0008			114		00	200	TE1.2										
0010 111 FORMAT(1H ) 0011 PRINT 0012 7 FORMAT(1H, f6X,19X,27HR A D I A T I O N D A T A) 0013 PRINT3 (MAP(1),I=1,B) 0014 8 FORMAT(1X,66X,19X,24HTIME,2X,4HWIND,3X,31HT E M P E R A T U 1 R E,7X,7HRADIANT) 0016 9 FORMAT(1X,66X,3X,4HTIME,2X,4HWIND,3X,31HT E M P E R A T U 1 R E,7X,7HRADIANT) 0017 PRINT10 0019 0018 10 FORMAT(1X,66X,19X,4HVEL.,40X,9HHEAT LOAD) 0019 PRINT11X,66X,10X,3HFPS,18X,1HF,19X,12HBTU/HR FT**2) 0021 PRINT12X,66X,16X,5HGLOBE,1X,6HSHIELD,2X,5HGLOBE,1X,6HSHIELD,1X,5H 1GLOBE,4X,2HTO,1X,4HFROM,3X,3HNET) 0023 PRINT13 0024 13 FORMAT(1X,66X,14X,4(1X,6HFACING),2X,4HFROH,2X,4HNIN-,1X,4HNIN-) 0025 PRINT13 0024 13 FORMAT(1X,66X,18X,3HSUN,4X,3HSUN,2(1X,6HGROUND),2X,4HAMB.,2X,4HDRO 14,FORMAT(1X,64X,18X,3HSUN,4X,3HSUN,5HSUN,8G,5G,JO 0027 26 READ20,MIT 0028 20 FORMAT(6A2,102) 0029 PRINT15,4NT 0030 15 FORMAT(1X,64X,30A2) 0030 15 FORMAT(1X,64X,3A2,4F5.1,44X,11) 14 FORMAT(1X,64X,3A2,4F5.1,44X,11) 0031 15 FORMAT(1X,64X,3A2,4F5.1,44X,11) 0032 15 FORMAT(5,0,2X,4A42,4F5.1,44X,11) 0033 16 FORMAT(5,0,2Z,4A42,4F5.1,44X,11) 0034 17 FI/VEL)17,18,66 0035 21 FGCTAC, 0035 21 FGCTAC, 0036 10 VELSO 0039 PACT=0.232FSQRT (SO) 0044 129 TG1=SUNRAA+32. 0044 TA2SSGRAA+32. 0045 RHLT=FACT+1TG2-TA2)+EM*(460,+TG1)**4 RHL=FACT+1TG2-TA2)+EM*(460,+TG1)**4 0046 RHL=FACT+1TG2-TA2)+EM*(460,+TG1)**4 0047 TNE=RHLT-RHLF 0048 AMB=TG1-TA1 0049 PRINT25 0050 25 FORMAT(1H,66X,4A2,15,F8.1,3FT,1,2F6,1,2F6,1) 0051 GO TO 26 0055 86 GALL EXIT 0056 END	0009			2	00	WRI	TEG	6,111)										
0011 PRINT7 0012 7 FORMAT(1H, 64X, 19X, 27HR A D I A T I O N D A T A) 0013 PRINTB,(MAP(1), I=1, 6) 0014 8 FORMAT(1X, 64X, 25X, 6AZ//) 0015 PRINT10 0016 9 FORMAT(1X, 64X, 25X, 6AZ//) 0017 PRINT10 0018 10 FORMAT(1X, 64X, 3X, 4HTIME, 2X, 4HWIND, 3X, 31HT E M P E R A T U 1 R E, 7X, 7HRADIANT) 0017 PRINT10 0018 10 FORMAT(1X, 64X, 10X, 3HFPS, 18X, 1HF, 19X, 12H6TU/HR FT**2) 0021 PRINT11 0020 11 FORMAT(1X, 64X, 10X, 3HFPS, 18X, 1HF, 19X, 12H6TU/HR FT**2) 0021 PRINT12 0022 12 FORMAT(1X, 64X, 16X, 5HGLOBE, 1X, 6HSHIELD, 2X, 5HGLOBE, 1X, 6HSHIELD, 1X, 5H 1GLOBE, 4X, 2HTO, 1X, 4HFROM, 3X, 3HNET) 0023 PRINT14 0024 13 FORMAT(1X, 64X, 18X, 3HSUN, 3X, 3HNET) 0025 PRINT14 0026 14 FORMAT(1X, 64X, 18X, 3HSUN, 4X, 3HSUN, 2(1X, 6HGROUND), 2X, 4HAMB, +2X, 4HWRO 1W, 1X, 4HOROH) 0027 26 READ20, HIT 0028 20 FORMAT(40A2) 0030 15 FORMAT(1X, 64X, 30A2) 0031 24 READ16, VEL, (MTIME(1), 1=1, 4), BSUN, SHSUN, 8G, SG, JO 0032 16 FORMAT(1X, 64X, 30A2) 0033 1F(JQ-1)17, 18, 66 1034 17 IF(VEL)21, 22 0035 21 FACT=0. 0037 GO TO 29 0038 22 SO-VEL*1, 44667 1039 FACT=0. 232×SQRT (SO) 0040 IMVEL=SO 0044 72 FGL=BSUN&RA+32. 0045 RHL 1=ACT*(1G1=TA1)=EM*(460, +TG1)**4 0046 RHL 1=ACT*(1G1=TA1)=EM*(460, +TG1)**4 0047 TNETERHL T-RHLF 0046 AMB=TG1=TA1 0049 PRINT25 0050 23 FORMAT(1X, 64X, 4A2, 15, F8.1, 3F7.1, 2F6.1, 2F6.1) 0051 GO TO 26 0055 88 CALL EXIT 0050 FORMAT(1X, 64X, 4A2, 15, F8.1, 3F7.1, 2F6.1, 2F6.1) 0054 END	0010			111		FOR	RMAT	(1H)										
<pre>0012 7 FORMAT(1H, 664x,19x,27HR A D I A T I D N D A T A) 0013 PRINT8,(MAP(1),1=1,8) 0014 8 FORMAT(1X,64X,25X,8A2//) 0015 PRINT9 0016 9 FORMAT(1X,64X,3X,4HTIME,2X,4HWIND,3X,31HT E M P E R A T U 1 R E,TX,7HRADIANT) 0017 PRINT10 0018 10 FORMAT(1X,64X,9X,4HVEL,,40X,9HHEAT LOAD) 0019 PRINT11 0020 11 FORMAT(1X,64X,10X,3HFPS,18X,1HF,19X,12H8TU/HR FT**2) 0021 PRINT12 0022 12 FORMAT(1X,64X,16X,5HGLOBE,1X,6HSHIELD,2X,5HGLOBE,1X,6HSHIELD,1X,5H 1GLOBE,4X,2HTO,1X,4HFROM,3X,3HNET) 0023 PRINT13 0024 13 FORMAT(1X,64X,16X,5HGLOBE,1X,6HSHIELD,2X,5HGLOBE,1X,6HSHIELD,1X,5H 1GLOBE,4X,2HTO,1X,4HFROM,3X,3HNET) 0025 PRINT13 0026 14 FORMAT(1X,64X,16X,3HSUN,4X,3HSUN,2(1X,6HGROUND),2X,4HAMB.,2X,4HDRO 1W,1X,4HOROW) 0027 26 READ20,MIT 0028 20 FORMAT(1X,64X,30A2) 0030 15 FORMAT(1X,64X,30A2) 0031 15 FORMAT(1X,64X,30A2) 0032 16 FORMAT(1X,64X,30A2) 0033 16 FORMAT(1X,64X,30A2) 0033 17 F(U=L)21,21,22 0035 21 FACT=0.232*SORT (SO) 0036 1040 1WVEL=50 0037 60 TO 29 0037 62 SOUVEL*1.4667 0039 FACT=0.232*SORT (SO) 0040 1WVEL=50 0041 29 TGL=8SUN#RA+32. 0043 TG2=8G*RA+32. 0044 TA2=SG*RA+32. 0045 RHLT=FACT*(TG1=TA1)+EM*(460.*TG1)**4 0046 RHL=FACT*(TG2=TA2)+EM*(460.*TG1)**4 0047 TK=FAKL*(TTME(1),1=1,4),1WVEL,TG1,TA1,TG2,TA2,AMB,RHL1,RHLF, 1TNET 0050 23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1) 0051 G0 TO 24 0055 88 CALL EXIT 0055 88 CALL EXIT 0056 END</pre>	0011					PRI	NT7											
0013   PRIMIE;(MAP(1), 10, 10, 10, 10, 10, 10, 10, 10, 10, 10	0012			7		FOR	MAT	(1H +6	4X,19X	,27HR	ADIA	TION	DA1	(A 1				
<pre>0015 PRINTS 0016 9 FORMAT(1X;64X;3X;4HTIME;2X;4HWIND;3X;31HT E M P E R A T U 1 R E;TX:7HRADIANT) 0017 PRINT10 0018 10 FORMAT(1X;64X;9X;4HVEL.;40X;9HHEAT LOAD) 0019 PRINT11 0020 11 FORMAT(1X;64X;10X;3HFPS;18X;1HF,19X;12HBTU/HR FT**2) 0021 PRINT12 0022 12 FORMAT(1X;64X;16X;5HGLOBE;1X;6HSHIELD;2X;5HGLOBE;1X;6HSHIELD;1X;5H 1GLOBE;4X;2HTO;1X;4HFROM;3X;3HNET) 0023 PRINT13 0024 13 FORMAT(1X;64X;14X;4(1X;6HFACING);2X;4HFROM;2X;4HWIN-,1X;4HWIN-) 0025 PRINT14 0026 14 FORMAT(1X;64X;18X;3HSUN;4X;3HSUN;2(1X;6HGROUND);2X;4HAMB:;2X;4HORO 1W;1X;4HDROW) 0027 26 READ20;HIT 0028 20 FORMAT(4X;64X;30A2) 0031 15 FORMAT(1X;64X;30A2) 0032 16 FORMAT(1X;64X;30A2) 0033 15 FORMAT(1X;64X;30A2) 0034 17 IF(VEL)21;21;22 0035 21 FACT=0. 0036 1WVEL=0 0037 G0 TD 29 0038 22 SO=VEL*1;4667 0039 FACT=0.232*SORT (SO) 0040 1WVEL=50 0041 29 TGI=BSUNRA;432. 0043 TGZ=05GRRA;32. 0044 TA2=SGRA;32. 0045 RHLT=FACT=(1C]=TA1)+EM*(460:+TG1)**4 0044 TA2=SGRA;32. 0045 RHLT=FACT=(1C]=TA1)+EM*(460:+TG1)**4 0046 AHL=FACT*(TG2=TA2)+EM*(460:+TG1)**4 0047 TNTT=RHLT=RLLF 0048 AMB=TGL=TA1 0049 PRINT23;(MTIME(1);1=1,4);JHVEL;TG1;TA1;TG2;TA2;AMB;RHL1;RHLF; 1THET 0050 23 FORMAT(1X;64X;4A2;15;F8:1;3F7:1;2F6:1;2F6:1) 0051 G0 TD 26 0055 B8 CALL EXIT 0055 B8 CALL EXIT 0056 END</pre>	0013				R	FOR	EN18	1 1 X - 64	110121	+81 882//1								
0016     9 FORMATILX;64X;3X;4HTIHE;2X;4HWIND,3X;3IHT E M P E R A T U I R E;7X;7HRADIANT)       0017     PRINT10       0018     10 FORMATILX;64X;9X;64VEL;40X;9HHEAT LOAD)       0019     PRINT10       0020     11 FORMATILX;64X;10X;3HFPS;18X;1HF,19X;12HBTU/HR FT**2)       0021     PRINT13       0022     12 FORMATILX;64X;10X;3HFPS;18X;1HF,19X;12HBTU/HR FT**2)       0023     PRINT13       0024     13 FORMATILX;64X;14X;4HFROM;3X;3HNET)       0025     PRINT14       0026     14 FORMATILX;64X;14X;4HFROM;3X;3HNET)       0027     26 READ20;MIT       0028     20 FORMATI(402)       0029     PRINT15;MIT       0030     15 FORMATI(1X;64X;18X;3D2)       0031     24 READ16;VEL;(MTIME(1);1=1,4);BSUN;SHSUN;BG;SG;JO       0033     17 IF(VEL)21,21,22       0034     17 IF(VEL)21,21,22       0035     21 FACT=0.       0036     IMVE=0       0037     GO TO 29       0038     22 SO=VEL*1;4667       0039     FACT=0.232*SORT (SO)       0040     IMVE=0       0037     GO TO 29	0015				č	PRI	INT9	111104	~123~1	042///								
0017 PRINTIO 0018 10 FORMAT(1X,64X,9X,4HVEL.,40X,9HHEAT LDAD) 0019 PRINT11 0020 11 FORMAT(1X,64X,10X,3HFPS,18X,1HF,19X,12HBTU/HR FT**2) 0021 PRINT12 0022 12 FORMAT(1X,64X,16X,5HGLOBE,1X,6HSHIELD,2X,5HGLOBE,1X,6HSHIELD,1X,5H 1GLOBE,4X,2HTO,1X,4HFROM,3X,3HNET) 0023 PRINT13 0024 13 FORMAT(1X,64X,14X,4(1X,6HFACING),2X,4HFROM,2X,4HWIN-,1X,4HWIN-) 0025 PRINT14 0026 14 FORMAT(1X,64X,18X,3HSUN,4X,3HSUN,2(1X,6HGROUND),2X,4HAMB.,2X,4HDRO 1W,1X,4HDROW) 0027 26 READ20,MIT 0028 20 FORMAT(14A,64X,30A2) 0029 PRINT15,MIT 0030 15 FORMAT(1X,64X,30A2) 0031 24 READ16,VEL,(MTIME(1),1=1,4),BSUN,SHSUN,BG,SG,JO 0033 1F(JQ-1)17,18,6 0034 17 IF(VEL)21,21,22 0035 21 FACT=0. 0036 IMVEL=0 0037 G0 TD 29 0038 22 SO=VEL*1.4667 0038 22 SO=VEL*1.4667 0039 FACT=0.22X*SORT (SO) 0040 IMVEL=SO 0044 TA2=SG&RA+32. 0045 RHLT=FACT*(TG1=TA1)+EM*(460,+TG1)**4 RHLT=FACT*(TG1=TA1)+EM*(460,+TG1)**4 0046 RHLT=FACT*(TG1=TA1)+EM*(460,+TG1)**4 0046 RHLT=FACT*(TG1=TA1)+EM*(460,+TG1)**4 0047 TNET=RHLT=RHLT=HLF 0048 AMB=TG1=TA1 0049 PRINT23,(MTIME(1),1=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF, 1TNET 0050 23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1) 0051 03 CD 26 0055 88 CALL EXIT 0056 END	0016				9 1	FOR	MAT	(1X,64 7X,7HR	X,3X,4 Adiant	HTIME;	2X,4HWIN	ID,3X,31H	тем	1 P	ER	A	T	U
0018 10 FORMAT(1X,64X,9X,4HVEL,,40X,9HHEAT LOAD) 0019 PRINT11 0020 11 FORMAT(1X,64X,10X,3HFPS,18X,1HF,19X,12HBTU/HR FT**2) 0021 PRINT12 0022 12 FORMAT(1X,64X,16X,5HGLOBE,1X,6HSHIELD,2X,5HGLOBE,1X,6HSHIELD,1X,5H 1GLOBE,4X,2HTD,1X,4HFRON,3X,3HNET) 0023 PRINT13 0024 13 FORMAT(1X,64X,14X,4(1X,6HFACING),2X,4HFROH,2X,4HWIN-,1X,4HWIN-) 0025 PRINT14 0026 14 FORMAT(1X,64X,18X,3HSUN,4X,3HSUN,2(1X,6HGROUND),2X,4HAMB.,2X,4HORO 1W,1X,4HOROW) 0027 26 READ20,WIT 0028 20 FORMAT(40A2) 0029 PRINT15,HIT 0030 15 FORMAT(1X,64X,30A2) 0031 12 4 READ16,VEL,14TIHE(1),1=1,4),BSUN,SHSUN,BG,SG,JQ 0032 16 FORMAT(F5,0,2X,4A2,4F5,1,44X,11) 0033 1F(UE,121,21,22 0035 21 FACT=0. 0036 1WEL=0 0037 GO TD 29 0038 22 GOVEL#1,4667 0039 FACT=0,232*SQRT (SD) 0040 1WVEL=50 0041 29 TG1=BSUN*RA+32. 0042 TA1=SHSUN*RA+32. 0044 TA2=SG*RA+32. 0044 TA2=SG*RA+32. 0044 TA2=SG*RA+32. 0044 TA2=SG*RA+32. 0044 TA2=SG*RA+32. 0045 RHLT=FACT*(TG1=TA1)+EM*(460,+TG1)**4 RHLT=FACT*(TG2=TA2)+EM*(460,+TG1)**4 0046 RHLT=FACT*(TG1=TA1)+EM*(460,+TG1)*4 0047 TNET=#RHT=RHLF 0048 AMB=TG1=TA1 0049 PRINT23,(MTIME(1),1=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHL1,RHLF, 1TNET 0050 23 FORMAT(1X,64X,4A2,15,F8.1,3F7,1,2F6,1) 0051 23 FORMAT(1X,64X,4A2,15,F8.1,3F7,1,2F6,1) 0052 18 PRINT25 0053 80 CALL EXIT 0056 END	0017					PR	INTI	0										
0019 PRINT1 0020 11 FORMAT(1X,64X,10X,3HFPS,18X,1HF,19X,12H8TU/HR FT**2) PRINT12 0021 12 FORMAT(1X,64X,16X,5HGLOBE,1X,6HSHIELD,2X,5HGLOBE,1X,6HSHIELD,1X,5H 1GLOBE,4X,2HTU,1X,6HFAGN,3X,3HNET) 0023 PRINT13 0024 13 FORMAT(1X,64X,14X,4(1X,6HFACING),2X,4HFROH,2X,4HWIN-,1X,4HWIN-) 0025 PRINT14 0026 14 FORMAT(1X,64X,18X,3HSUN,4X,3HSUN,2(1X,6HGROUND),2X,4HAMB.,2X,4HDRO 1W,1X,4HDROW) 0027 26 READ20,MIT 0028 20 FORMAT(1X,64X,30A2) 0029 PRINT15,HIT 0028 16 FORMAT(1X,64X,30A2) 0031 24 READ16,VEL,(MTIME(1),1=1,4),8SUN,SHSUN,8G,SG,JQ 0032 16 FORMAT(1X,64X,30A2) 0033 1F(JQ-1)17,18,6 0034 17 IF(VEL)21,21,22 0035 21 FACT=0. 0036 IMVEL=0 0037 GO TO 29 0038 22 SO=VEL*1,4667 0039 FACT=0.232*SQRT (SO) 0040 IMVEL=SO 0044 7A2=86&RA+32. 0043 TG2=86&RA+32. 0044 TA2=SG&RA+32. 0044 TA2=SG&RA+32. 0045 RHLT=FACT*(TG2-TA2)+EM*(460,+TG1)**4 RHLT=FACT*(TG2-TA2)+EM*(460,+TG1)**4 AHB=TG1-TA1 0049 PRINT23,(MTIME(1),1=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHL1,RHLF, 1TNET 0050 23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1) 0051 26 FORMAT(1),664 0052 18 PRINT25 0053 25 FORMAT(1),664 0054 60 TO 24 0055 88 CALL EXIT 0056 END	0018				10	FOR	MAT	(1X,64	X,9X,4	HVEL.,	40X,9HHE	AT LOAD)						
0020 11 FURMAT(1X,66X,10X,3HFPS,18X,1HF,19X,12HBTU/HR FT**2) PRINT12 0021 PRINT12 0022 12 FORMAT(1X,66X,16X,5HGLOBE,1X,6HSHIELD,2X,5HGLOBE,1X,6HSHIELD,1X,5H 1GLOBE,4X,2HTO,1X,4HFROM,3X,3HNET) 0023 PRINT13 0024 13 FORMAT(1X,66X,14X,4(1X,6HFACING),2X,4HFROM,2X,4HWIN-,1X,4HWIN-) 0025 PRINT14 0026 14 FORMAT(1X,66X,18X,3HSUN,4X,3HSUN,2(1X,6HGROUND),2X,4HAMB.,2X,4HDRO 1W,1X,4HOROW) 0027 26 READ20,WIT 0028 20 FORMAT(40A2) 0029 PRINT15,MIT 0030 15 FORMAT(1X,66X,30A2) 0031 24 READ16,VEL,(MTIME(1),I=1,4),BSUN,SHSUN,BG,SG,JQ 0032 16 FORMAT(F5.0,2X,4A2,4F5.1,44X,11) 0033 1 F(UQ-117,1B,6 0034 17 IF(VEL)21,21,22 0035 21 FACT=0. 0036 IMVEL=0 0037 G0 T0 29 0038 22 SO=VEL#1,4667 0039 FACT=0.232%SQRT (SO) 0040 IMVEL=50 0041 29 TGL=BSUN&RA432. 0042 TA1=SHSUN&RA432. 0044 TA2=SG&RA432. 0044 TA2=SG&RA432. 0045 RHLT=FACT*(TG1-TA1)+EM*(460.+TG1)**4 0046 RHLT=FACT*(TG2-TA2)+EM*(460.+TG1)**4 0046 AHB=TG1-TA1 0049 PRINT23,(MTIME(1),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF, 1TNET 0050 23 FORMAT(1X,66X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1) 0051 G0 T0 24 0052 18 PRINT25 0053 25 FORMAT(1H) ) 0054 BCALL EXIT	0019					PRI	INT1	1										
0022 12 FORMAT 1 (1x,64x,16x,5HGLOBE,1x,6HSH1ELD,2x,5HGLOBE,1x,6HSH1ELD,1x,5H 1GLOBE,4x,2HTO,1x,4HFROM,3x,3HNET) PRINT13 0024 13 FORMAT (1x,64x,14x,4(1x,6HFACING),2x,4HFROM,2x,4HWIN-,1x,4HWIN-) 0025 PRINT16 0026 14 FORMAT (1x,64x,18x,3HSUN,4x,3HSUN,2(1x,6HGROUND),2x,4HAMB.,2x,4HDRO 14,1x,4HOROW) 0027 26 FEAD20,MIT 0028 20 FORMAT (40A2) 0029 PRINT15,HIT 0030 15 FORMAT (1x,64x,30A2) 0031 24 READ16,VEL,(MTIME(1),1=1,4),BSUN,SHSUN,BG,SG,JO 0032 16 FORMAT (F5.0,2x,4A2,4F5.1,44x,11) 0133 1F(1,0-1)17,18,6 0034 17 IF(VEL)21,22 0035 21 FACT=0. 0036 1MVEL=0 0037 0038 22 SO=VEL#1,4667 0038 22 SO=VEL#1,4667 0040 1MVEL=SO 0041 29 TG1=BSUN#RA+32. 0043 TG2=BG#RA+32. 0045 RHLT=FACT*(TG1-TA1)+EM*(460,+TG1)**4 RHLT=FACT*(TG2-TA2)+EM*(460,+TG1)**4 0046 RHLT=FACT*(TG2-TA2)+EM*(460,+TG1)**4 0047 TNET=RHLT-RHLF 0048 AMB=TG1-TA1 0049 PRINT23,(MTIME(1),1=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF, 1NET 0050 23 FORMAT(11x,64x,4A2,15,F8,1,3F7,1,2F6,1,2F6,1) 0051 0052 18 PRINT25 0053 25 FORMAT(1H) 0054 0054 0054 0055 08 CALL EXIT 0056 END	0020				11	FOF	MAT	(1X,64	X,10X,	3HFPS,	18X,1HF,	19X,12HB	TU/HR F	FT**2)				
16L08E,4X,2MT0,1X,4HFROM,3X,3HRET)     16L08E,4X,2MT0,1X,4HFROM,3X,3HSTT)     0023     0024     13 FORMAT(1X,64X,14X,4(1X,6HFACING),2X,4HFROH,2X,4HWIN-,1X,4HWIN-)     0025     0026     14 FORMAT(1X,64X,18X,3HSUN,4X,3HSUN,2(1X,6HGROUND),2X,4HAMB.,2X,4HDRO     0027   26 READ20,MIT     0028   20 FORMAT(1X,64X,18X,3HSUN,4X,3HSUN,2(1X,6HGROUND),2X,4HAMB.,2X,4HDRO     0027   26 READ20,MIT     0028   20 FORMAT(1X,64X,30A2)     0029   PRINT15,MIT     0030   15 FORMAT(14,64X,30A2)     0031   24 READ16,VEL,(MTIME(1),I=1,4),BSUN,SHSUN,BG,SG,JQ     0032   16 FORMAT(15,64X,30A2)     0033   1F(JQ-1)17,18,6     0034   17 IF(VEL)21,21,22     0035   21 FACT=0.     0036   1WVEL=0     0037   G0 TO 29     0038   22 SO=VEL *1,4667     0039   FACT=0.232*SQRT (SO)     0040   IMVEL=50     0041   29 GO=SUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BG*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG	0021				12	FOF	ENII/	(1×.64	X.16X.	5461.08	6. 1Y.449	UTELD. 27.	EUCI OR	-	44641			
0023   PRINT13     0024   13 FORMAT(11x,64X,14X,4(11x,6HFACING),2X,4HFROM,2X,4HWIN-,1X,4HWIN-)     0025   PRINT14     0026   14 FORMAT(11x,64X,18X,3HSUN,4X,3HSUN,2(11x,6HGROUND),2X,4HAMB.,2X,4HDRO     0027   26 READ20,MIT     0028   20 FORMAT(40A2)     0030   15 FORMAT(11x,64X,30A2)     0031   24 READ16,VEL,(MTIME(1),I=1,4),BSUN,SHSUN,BG,SG,JQ     0032   16 FORMAT(15,0,2X,4A2,4F5.1,44X,11)     0033   1F(JQ-1)17,18,6     0034   17 F(VEL)21,21,22     0035   21 FACT=0.     0036   1WVEL=01     0037   GO TO 29     0038   22 SOFVEL#1+4667     0040   IMVEL=50     0042   TA1=SHSUN*RA+32.     0043   TG2=BG*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1=TA1)+EM*(460,+TG1)**4     0046   RHL =FACT*(TG2-TA2)+EM*(460,+TG1)**4     0047   TNET=RHLT=RHLF     0048   AMB=TG1=TA1     0049   PRINT23,(MTIME(1),1=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHL1,RHLF,     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   GO					<u>، ا</u>		NAF .	4X.2HT	N,18.4	HEROM.	37.3005	) 	92866606	, 17	04241	LELI	1+1)	(,5H
0024   13 FORMAT(1X,64X,14X,4(1X,6HFACING),2X,4HFROM,2X,4HHIN-,1X,4HWIN-)     0025   PRINT14     0026   14 FORMAT(1X,64X,18X,3HSUN,4X,3HSUN,2(1X,6HGROUND),2X,4HAMB.,2X,4HDRO     107   26 READ20,MIT     0028   20 FORMAT(40A2)     0030   15 FORMAT(1X,64X,30A2)     0031   24 READ16,VEL,(MTIME(1),I=1,4),BSUN,SHSUN,8G,SG,JQ     0032   16 FORMAT(1X,64X,30A2)     0033   17 IF(VEL)21,21,22     0034   17 IF(VEL)21,21,22     0035   21 FACT=0.     0036   IMVEL=0     0037   GO TO 29     0038   22 SO=VEL*1.4667     0039   FACT=0.322*SQRT (SO)     0040   IMVEL=SO     0041   29 TG1=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BG*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1-TA1)+EM*(460.+TG1)**4     0046   RHEFACT*(TG2-TA2)+EM*(460.+TG2)**4     0047   TNET=RHLT=RHLF     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(1),1=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2	0023				•	PRI	INTI	3		ni kony	27 7 211112 1	,						
0025   PRINT14     0026   14 FORMAT (1X,64X,18X,3HSUN,4X,3HSUN,2(1X,6HGROUND),2X,4HAMB.,2X,4HDRO     0027   26 READ20,MIT     0028   20 FORMAT (40A2)     0029   PRINT15,MIT     0030   15 FORMAT (1X,64X,30A2)     0031   24 READ16,VEL, (MTIME (1),I=1,4),BSUN,SHSUN,BG,SG,JQ     0032   16 FORMAT (F5.0,2X,4A2,4F5.1,44X,11)     0033   1F(JQ-1)17,18,6     0034   17 IF(VE)21,21,22     0035   21 FACT=0.     0036   IMVEL=0     0037   GO TO 29     0038   22 SO=VEL#1.4667     0039   FACT=0.232*SQRT (SO)     0040   IMVEL=SO     0041   29 TG1=BSUN*RA+32.     0042   TA1=SHUM*RA+32.     0043   TG2=BG*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG2-TA2)+EM*(460,+TG1)**4     0046   RHLF=FACT*(TG2-TA2)+EM*(460,+TG1)**4     0047   TNET=RHLT-RHLF     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(1),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     0051   GO TO 24     0052   18 PRINT25<	0024				13	FOR	RMAT	(1X,64	X,14X,	4(1X,6	HFACING)	,2X,4HFR	DM,2X,4	HWIN-	.,1X,4	4HW	IN-	)
0026   14 FORMAT(1x,64X,18X,3HSUN,4X,3HSUN,2(1X,6HGROUND),2X,4HAMB.,2X,4HDRO     1W,1X,4HDROH)   1W,1X,4HDROH)     0027   26 READ20,MIT     0028   20 FORMAT(40A2)     0030   15 FORMAT(1X,64X,30A2)     0031   24 READ16,VEL.(MTIME(1),I=1,4),BSUN,SHSUN,BG,SG,JQ     0032   16 FORMAT(F5.0,2X,4A2,4F5.1,44X,11)     0033   1F(JQ-1)17,18,6     0034   17 IF(VEL)21,21,22     0035   21 FACT=0.     0036   IMVEL=0     0037   GO TO 29     0038   22 SO=VEL*1.4667     0039   FACT=0.232x\$QRT (SO)     0040   IMVEL=SO     0041   29 TG1=BSUN#RA+32.     0042   TA1=SHSUN#RA+32.     0043   TG2=BG#RA+32.     0044   TA2=SG#RA+32.     0045   RHLT=FACT*(TG1-TA1)+EM*(460,+TG1)**4     0046   RHLT=FACT*(TG2-TA2)+EM*(460,+TG1)**4     0047   TNET=RHLT-RHLF     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(1),1=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     0051   GO TO 24     0052   18 PRINT25     0053   2	0025					PRI	INT14	4							• - •			
0027   26 READ20,MIT     0028   20 FORMAT(40A2)     0030   15 FORMAT(1X,64X,30A2)     0031   24 READ16,VEL,(MTIME(1),I=1,4),BSUN,SHSUN,BG,SG,JQ     0032   16 FORMAT(F5.0,2X,4A2,4F5.1,44X,11)     0033   IF(JQ-1)17,18,6     0034   17 IF(VEL)21,22,22     0035   21 FACT=0.     0036   IMVEL=0     0037   GO TO 29     0038   22 SO=VEL*1.4667     0039   FACT=0.232*SQRT (SO)     0040   IMVEL=SO     0041   29 TGI=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BG*RA+32.     0044   TG2=GG*RA+32.     0045   RHLT=FACT*(TG1=TA1)+EM*(460.+TG1)**4     0046   RHLF=FACT*(TG2=TA2)+EM*(460.+TG1)**4     0047   TNET     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     0049   PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     0050   23 FORMAT(11X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   GO TO 24     0052   18 PRINT25     0053	0026				14 1	FOR [₩#]	LMAT X 7 41	(1X,64 HDROW)	X,18X,	3HSUN,	4X,3HSUN	I,2(1X,6H	GROUND	,2X,4	HAMB	,22	K • 41	IDRO
0028   20 FORMAT(40A2)     0029   PRINT15,MIT     0030   15 FORMAT(1X,64X,30A2)     0031   24 READ16,VEL,(MTIME(1),I=1,4),BSUN,SHSUN,BG,SG,JQ     0032   16 FORMAT(F5.0,2X,4A2,4F5.1,44X,11)     0033   1F(JQ-1)17,18,6     0034   17 IF(VEL)21,21,22     0035   21 FACT=0.     0036   IMVEL=0     0037   GO TO 29     0038   22 SO=VEL#1.4667     0039   FACT=0.232*SQRT (SO)     0040   IMVEL=SO     0041   29 TGL=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BGE*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1=TA1)+EM*(460.+TG1)***4     0046   RHLF=FACT*(TG2=TA2)+EM*(460.+TG1)***4     0045   RHLT=FACT*(TG1=TA1)+EM*(460.+TG1)***4     0046   RHLF=FACT*(TG2=TA2)+EM*(460.+TG1)***4     0047   TNET=RHLT=AHLF     0048   AMB=TG1=TA1     0049   PRINT23,(MTIME(1),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   GO TO 24	0027				26	REA	D20	,MIT										
0029   PRINI15,MI1     0030   15   FORMAT(1X,64X,30A2)     0031   24 READ16,VEL,(MTIME(1),I=1,4),BSUN,SHSUN,BG,SG,JQ     0032   16   FORMAT(1X,64X,30A2)     0033   16   FORMAT(1F5.0,2X,4A2,4F5.1,44X,11)     0033   1F(JQ-1)17,18,6     0034   17   IF(VEL)21,21,22     0035   21   FACT=0.     0036   IMVEL=0     0037   GO TO 29     0038   22   SO=VEL#1.4667     0039   FACT=0.232*SQRT (SO)     0040   IMVEL=SO     0041   29   TG1=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BG*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1=TA1)+EM*(460.*TG1)***4     0046   RHLF=FACT*(TG2=TA2)+EM*(460.*TG1)***4     0047   TNET=RHLT=RHLF     0048   AMB=TG1=TA1     0049   PRINT23,(MTIME(1),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   GO TO 24     0052   18 PRINT25     0054 <td>0028</td> <td></td> <td></td> <td></td> <td>20</td> <td>FOR</td> <td>MAT</td> <td>(40A2)</td> <td></td>	0028				20	FOR	MAT	(40A2)										
0030   15   FORMAT(1X,04X,30A2)     0031   24 READ16,VEL(,MTIME(1),I=1,4),BSUN,SHSUN,BG,SG,JQ     0032   16   FORMAT(F5.0,2X,4A2,4F5.1,44X,11)     0033   IF(JQ-1)17,18,6     0034   17   IF(VEL)21,21,22     0035   21   FACT=0.     0036   IMVEL=0     0037   GO TO 29     0038   22 SO=VEL*1.4667     0039   FACT=0.232*SQRT (SO)     0040   IMVEL=SO     0041   29 TG1=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BG&RA+32.     0044   TA2=SG&RA+32.     0045   RHLF=FACT*(TG1-TA1)+EM*(460.+TG1)**4     0046   RHLF=FACT*(TG2-TA2)+EM*(460.+TG1)**4     0047   TNET=RHLT-RHLF     0048   AMB=TG1-TA1     0049   PRINT23, (MTIME(1),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   GO TO 24     0052   18 PRINT25     0053   25 FORMAT(1H )     0054   GO TO 26     0055   86 CALL EXIT <t< td=""><td>0029</td><td></td><td></td><td>16</td><td></td><td>PKI</td><td></td><td>5 • M I I</td><td>~ ~ ~ ~ ~</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	0029			16		PKI		5 • M I I	~ ~ ~ ~ ~									
0032   16 FORMAT(F5.0;2X;4A2;4F5.1;44X,F11)     0033   IF(JQ-1)17;18;6     0034   17 IF(VEL)21;21;22     0035   21 FACT=0.     0036   IMVEL=0     0037   GD TD 29     0038   22 SD=VEL#1.4667     0039   FACT=0.232*SQRT (SD)     0040   IMVEL=50     0041   29 TG1=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BG*RA+32.     0044   TA2=SG*RA+32.     0045   RHLF=FACT*(TG1=TA1)+EM*(460.+TG1)**4     0046   RHF=FACT*(TG2=TA2)+EM*(460.+TG1)**4     0047   TNET=RHLT=RHLF     0048   AMB=TG1=TA1     0049   PRINT23, (MTIME(1),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     1TNET   GO TO 24     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   GO TO 24     0052   18 PRINT25     0053   25 FORMAT(1H )     0054   GO TO 26     0055   88 CALL EXIT     0056   END	0030			12	74	REV	I A LU	VE1.(	A 7 3 UAZ MT IME /	/ 1).1-)								
0033   IF(JQ-1)17,18,6     0034   17 IF(VEL)21,21,22     0035   21 FACT=0.     0036   IMVEL=0     0037   GO TO 29     0038   22 SO=VEL*1.4667     0039   FACT=0.232*SQRT (SO)     0040   IMVEL=SO     0041   29 TG1=BSUN*RA+32.     0042   TA=SHSUN*RA+32.     0043   TG2=BG*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1-TA1)+EM*(460.+TG1)**4     0046   RHLT=FACT*(TG2-TA2)+EM*(460.+TG2)**4     0047   TNET=RHLT-RHLF     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     1TNET   ITNET     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   GO TO 24     0052   18 PRINT25     0053   25 FORMAT(1H )     0054   GO TO 26     0055   88 CALL EXIT     0056   END	0032				16	FOP	MAT	(F5.0,	2X•4A2	•4F5.1	•44X•11)	19 31 30 19 80	5120120	2				•
0034   17 IF(VEL)21,21,22     0035   21 FACT=0.     0036   IMVEL=0     0037   GO TO 29     0038   22 SO=VEL*1.4667     0039   FACT=0.232*SQRT (SO)     0040   IMVEL=SO     0041   29 TG1=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BG*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1-TA1)+EM*(460.+TG1)**4     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG2-TA2)+EM*(460.+TG2)**4     0046   RHLT=FACT*(TG2-TA2)+EM*(460.+TG1)**4,     0047   TNET=RHLT-RHLF     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(1),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     1TNET   GO TO 24     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   GO TO 24     0052   18 PRINT25     0053   25 FORMAT(1H )     0054   GO TO 26     0055   88 CALL EXIT     0056   END	0033					IF(	JQ-	1)17,1	8,6	• • • • •	• • • • • • • •							
0035   21 FACT=0.     0036   IMVEL=0     0037   GD TD 29     0038   22 SO=VEL#1.4667     0039   FACT=0.232*SQRT (SO)     0040   IMVEL=SO     0041   29 TG1=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BGE*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1-TA1)+EM*(460.+TG1)**4     0046   RHLF=FACT*(TG2-TA2)+EM*(460.+TG1)**4     0046   RHLF=FACT*(TG2-TA2)+EM*(460.+TG1)**4     0047   TNET=RHLT-RHLF     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     1TNET   GO TO 24     0050   23 FORMAT(1X,64X,442,15,F0.1,3F7.1,2F6.1,2F6.1)     0051   GO TO 24     0052   18 PRINT25     0053   25 FORMAT(1H )     0054   GO TO 26     0055   88 CALL EXIT     0056   END	0034				17	IF	VEL	121,21	• 22									
0035   IM VEL=0     0037   GO TD 29     0038   22 SO=VEL*1.4667     0039   FACT=0.232*SQRT (SD)     0040   IMVEL=SO     0041   29 TGI=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BG&RA+32.     0044   TA2=SG&RA+32.     0045   RHLT=FACT*(TGI-TA1)+EM*(460.+TGI)**4     0046   RHLF=FACT*(TG2-TA2)+EM*(460.+TG2)**4     0047   TNET=RALT-RALLF     0048   AMB=TGI-TA1     0049   PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     1TNET   ITNET     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   GO TO 24     0052   18 PRINT25     0053   25 FORMAT(1H )     0054   GO TO 26     0055   88 CALL EXIT     0056   END	0035				21	FAC	T=0	•										
0038   22 S0=VEL*1.4667     0039   FACT=0.232*SQRT (SO)     0040   IMVEL=SO     0041   29 TG1=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BG*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1-TA1)+EM*(460.+TG1)**4     0046   RHLF=FACT*(TG2-TA2)+EM*(460.+TG2)**4     0047   TNET=RHLT=RHLF     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(1),1=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     1TNET   0050     0051   G0 TO 24     0052   18 PRINT25     0053   25 FORMAT(1H)     0054   GO TO 26     0055   88 CALL EXIT     0056   END	0035					100		20										
0039   FACT=0.232*SQRT (SO)     0040   IMVEL=SO     0041   29 TG1=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BG*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1-TA1)+EM*(460.+TG1)**4     0046   RHLF=FACT*(TG2-TA2)+EM*(460.+TG2)**4     0047   TNET=RHLT-RHLF     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     1TNET   0050     0051   G0 TO 24     0052   18 PRINT25     0053   25 FORMAT(1H )     0054   GO TO 26     0055   88 CALL EXIT     0056   END	0038				22	50-	VEL	*1.466	7									
0040   IMVEL=S0     0041   29 TG1=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BG*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1-TA1)+EM*(460.+TG1)**4     0046   RHLT=FACT*(TG2-TA2)+EM*(460.+TG2)**4     0047   TNET=RHLT-RHLF     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     1TNET   0050     0051   G0 TO 24     0052   18 PRINT25     0053   25 FORMAT(1H )     0054   G0 TO 26     0055   88 CALL EXIT     0056   END	0039					FAC	T=0	.232*S	QRT (S	0)								
0041   29 TG1=BSUN*RA+32.     0042   TA1=SHSUN*RA+32.     0043   TG2=BG*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1-TA1)+EM*(460.+TG1)**4     0046   RHLF=FACT*(TG2-TA2)+EM*(460.+TG2)**4     0047   TNET=RHLT-RHLF     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(1),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     1TNET   ITNET     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   G0 TO 24     0052   18 PRINT25     0053   25 FORMAT(1H )     0054   G0 TO 26     0055   88 CALL EXIT     0056   END	0040					IMV	/EL=:	so					•					
0042   TA1=SHSUN*RA+32.     0043   TG2=BG#RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1-TA1)+EM*(460.+TG1)**4     0046   RHLF=FACT*(TG2-TA2)+EM*(460.+TG2)**4     0047   TNET=RHLT-RHLF     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     1TNET   ITNET     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   GD TD 24     0052   18 PRINT25     0053   25 FORMAT(1H )     0054   GD TD 26     0055   88 CALL EXIT     0056   END	0041				29	TG1	=B \$1	JN≉RA+	32.									
0043   TG2=5G*RA+32.     0044   TA2=SG*RA+32.     0045   RHLT=FACT*(TG1-TA1)+EM*(460.+TG1)**4     0046   RHLF=FACT*(TG2-TA2)+EM*(460.+TG2)**4     0047   TNET=RHLT-RHLF     0048   AMB=TG1-TA1     0049   PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF,     1TNET   0050     0051   G0 TO 24     0052   18 PRINT25     0053   25 FORMAT(1H )     0054   G0 TO 26     0055   88 CALL EXIT     0056   END	0042					TAI	SH:	SUN*RA	+32.									
0045 RHLT=FACT*(TG1-TA1)+EM*(460.+TG1)**4   0046 RHLF=FACT*(TG2-TA2)+EM*(460.+TG2)**4   0047 TNET=RHLT=RHLF   0048 AMB=TG1-TA1   0049 PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF, ITNET   0050 23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)   0051 G0 T0 24   0052 18 PRINT25   0054 G0 T0 26   0055 88 CALL EXIT   0056 END	0043					162		408432	•									
0046   RHLF=FACT*(TG2-TA2)+EM*(460.+TG2)**4     0047   TNET=RHLT=RHLF     0048   AMB=TG1=TA1     0049   PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF, ITNET     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   G0 T0 24     0053   25 FORMAT(1H )     0054   G0 T0 26     0055   88 CALL EXIT     0056   END	0045					RHI	T=F/	4CT#(T	• G1-TA1	1+EM#1	460. ±TC 1	1***						
0047   TNET=RHLT-RHLF     0048   AMB=TGI-TA1     0049   PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF, ITNET     0050   23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)     0051   G0 TO 24     0053   25 FORMAT(1H)     0054   G0 TO 26     0055   88 CALL EXIT     0056   END	0046					RHL	F=F	ACT+(T	G2-TA2	)+EM*(	460.+TG2	)**4						
0048 AMB=TG1-TA1   0049 PRINT23,(MTIME(I),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF, ITNET   0050 23 FORMAT(1X,64X,4A2,I5,F8.1,3F7.1,2F6.1,2F6.1)   0051 G0 TO 24   0052 18 PRINT25   0053 25 FORMAT(1H )   0054 GO TO 26   0055 88 CALL EXIT   0056 END	0047					TNE	T=RI	HLT-RH	LF									
0049     PRINT23,(MTIME(1),I=1,4),IMVEL,TG1,TA1,TG2,TA2,AMB,RHLI,RHLF, ITNET       0050     23 FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)       0051     GD TD 24       0052     18 PRINT25       0053     25 FORMAT(1H )       0054     GD TO 26       0055     88 CALL EXIT       0056     END	0048					AMB	S=TG	1-TA1										
0050     23     FORMAT(1X,64X,4A2,15,F8.1,3F7.1,2F6.1,2F6.1)       0051     GO TO 24       0053     18     PRINT25       0054     GO TO 26       0055     88     CALL EXIT       0056     END	0049				1	PRI	(NT2) T	3 <b>,</b> (MTI	ME(I),	I=1,4)	,IMVEL,T	G1,TA1,T	52 <b>,</b> TA2,	AMB,R	HL I 🕫	RHLI	=,	
0051     GO TO 24       0052     18 PRINT25       0053     25 FORMAT(1H )       0054     GO TO 26       0055     88 CALL EXIT       0056     END	0050				23	FOF	RMAT	(1X,64	X,4A2,	15, F8.	1,387.1,	256.1,250	6.1)					
0052     18 PRINT25       0053     25 FORMAT(1H )       0054     GO TO 26       0055     88 CALL EXIT       0056     END	0051					GO	TO (	24										
0055 25 FURMATILM 7 0054 GO TO 26 0055 88 CALL EXIT 0056 END	0052				18	PRI	INT2	5				•						
0055 88 CALL EXIT 0056 END	0053				25	r0F	MAT TO	(1H ) 24										
0056 END	0055				88	CAI	.I. F											
	0056					EN	5											

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TOTAL MEMORY REQUIREMENTS 0008A6 BYTES

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### R A D I A T I O N D A T A JULY 29-30 1968

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TIME	WIND VEL.	ТЕМР		RATU		RE	RADIANT HEAT LOAD BTU/HR FT**2		
	I F J		SUTELD		CUTCLD		5107		*2 NCT
		GLUBE	SHIELD	GLUDE	SHIELD	EDOM			
		FACING	FACING	FACING	COOLING		MIN-	WIN-	
		20N	SUN	GROUND	GRUUND	AMD .	UKUW	UKUW	
JULY 29									
AM 9.30	13	62.6	60.8	59.5	59.0	1.8	130.6	126.5	4.1
10.30	13	67.1	63.0	62.4	60.8	4.1	137.0	130.2	6.8
11.00	17	59.5	58.5	58.1	58.3	1.1	127.1	124.5	2.6
11.30	16	66.6	63.7	62.6	61.7	2.9	135.7	129.9	5.8
NOON 12	13	69.1	65.7	644	63.5	3.4	138.4	131.6	6.9
PM 1.00	13	69.8	71.6	67.6	68.0	-1.8	134.8	133.8	1.0
2.00	19	70.7	72.0	68.0	68.9	-1.3	136.0	133.5	2.4
2.30	16	61.7	61.3	61.2	61.2	0.4	128.5	127.6	0.9
3.00	13	64.4	65.1	64.2	64.4	-0.7	130.2	130.5	-0.3
3.30	23	69.8	69.8	67.1	68.0	0.0	136.3	132.5	3.8
4.00	22	60.8	60.8	60.8	60.6	0.0	127.3	127.5	-0.2
4.30	17	68.0	68.0	65.8	66.4	0.0	134.5	131.7	2.7
5.00	10	62.2	62.2	62.2	62.2	0.0	128.7	128.7	0.0
5.30	11	65.3	65.3	63.1	63.5	0.0	131.7	129.3	2.4
6.00	11	62.2	62.2	59.9	60.4	0.0	128.7	126.0	2.7
7.00	17	62.6	61.5	61.5	61.5	1.1	130.1	128.0	2.1
8.13	17	58.6	58.1	58.3	58.1	0.5	125.7	125.0	0.7
8.35	17	54.0	54.3	55.4	54.9	-0.4	120.4	122.6	-2.2
8.52	8	53.6	53.6	55.0	53.6	0.0	120.4	122.7	-2.3
9.30	0	51.1	52.0	53.1	52.3	-0.9	118.0	119.9	-1.8
10.00	2	51.8	52.0	53.2	52.3	-0.2	118.6	120.4	-1.8
10.30	2	49.8	49.8	50.2	50.0	0.0	116.9	117.3	-0.4
	-			2004					
JULY 30									
AM 8.30	2	57.2	59.2	53.6	54.1	-2.0	123.0	120.2	2.8
9.00	10	59.0	61.3	55.4	55.8	-2.3	123.8	121.8	2.0
9.30	5	62.2	64.4	57.6	58.6	-2.2	127.5	123.5	3.9
10.00	8	63.9	67.6	59.9	61.7	-3.8	127.7	125.2	2.5
10.30	4	64.4	64.4	60.8	60.3	0.0	130.8	127.5	3.3
11.00	. 2	68.4	74.7	64.4	66.2	-6.3	132.3	130.1	2.2
11.30	13	66.2	69.8	63.7	64.9	-3.6	129.6	129.0	0.6
NOON 12	2	71.6	74.5	66.7	68.4	-2.9	137.0	132.5	4.5
PM 2.30	Ō	78.8	74.8	71.6	71.6	4.0	145.8	138.2	7.6
3.30	1	79.7	76.5	71.8	73.4	3.2	147.7	137.9	9.8
4.30	Ō	73.8	74.7	69.3	70.7	-0.9	140.4	135.7	4.7
5.00	Ō	76.1	75.2	70.7	72.5	0.9	142.9	137.2	5.7
5.30	Ō	72.0	70.7	68.2	68.9	1.3	138.5	134.6	3.9
6.00	õ	71.8	70.2	67.6	68.5	1.6	138.3	134.1	4.3
6.30	Ō	70.3	68.5	67.8	68.0	1.8	136.9	134.3	2.6
7.30	0	68.0	65.5	66.0	66.2	2.5	134.5	132.5	2.0
8.00	Ő	60.1	57.6	60.8	58.6	2.5	126.6	127.3	-0.7
8.30	Ő	49.1	50.0	52.5	51.4	-0.9	116.2	119.4	-3.2

# RADIATION DATA JULY 29-30 1968

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TIME	WIND VEL.	ΤE	Μ	Ρ	E	RA	Т	U	F	R E	i H	RADIANT	AD
	LL2		c		_		<b>.</b>				BTU	′HR FT≯	<b>*</b> *2
		GLUBE	2	HIELU	ر ا	GLUBE	SH	IELC	) (	GLOBE	ТО	FROM	NET
		FACING	۲		2	FACING	F A	CING	ż	FROM	WIN-	WIN-	
		SUN		501	N	GRUUND	GR	UUNL	)	AMB •	DROW	DROW	
JULY 29													
AM 9.30	13	62.6		60.8	3	59.5		59.0	n	1.8	130.6	126 5	4 1
10.30	13	67.1		63.0	- )	62.4		60.8	2 2	4.1	137.0	120.2	
11.00	17	59.5		58.5	5	58.1		58.3	3	1.1	127.1	124.5	2.6
11.30	16	66.6		63.	7	62.6		61.7	7	2.9	135.7	129.9	5.8
NOON 12	13	69.1		65.7	7	64.4		63.5	5	3.4	138.4	121 6	6 Q
PM 1.00	13	69.8		71.6	5	67.6		68.0	Ś	-1.8	134.8	132.8	1 0
2.00	19	70.7		72.0	)	68.0		68.9	, ,	-1.3	136.0	133.5	2.4
2.30	16	61.7		61.	3	61.2		61.2	>	0.4	128.5	127 6	
3.00	13	64.4		65.	Í	64.2		64.4	- +	-0.7	130.2	130.5	-0.3
3.30	23	69.8		69.8	3	67.1		68.0	ז	0.0	136.3	132.5	3.8
4.00	22	60.8		60.8	3	60.8		60.6	Ś	0.0	127.3	127.5	-0.2
4.30	17	68.0		68.0	5	65.8		66.4	4	0.0	134.5	131.7	2.7
5.00	10	62.2		62.2	2	62.2		62.2	2	0.0	128.7	128.7	0.0
5.30	11	65.3		65.	3	63.1		63.5	5	0.0	131.7	129.3	2.4
6.00	11	62.2		62.2	2	59.9		60.4	4	0.0	128.7	126.0	2.7
7.00	17	62.6		61.5	5	61.5		61.5	5	1.1	130.1	128.0	2.1
8.13	17	58.6		58.1	1	58.3		58.1	1	0.5	125.7	125.0	0.7
8.35	17	54.0		54.	3	55.4		54.9	- -	-0.4	120.4	122.6	-2.2
8.52	8	53.6		53.6	5	55.0		53.6	5	0.0	120.4	122.7	-2.3
9.30	0	51.1		52.0	)	53.1		52.2	3	-0.9	118.0	119.9	-1.8
10.00	2	51.8		52.0	)	53.2		52.3	3	-0.2	118.6	120.4	-1.8
10.30	2	49.8		49.8	8	50.2		50.0	)	0.0	116.9	117.3	-0.4
JULY 30													
AM 8.30	2	57.2		59.2	2	53.6		54.1	L	-2.0	123.0	120.2	2.8
9.00	10	59.0		61.3	3	55.4		55.8	3	-2.3	123.8	121.8	2.0
9.30	5	62.2		64.4	+	57.6		58.6	Ś	-2.2	127.5	123.5	3.9
10.00	8	63.9		67.6	5	59.9		61.7	7	-3.8	127.7	125.2	2.5
10.30	4	64.4		64.4	4	60.8		60.3	3	0.0	130.8	127.5	3.3
11.00	2	68.4		74.	7	64.4		66.2	2	-6.3	132.3	130.1	2.2
11.30	13	66.2		69.8	8	63.7		64.9	J	-3.6	129.6	129.0	0.6
NUON 12	2	71.6		74.9	5	66.7		68.4	<del>'</del> +	-2.9	137.0	132.5	4.5
PM 2.30	0	78.8		74.8	B	71.6		71.6	6	4.0	145.8	138.2	7.6
3.30	1	79.7		76.	5	71.8		73.4	ί <del>ι</del>	3.2	147.7	137.9	9.8
4.30	0	73.8		74.	7	69.3		70.7	7	-0.9	140.4	135.7	4.7
5.00	Û	16.1		75.2	2	70.7		72.5	5	0.9	142.9	137.2	5.7
5.30	0	12.0		70.	7	68.2		68.9	9	1.3	138.5	134.6	3.9
6.00	0	(1.8		70.2	2	67.6		68.5	5	1.6	138.3	134.1	4.3
0.30	U	10.3		68.	2	67.8		68.0	נ	1.8	136.9	134.3	2.6
1.30	0	68.0		65.5	Ś	66.0		66.2	2	2.5	134.5	132.5	2.0
8.00	0	60.1		57.0	5	60.8		58.6	5	2.5	126.6	127.3	-0.7
8.30	0	49•1		50.0	)	52.5		51.4	, t	-0.9	116.2	119.4	-3.2

# RADIATION DATA JULY 31 1968

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TIME	WIND	ΤЕ	ΜP	ERA	τU	R E	RADIAN	Т
	VEL.						HEAT LO	AD
	FPS			F			BTU/HR FT	**2
		GLOBE	SHIELD	GLOBE	SHIELD	GLOBE	TO FROM	NET
		FACING	FACING	FACING	FACING	FROM	WIN- WIN-	
		SUN	SUN	GROUND	GROUND	ΑΜΒ.	DROW DROW	
JULY 31								
AM 8.30	0	66.2	66.2	63.5	64.4	0.0	132.6 129.9	2.7
9.00	4	70.3	71.6	67.6	68.4	-1.3	136.2 133.7	2.5
9.30	8	71.8	72.1	68.4	69.4	-0.4	138.1 134.1	4.0
10.00	4	75.0	76.6	71.6	73.0	-1.6	141.0 137.5	3.5
10.30	1	78.6	79.7	74.3	75.6	-1.1	145.3 140.6	4.7
11.00	0	81.9	81.0	77.0	77.5	0.9	149.1 143.9	5.3
11.30	5	76.5	75.6	74.7	74.5	0.9	143.8 141.5	2.3
NOON 12	4	74.3	74.3	73.4	73.8	0.0	141.0 139.9	1.1
PM 2.00	4	81.5	79.2	77.0	78.8	2.3	149.9 143.0	6.9
2.30	5	82.0	80.6	78.8	78.4	1.4	150.1 146.0	4.1
3.00	11	87.8	83.7	81.3	80.4	4.1	159.1 149.3	9.8
3.30	0	93.2	91.6	86.0	86.0	1.6	162.0 153.8	8.3
4.30	0	82.9	82.0	80.6	8J•2	0.9	150.3 147.8	2.6
5.00	0	80.2	79.7	78.6	79.0	0.5	147.4 145.6	1.8
5.15	0	78.4	78.4	77.5	77.5	0.0	145.4 144.4	1.0
6.00	0	76.6	76.3	76.1	76.1	0.4	143.5 142.9	0.6

# APPENDIX D

i

IBM system 360/75 computer program and printout of percentage moisture contents of hay windrows under five treatments, at regular intervals during the experimental trials

FORTRAN	IV G LEVEL	I, MOD 4	MAIN	DATE = 69223	14/55/22
	С	DRYING HAY IN	WINDROWS		
	С	DETERMINATION	OF MOISTURE CONTE	NTS	
	Ċ	D.S.DUGGAL			
0001		DIMENSION DISH	1(123),MAP(40),IDE	N(5)	
0002		MP=123			
0003		READ4, (DISH(I)	,I=1,MP)		
0004	4	FORMAT(10F6.2)			
0005		PRINT 482			
0006	482	FORMAT(1H1)			
0007		PRINT88, (DISH)	I) + I = 1 + MP )		
0008	88	FORMAT(1X,10F)	.0.2)		
0009					
0010		NCK=4			
0011		BEN			
0012	2000	DG=NUK+N DEAD1 (MAD/1)	1-1 251		
0015	2000	CODWAT (SEAS)	1=1,301		
0014	1	PEAD 200 NHD			
0016	200	FORMAT(12)			
0017	200	PRINT 002			
0018	992	FORMAT(1H1)			
0019		PRINT 789			
0020	789	EDRMAT(1H )			
0021		PRINT 92			
0022	92	FORMAT( 1X.7	3X. 34HPERCENTA	GE MOISTURE CONTENT OF H	ΔΥ)
0023		PRINT 98, (MAP)	I),I=1,35)		
0024	98	FORMAT(1X,73X,	2742)		
0025		PRINT 42		•	
0026	42	FORMAT( /1X,7	3X,1X,6HSAMPLE,1X	,4HDISH,4X,4HDISH,1X,6HI	NITI-,2X,
		15HF INAL , 3X, 5H	OIS-,2X,6HSAMPLE)		
0027		PRINT 32			
0028	32	FORMAT(1X,73X)	4X,3HNO.,2X,3HNO.	,5X,3HWT.,1X,6HAL WT.,4X	,3H₩T.,4X,
0000		14HTURE,4X,4HME	AN)		
0029		PRINT33			
0030	55	FURMAT(1X)/3X	16X,4HGM5.,3X,4HG	MS.,3X,4HGMS.,4X,4HPCT.,	4X,4HPCT./)
0031	•	NOLTI NCI			
0032	34	ENDMAT/1V.72V	OUTOCATHENT 12 1	•	
0034	34 79	SOM-O.	981 REALMEN 1 , 12 , 18	• /	
0035	10	00 2 JM=1 NC8			
0036		SUM=0.			
0037		D0 2 J=1.N			
0038		READ3, JQ, (IDEN	(I).I=1.5).NO.WT1	+ FINAL	
0039	3	FORMAT(11,4X,5	A2.1X.14.2F10.1)		
0040		IF(JQ)5,5,2000	)		
0041	5	PER=(WT1-FINAL	.)/(WT1-DISH(NO))*	100.	
0042		PERR≠PER		•	
0043		SUM=SUM+PER			
0044		SOM=SOM+PER			
0045	-	IF(J-N)6,7,6			
0045		AV=SUM/B			
0041	•	FRINI SILIUEN	11,1=1,5/,NU,UISF	I(NU),WII,FINAL,PERK,AV	
0048	7	CO TO 2	JAZ, 1X, 14, F8. 2, 2F	(+1+2-8+1)	
0049	,				
0050	0	PRINITO, TIDEN	1), I=1,5), NO, DISH	(NO),WT1,FINAL,PERR	
0051	10	FURMAILIX, /UX,	5A2,1X,14,F8.2,2F	7.1,F8.1)	
0052	. 2				
0054		DDINTIAN AND			
0055	140	FURMAT(18,738	307.10481004 4544	E4 1)	
0056	107	NSL=NSI +NMP	SUN I TOHOLUUN MEAN	\$F0.11	
0057		IF (NSI = 5) 100-1	00.78		
0058	100	PRINT 34 NSI			
0059		GO TO 78			
0060	442	CALL EXIT			
0061		END			

TOTAL MEMORY REQUIREMENTS OCOA82 BYTES

#### PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MACDONALD COLLEGE FARM JULY 15 1968 11 AM

S	NO.	DISH 4NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT•	SAMPLE MEAN PCT•
TF	REATMEN	NT 1.					
I	1	101	81.80	161.1	106.9	68.3	
I	2	102	81.50	143.5	99.8	70.5	69.4
I	3	103	81.70	143.4	101.0	68 <b>.7</b>	
I	4	104	81.00	140.3	100.5	67.1	67.9
I	5	105	81.90	164.8	106.2	70.7	
I	6	106	82.40	166.0	108.6	68.7	69.7

- McGILL UNIVERSITY COMPUTING CENTRE -

### PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MACDONALD COLLEGE FARM JULY 15 1968 12 NOON

SAMPLE	DISH	DISH	INITI-	FINAL	MOIS-	SAMPLE
NO.	NO.	AL.	AL WT.	WT.	TURE	MEAN
		GMS.	GMS.	GMS.	PCT.	PCT.
	чт 3					
IREAIME		01 00	127 0	00 7		
A 1-2 1	107	81.90	127.0	99.1		
A 1-2 2	108	81.30	109.7	93.9	<b>2</b> 2 • 0	28•T
B 1-2 1	101	81.80	120.8	97.0	61.0	42 0
D 1-2 2	102	01.00	120.7	90.U	63.U	02.0
1 - 2 1	101	81.80	142.0	107.8	50.8	<b>F7</b> (
C 1-2 2	102	81.50	140.4	106.0	28 • 4 4 1 7	51.6
D 1-2 I	10	10.00	50.9	29.1	01.1	(2.0
0 1-2 2	20	17.15	51.3	30.0	62.4 MEAN E	62.0
TREATME	NT 2.			BLUCK	MEAN D	9.9
A 2-2 1	109	81.90	139.0	103.6	62.0	
A 2 2 1 A 2-2 2	110	81.60	131.6	101.8	59.6	60.8
B 2-2 1	103	81.70	112.3	93.8	60.5	00.0
B 2-2 2	104	81.00	124.1	95.5	66.4	63.4
0 2 2 2	103	81.70	135.6	101.9	62.5	0.5 • 1
C 2 = 2 1	104	81.00	150.4	108.7	60.1	61.3
$D_{2-2}$	111	81 00	119.0	96.0	60.5	01.0
	112	91 50	122 7	100 2	54 6	57 6
0 2-2 2	112	81.50	12201			0.8
TREATME	NT 3.			DLOOK	DLAN U	0.0
A 3-2 1	10	17.10	37.6	24.8	62.4	·
A 3-2 2	19	16.45	59.9	30.9	66.7	64.6
B 3-2 1	105	81.90	140.5	101.5	66.6	
B 3-2 2	106	82.40	125.4	95.9	68.6	67.6
C 3-2 1	105	81.90	111.6	92.2	65.3	
$C_{3-2}^{-2}$	106	82.40	138.8	103.2	63.1	64.2
D 3-2 1	10	17.10	37.6	24.8	62.4	
D 3-2 2	19	16.45	59.9	30.9	66.7	64.6
				BLOCK	MEAN 6	5.2
TREATME	NT 4.					
A 4-2 1	9	17.05	64.2	32.4	67.4	
A 4-2 2	12	17.05	69.5	34.8	66.2	66.8
B 4-2 1	107	81.90	145.5	101.6	69.0	
B 4-2 2	108	81.30	150.1	102.8	68.8	68.9
C 4-2 1	107	81.90	144.0	102.5	66.8	
C 4-2 2	108	81.30	140.7	99.1	70.0	68.4
D 4-2 1	. 4	16.75	32.6	21.6	69.4	
D 4-2 2	3	16.60	42.7	24.9	68.2	68.8
				BLOCK	MEAN 6	o8∙2
IREAIME		14 70	(2.0	22.0	( = 0	
	. 2	10.10	63.9	32.0	67.9	(F (
	. ð	11.00	23.U	27•3 102 1	700	0,00
	110	01.40	124.1	TO2.T	1 U • 7 60 4	60 7
	100	01.00	115 2	77.0 05 0	00 • 0 4 0 •	07 • 1
し ジーム 1 ・C エン つ	. 109	01 70 01 40	152 0	104 1	600+0 65 2	62 0
	. 110	17 25	1,10	27 J	00•2 60 7	0.0
	. 1	16 CO	41.0	24•2 25 0	40 F	68 6
0 5-2 2	. 0	10.00	40.1	20.7 BIUUN	MEAN 4	56.7
			- McGILI	L ሆለካሦቲን	<b>ξ΄ Τ΄ Τ΄ ΄΄</b> ϲά	OMPUTING CENTRE


## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MACDONALD COLLEGE FARM JULY 15 1968 6 PM

TREATMENT 1.         A 1-3 1       93       17.85       52.5       37.0       44.7         A 1-3 2       94       17.70       45.1       34.7       38.0       41.3         B 1-3 1       76       17.40       34.2       26.9       43.5         B 1-3 2       77       17.10       40.2       30.0       44.2       43.8         C 1-3 2       87       17.90       44.3       32.8       43.6       43.0         D 1-3 1       46       17.90       44.4       34.0       41.5       9.5         D 1-3 2       44       17.90       64.7       47.1       37.6       39.5         BLOCK MEAM       41.9       41.9       41.3       82.3       9.5       9.6       1.7         A 2-3 1       95       18.00       72.0       49.5       41.7       44.3         B 2-3 1       78       17.40       43.8       35.5       9.0       38.7         C 2-3 1       89       17.80       49.7       35.6       44.2       44.3         D 2-3 2       40       16.90       47.8       34.5       43.0       41.8         BLOCK MEAN       41.5       41.5	SAMPLE NO.	DISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT•	SAMPLE MEAN PCT•	
A 1-3 1 93 17.85 52.5 37.0 44.7 A 1-3 2 94 17.70 45.1 34.7 38.0 41.3 B 1-3 1 76 17.40 34.2 26.9 43.5 B 1-3 2 77 17.10 40.2 30.0 44.2 43.8 C 1-3 1 86 17.30 48.0 35.0 47.3 C 1-3 2 87 17.90 44.3 32.8 43.6 43.0 D 1-3 1 46 17.90 45.4 34.0 41.5 D 1-3 2 44 17.90 64.7 47.1 37.6 39.5 BLOCK MEAN 41.9 TREATMENT 2. A 2-3 1 95 18.00 72.0 49.5 41.7 A 2-3 2 96 17.80 52.8 38.5 40.9 41.3 B 2-3 2 79 17.40 43.8 33.5 39.0 38.7 C 2-3 1 88 17.50 48.8 34.9 44.4 C 2-3 2 89 17.80 49.7 35.6 44.2 44.3 D 2-3 1 49 17.75 46.4 34.8 40.5 D 2-3 2 40 16.90 47.8 34.5 43.0 41.8 BLOCK MEAN 41.5 TREATMENT 3. A 3-3 1 97 17.40 66.9 40.7 52.9 A 3-3 2 98 17.30 55.5 37.0 48.4 50.7 B 3-3 2 81 17.40 40.4 28.8 50.4 51.9 C 3-3 2 91 17.80 45.4 30.2 55.1 53.1 D 3-3 2 24 17.05 35.0 37.4 42.3 46.7 BLOCK MEAN 41.5 TREATMENT 3. A 3-3 1 90 17.70 40.4 28.8 51.1 C 3-3 2 91 17.80 45.4 30.2 55.1 53.1 D 3-3 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAN 64.9 60.7 B 3-3 1 80 17.10 51.2 33.0 53.4 B 3-3 2 91 17.80 45.4 30.2 55.1 53.1 D 3-3 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAN 50.6 TREATMENT 4. A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 1 99 17.85 61.4 40.4 28.8 51.1 C 3-3 2 91 17.80 45.4 30.2 55.1 53.1 D 3-3 2 21 16.85 45.4 26.5 61.4 D 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 11 6.85 45.4 26.5 61.4 D 4-3 2 21 16.85 45.4 26.5 61.4 D 4-3 2 55.1 75.0 45.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 51 17.60 50.2 36.1 43.3 41.9 B 5-3	TREATMEN	T 1.						
A $1-3 2 94$ 17.70 45.1 34.7 38.0 41.3 B $1-3 1 76$ 17.40 34.2 26.9 43.5 B $1-3 2 77$ 17.10 40.2 30.0 44.2 43.8 C $1-3 1 86$ 17.30 48.0 35.0 42.3 C $1-3 2 87$ 17.90 44.3 32.8 43.6 43.0 D $1-3 1 46$ 17.90 45.4 34.0 41.5 D $1-3 2 44$ 17.90 64.7 47.1 37.6 39.5 BLOCK MEAN 41.9 TREATMENT 2. A 2-3 1 95 18.00 72.0 49.5 41.7 A 2-3 2 96 17.80 52.8 38.5 40.9 41.3 B 2-3 2 79 17.40 43.8 33.5 39.0 38.7 C 2-3 1 88 17.50 48.8 34.9 44.4 B 2-3 2 99 17.80 49.7 35.6 44.2 44.3 D 2-3 1 49 17.75 46.4 34.8 40.5 D 2-3 1 49 17.75 46.4 34.8 40.5 D 2-3 1 49 17.75 46.4 34.8 40.5 D 2-3 2 98 17.80 55.5 37.0 48.4 50.7 B 3-3 1 97 17.40 66.9 40.7 52.9 A 3-3 2 98 17.30 55.5 37.0 48.4 50.7 B 3-3 1 90 17.70 40.4 28.8 50.4 51.9 C 3-3 2 91 17.80 45.4 30.2 55.1 53.1 D 3-3 2 24 17.05 35.0 27.4 47.3 46.7 B 17.80 45.4 30.2 55.1 53.1 D 3-3 2 24 17.05 35.0 27.4 47.3 46.7 BLOCK MEAN 50.6 TREATMENT 4. A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 41 17.85 60.0 32.3 65.7 64.9 D 4-3 2 21 16.85 45.4 30.2 55.1 53.1 D 3-3 2 21 17.50 45.8 37.5 61.4 D 4-3 2 21 16.85 45.4 36.7 34.1 64.0 C 4-3 2 41 17.85 60.0 32.3 65.7 64.9 D 4-3 2 21 16.85 45.4 26.5 61.4 D 4-3 2 21 16.85 45.4 36.7 34.1 64.0 C 4-3 2 41 17.85 60.0 32.3 65.7 64.9 D 4-3 2 51.0 50.2 36.1 43.3 41.9 B 4-3 2 83 17.10 45.8 25.6 7.6 4.9 D 4-3 2 21 16.85 45.4 36.7 34.1 64.0 C 4-3 2 41 17.85 60.0 32.3 65.7 64.9 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 B LOCK MEAN 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 1 39 17.80 54.3 37.1 46.9 47.3 D 5-3 2 52 17.50 48.0 37.1 46.9 47.3 D 5-3 2 52 17.50 48.0 37.1 46.9 47.3 D 5-3 2 52 17.50 47.0 38.3 47.3 D 5-3 2 52 17.50 47.0 38.4 47.3 D 5-3 2 52 17.50 47.0 38.3 47.3 D 5-3 2 52 17.50 47.0 38.0 47.3 37.1 46.9 47.3	A 1-3 1	93	17.85	52.5	37.0	44.7		
B 1-3 1 76 17.40 34.2 26.9 43.5 B 1-3 2 77 17.10 40.2 30.0 44.2 43.8 C 1-3 1 86 17.30 48.0 35.0 47.3 C 1-3 2 87 17.90 44.3 32.8 43.6 43.0 D 1-3 1 46 17.90 45.4 34.0 41.5 D 1-3 2 44 17.90 64.7 47.1 37.6 39.5 BLOCK MEAM 41.9 TREATMENT 2. A 2-3 1 95 18.00 72.0 49.5 41.7 A 2-3 2 96 17.80 52.8 38.5 40.9 41.3 B 2-3 2 79 17.40 43.8 33.5 39.0 38.7 C 2-3 1 88 17.50 48.8 34.9 44.4 C 2-3 2 89 17.80 49.7 35.6 44.2 44.3 D 2-3 1 49 17.75 46.4 34.8 34.5 43.0 41.8 BLOCK MEAM 41.5 TREATMENT 3. A 3-3 1 97 17.40 66.9 40.7 52.9 A 3-3 2 98 17.30 55.5 37.0 48.4 50.7 B 3-3 1 90 17.70 40.4 28.8 51.1 C 3-3 1 91 17.80 45.4 30.2 55.1 53.1 D 3-3 1 27 17.10 47.9 32.2 51.0 D 3-3 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAM 50.6 TREATMENT 4. A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 2 41 7.85 80.3 36.2 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 1 82 17.35 57.2 28.8 71.3 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 1 82 17.35 57.2 28.8 71.3 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAM 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 TREATMENT 5. A 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 2 51 17.50 48.0 37.1 46.9 47.3	A 1-3 2	94	17.70	45.1	34.7	38.0	41.3	
B 1-3 2 77 17.10 40.2 30.0 44.2 43.8 C 1-3 1 86 17.30 48.0 35.0 42.3 C 1-3 2 87 17.90 44.3 32.8 43.6 43.0 D 1-3 1 46 17.90 45.4 34.0 41.5 D 1-3 2 44 17.90 64.7 47.1 37.6 39.5 BLOCK MEAN 41.9 TREATMENT 2. A 2-3 1 95 18.00 72.0 49.5 41.7 A 2-3 2 96 17.80 52.8 38.5 40.9 41.3 B 2-3 1 78 17.40 39.8 31.2 39.4 C 2-3 2 89 17.80 49.7 35.6 44.2 44.3 D 2-3 1 88 17.50 48.8 34.9 44.4 C 2-3 2 89 17.80 49.7 35.6 44.2 44.3 D 2-3 1 49 17.75 46.4 34.8 40.5 D 2-3 2 40 16.90 47.8 34.5 43.0 41.8 BLOCK MEAN 41.5 TREATMENT 3. A 3-3 1 97 17.40 66.9 40.7 52.9 A 3-3 2 98 17.30 55.5 37.0 48.4 50.7 B 3-3 1 80 17.10 51.2 33.0 53.4 B 3-3 2 81 17.40 40.4 28.8 51.1 C 3-3 2 91 17.80 44.4 30.2 55.1 53.1 D 3-3 1 27 17.10 40.4 28.8 51.1 C 3-3 2 91 17.80 45.4 30.2 55.1 53.1 D 3-3 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAN 50.6 TREATMENT 4. A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 2 41 17.85 60.0 32.3 65.7 64.9 D 4-3 1 53 17.80 45.4 26.5 7 64.9 D 4-3 1 53 17.85 64.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 B 4-3 1 82 17.30 55.5 37.0 48.7 47.0 C 4-3 2 71 7.60 45.6 34.2 40.6 TREATMENT 4. A 4-3 1 99 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 B 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 TREATMENT 5. A 5-3 1 39 17.80 54.3 37.1 46.9 47.3 D 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 45.7 TREATMENT 5. A 5-3 1 50 17.50 57	B 1-3 1	76	17.40	34.2	26.9	43.5		
C 1-3 1 86 17.30 48.0 35.0 42.3 C 1-3 2 87 17.90 44.3 32.8 43.6 43.0 D 1-3 1 46 17.90 45.4 34.0 41.5 D 1-3 2 44 17.90 64.7 47.1 37.6 39.5 BLOCK MEAN 41.9 TREATMENT 2. A 2-3 1 95 18.00 72.0 49.5 41.7 A 2-3 2 96 17.80 52.8 38.5 40.9 41.3 B 2-3 1 78 17.40 39.8 31.2 38.4 B 2-3 2 79 17.40 43.8 33.5 39.0 38.7 C 2-3 1 88 17.50 48.8 34.9 44.4 C 2-3 2 89 17.80 49.7 35.6 44.2 44.3 D 2-3 1 49 17.75 46.4 34.8 40.5 D 2-3 2 40 16.90 47.8 34.5 43.0 41.8 BLOCK MEAN 41.5 TREATMENT 3. A 3-3 1 97 17.40 66.9 40.7 52.9 A 3-3 2 98 17.30 55.5 37.0 48.4 50.7 B 3-3 1 80 17.10 51.2 33.0 53.4 B 3-3 2 81 17.40 40.4 28.8 50.4 51.9 C 3-3 1 90 17.70 40.4 28.8 50.4 51.9 C 3-3 1 90 17.70 40.4 28.8 51.1 D 3-3 1 27 17.10 47.9 32.2 55.0 D 3-3 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAN 50.6 TREATMENT 4. A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 2 83 17.10 45.4 30.2 55.7 153.1 D 3-3 2 21 16.85 57.2 28.8 71.3 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 10 17.45 51.8 29.5 64.9 67.8 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 11 7.85 60.0 32.3 65.7 64.9 D 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 36.2 40.6 A 4-3 2 21 16.85 45.4 36.2 60.4 30.4 B 4-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 1 39 17.80 45.4 37.4 164.0 C 4-3 2 51 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B 4-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 2 51 17.60 50.4 35.3 45.3 B 5-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6	B 1-3 2	77	17.10	40.2	30.0	<b>4</b> 4 • <b>2</b>	43.8	
C 1-3 2 87 17.90 44.3 32.8 43.6 43.0 D 1-3 1 46 17.90 45.4 34.0 41.5 D 1-3 2 44 17.90 64.7 47.1 37.6 39.5 BLOCK MEAN 41.9 TREATMENT 2. A 2-3 1 95 18.00 72.0 49.5 41.7 A 2-3 2 96 17.80 52.8 38.5 40.9 41.3 B 2-3 1 78 17.40 43.8 33.5 39.0 38.7 C 2-3 1 88 17.50 48.8 34.9 44.4 C 2-3 2 89 17.80 49.7 35.6 44.2 44.3 D 2-3 1 49 17.75 46.4 34.8 40.5 D 2-3 2 40 16.90 47.8 34.5 43.0 41.8 BLOCK MEAM 41.5 TREATMENT 3. A 3-3 1 97 17.40 66.9 40.7 52.9 A 3-3 2 98 17.30 55.5 37.0 48.4 50.7 B 3-3 1 80 17.10 51.2 33.0 53.4 B 3-3 2 91 17.80 49.4 30.2 55.1 53.1 D 3-3 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAM 50.6 TREATMENT 4. A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 2 81 17.10 45.8 25.6 70.4 70.8 C 4-3 1 92 17.45 60.7 32.6 57.6 64.9 D 3-3 2 21 16.85 43.0 2 55.1 53.1 D 3-3 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAM 50.6 TREATMENT 4. A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 1 92 17.45 60.7 32.2 65.7 64.9 D 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 30.2 25.1 63.8 BLOCK MEAM 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B LOCK MEAM 66.8 TREATMENT 5. A 5-3 1 74 17.50 57.0 38.3 47.3 D 5-3 2 51 17.60 54.3 37.1 46.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 HOUCK MEAM 66.8	C 1-3 1	86	17.30	48.0	35.0	42.3		
D 1-3 1 46 17.90 45.4 34.0 41.5 D 1-3 2 44 17.90 64.7 47.1 37.6 39.5 BLOCK MEAN 41.9 TREATMENT 2. A 2-3 1 95 18.00 72.0 49.5 41.7 A 2-3 2 96 17.80 52.8 38.5 40.9 41.3 B 2-3 1 78 17.40 39.8 31.2 38.4 B 2-3 2 79 17.40 43.8 33.5 39.0 38.7 C 2-3 1 88 17.50 48.8 34.9 44.4 C 2-3 2 89 17.80 49.7 35.6 44.2 44.3 D 2-3 1 49 17.75 46.4 34.8 40.5 D 2-3 2 40 16.90 47.8 34.5 43.0 41.8 BLOCK MEAM 41.5 TREATMENT 3. A 3-3 1 97 17.40 66.9 40.7 52.9 A 3-3 2 98 17.30 55.5 37.0 48.4 50.7 B 3-3 1 80 17.10 51.2 33.0 53.4 B 3-3 2 81 17.40 40.4 28.8 50.4 51.9 C 3-3 1 90 17.70 40.4 28.8 50.4 51.9 C 3-3 1 90 17.70 40.4 28.8 50.4 51.9 C 3-3 1 90 17.70 40.4 28.8 50.4 51.9 C 3-3 1 91 17.80 45.4 30.2 55.1 53.1 D 3-3 2 24 17.05 55.0 27.4 42.3 46.7 BLOCK MEAM 50.6 TREATMENT 4. A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 1 82 17.35 57.2 28.8 71.3 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 2 10 17.45 51.8 29.5 64.9 67.8 B 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 11 0 17.45 51.8 29.5 64.9 67.8 B 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 11 7.85 60.0 32.3 65.7 64.9 D 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 20.2 40.6 A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 1 74 17.50 45.4 36.9 47.7 C 5-3 2 51 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B LOCK MEAN 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B LOCK MEAN 66.8 TREATMENT 5. A 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 50.4 35.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 66.6	C 1-3 2	87	17.90	44.3	32.8	43.6	43.0	
D 1-3 2 44 17.90 64.7 47.1 37.6 39.5 BLOCK MEAN 41.9 TREATMENT 2. A 2-3 1 95 18.00 72.0 49.5 41.7 A 2-3 2 96 17.80 52.8 38.5 40.9 41.3 B 2-3 2 79 17.40 39.8 31.2 38.4 B 2-3 2 79 17.40 43.8 33.5 39.0 38.7 C 2-3 1 88 17.50 48.8 34.9 44.4 C 2-3 2 89 17.80 49.7 35.6 44.2 44.3 D 2-3 1 49 17.75 46.4 34.8 40.5 D 2-3 2 40 16.90 47.8 34.5 43.0 41.8 BLOCK MEAM 41.5 TREATMENT 3. A 3-3 1 97 17.40 66.9 40.7 52.9 A 3-3 2 98 17.30 55.5 37.0 48.4 50.7 B 3-3 1 80 17.10 51.2 33.0 53.4 B 3-3 2 81 17.40 40.4 28.8 50.4 51.9 C 3-3 2 91 17.80 45.4 30.2 55.1 53.1 D 3-3 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAM 50.6 TREATMENT 4. A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 1 82 17.35 57.2 26.8 71.3 B 4-3 1 82 17.45 63.7 34.1 64.0 C 4-3 2 41 17.85 60.0 32.3 65.7 64.9 D 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAM 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 D 4-3 2 51 17.60 50.4 35.3 45.3 B LOCK MEAM 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B LOCK MEAM 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B LOCK MEAM 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 M 60.0 45.9 46.6 M 60.0 45.9 46.6	D 1-3 1	46	17.90	45.4	34.0	41.5		
TREATMENT 2.       BLUCK MEAN 41.9         A 2-3 1 95 18.00 72.0 49.5 41.7         A 2-3 2 96 17.80 52.8 38.5 40.9 41.3         B 2-3 1 78 17.40 39.8 31.2 38.4         B 2-3 2 79 17.40 43.8 33.5 39.0 38.7         C 2-3 1 88 17.50 48.8 34.9 44.4         C 2-3 2 89 17.80 49.7 35.6 44.2 44.3         D 2-3 1 49 17.75 46.4 34.8 40.5         D 2-3 2 40 16.90 47.8 34.5 43.0 41.8         BLOCK MEAN 41.5         TREATMENT 3.         A 3-3 1 97 17.40 40.4 28.8 51.0 51.2 33.0 57.4         B 3-3 1 80 17.10 51.2 33.0 57.4 8 51.1         C 3-3 2 91 17.80 45.4 30.2 55.1 53.1         D 3-3 1 27 17.10 47.9 32.2 51.0 0         D 3-3 1 27 17.10 47.9 32.2 51.0 0         D 3-3 2 24 17.05 35.0 27.4 42.3 46.7         BLOCK MEAN 50.6         TREATMENT 4.         A 4-3 1 99 17.85 80.3 36.2 70.6         A 4-3 2 100 17.45 51.8 29.5 64.9 67.8         B 4-3 1 82 17.35 57.2 28.8 71.3         B 4-3 2 83 17.10 45.8 25.6 70.4 70.8         C 4-3 2 41 17.85 60.0 32.3 65.7 64.9         D 4-3 1 53 17.85 60.3 36.2 70.6         A 4-3 1 92 17.45 63.7 34.1 64.0         C 4-3 2 41 17.85 60.0 32.3 65.7 64.9         D 4-3 2 51 16.85 45.4 26.5 66.2 63.8         BLOCK MEAN 66.8         TREATMENT 5.         A 5-3 1 74 17.50 45.6 34.2 40.6	D 1-3 2	44	17.90	64.7	47.1	37.6	39.5	
IREATMENT 2.A 2-3 19518.0072.049.541.7A 2-3 29617.8052.838.540.941.3B 2-3 17817.4039.831.238.4B 2-3 27917.4043.833.539.038.7C 2-3 18817.5048.834.944.4C 2-3 28917.8049.735.644.244.3D 2-3 14917.7546.434.840.550D 2-3 24016.9047.834.543.041.8BLOCK MEAN41.581.055.537.048.450.7B 3-3 18017.1051.233.05.4B 3-3 28117.4040.428.850.451.9C 3-3 19017.7040.428.851.153.1D 3-3 12717.1047.932.251.051.0D 3-3 22417.0535.027.442.346.7BLOCK MEAN50.684.336.270.670.8A 4-3 19917.8580.336.270.6A 4-3 210017.4551.829.564.967.8B 4-3 18217.3557.228.871.38B 4-3 28317.1045.825.670.470.8C 4-3 19217.4563.734.164.064.9D 4-3 22116.85 </td <td></td> <td><b>T</b> 0</td> <td></td> <td></td> <td>BLUCK</td> <td>MEAN 4</td> <td>+1•9</td> <td></td>		<b>T</b> 0			BLUCK	MEAN 4	+1•9	
A 2-3 1 95 18.00 72.0 49.5 41.7 A 2-3 2 96 17.80 52.8 38.5 40.9 41.3 B 2-3 1 78 17.40 39.8 31.2 38.4 B 2-3 2 79 17.40 43.8 33.5 39.0 38.7 C 2-3 1 88 17.50 48.8 33.9 44.4 C 2-3 2 89 17.80 49.7 35.6 44.2 44.3 D 2-3 1 49 17.75 46.4 34.8 40.5 D 2-3 2 40 16.90 47.8 34.5 43.0 41.8 BLOCK MEAM 41.5 TREATMENT 3. A 3-3 1 97 17.40 66.9 40.7 52.9 A 3-3 2 98 17.30 55.5 37.0 48.4 50.7 B 3-3 1 80 17.10 51.2 33.0 53.4 B 3-3 2 91 17.80 45.4 30.2 55.1 53.1 D 3-3 1 90 17.70 40.4 28.8 50.4 51.9 C 3-3 2 91 17.80 45.4 30.2 55.1 53.1 D 3-3 1 27 17.10 47.9 32.2 51.0 D 3-3 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAM 50.6 TREATMENT 4. A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 1 92 17.45 60.0 32.3 65.7 64.9 D 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAM 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 BLOCK MEAM 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 1 74 17.60 50.2 36.1 43.3 41.9 B 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 HOCK MEAN 66.8	IKEAIMEN		10.00	72 0	40 F	<i>(</i> 1 <b>7</b>		
A 2-3 2       96       17.60       30.8       31.2       38.4         B 2-3 2       79       17.40       43.8       33.5       39.0       38.7         C 2-3 1       88       17.80       49.7       35.6       44.4         C 2-3 2       89       17.80       49.7       35.6       44.2       44.3         D 2-3 1       49       17.75       46.4       34.8       40.5       5         D 2-3 2       40       16.90       47.8       34.5       43.0       41.8         BLOCK MEA <sup>M</sup> 41.5       8       50.4       50.7       5       37.0       48.4       50.7         B 3-3 1       80       17.10       51.2       33.0       53.4       51.9       5         G 3-3 1       90       17.70       40.4       28.8       50.4       51.9       5         G 3-3 2       91       17.80       45.4       30.2       55.1       53.1       5         D 3-3 1       27       17.10       47.9       32.2       51.0       5       1         D 3-3 2       24       17.65       35.0       27.4       42.3       46.7         B 4-3 2       <	A 2 - 3 1	95	18.00	12.0	49.5 20 E	4 L • 1	<i>(</i> ,1, 2)	
b       2-3       1       10       17.40       43.8       33.5       39.0       38.7         C       2-3       1       88       17.50       48.8       34.9       44.4         C       2-3       2       89       17.80       49.7       35.6       44.2       24.3         D       2-3       1       49       17.75       46.4       34.8       40.5         D       2-3       2       40       16.90       47.8       34.5       43.0       41.8         B       3-3       1       97       17.40       66.9       40.7       52.9         A       3-3       1       97       17.40       40.4       28.8       50.4       51.9         C       3-3       1       91       17.80       45.4       30.2       55.1       53.1         C       3-3       1       91       17.80       45.4       30.2       55.1       53.1         C       3-3       2       1       7.05       35.0       27.4       42.3       46.7         BLOCK       MEAM       50.6       70.6       44-3       1.99       17.45       51.8       29.5<	A 2-3 2 B 2-3 1	. 90	17.60	20 8	31 2	38 4	41.5	
D 2-3 2       17       17.50       48.8       34.9       44.4         C 2-3 2       89       17.80       49.7       35.6       44.2       44.3         D 2-3 1       49       17.75       46.4       34.8       40.5       5         D 2-3 2       40       16.90       47.8       34.5       43.0       41.8         BLOCK       MEAN       41.5       8       84.5       43.0       41.8         BLOCK       MEAN       41.5       8       8       54.4       50.7         A 3-3 1       97       17.40       66.9       40.7       52.9         A 3-3 2       98       17.10       51.2       33.0       53.4         B 3-3 1       80       17.10       51.2       33.0       53.4         B 3-3 1       90       17.70       40.4       28.8       51.1         C 3-3 2       91       17.80       45.4       30.2       55.1       53.1         D 3-3 1       27       17.10       47.9       32.2       51.0       D       D         D 3-3 2       24       17.05       35.0       27.4       42.3       46.7         B 4-3 1 <td< td=""><td>B 2-3 1</td><td>70</td><td>17.40</td><td>43.8</td><td>33.5</td><td>20 0</td><td>38 7</td><td></td></td<>	B 2-3 1	70	17.40	43.8	33.5	20 0	38 7	
C 2-3 2       89       17.80       49.7       35.6       44.2       44.3         D 2-3 1       49       17.75       46.4       34.8       40.5         D 2-3 2       40       16.90       47.8       34.5       43.0       41.8         B 2-3 1       97       17.40       66.9       40.7       52.9         A 3-3 2       98       17.30       55.5       37.0       48.4       50.7         B 3-3 1       80       17.10       51.2       33.0       53.4       51.9         C 3-3 2       91       17.40       40.4       28.8       50.4       51.9         C 3-3 2       91       17.70       40.4       28.8       50.4       51.9         C 3-3 2       91       17.80       45.4       30.2       55.1       53.1         D 3-3 1       27       17.10       47.9       32.2       51.0       0         D 3-3 2       24       17.05       35.0       27.4       42.3       46.7         BLOCK MEAN       50.6       64.9       67.8       64.4       67.8         B 4-3 1       92       17.45       63.7       34.1       64.0         C	0 2 - 3 2	88	17.50	48.8	34.9	44.4	50.1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	C 2 - 3 2	89	17.80	49.7	35.6	44 2	44.3	
D 2-3 2 40 16.90 47.8 $34.5$ 43.0 41.8 BLOCK MEA <sup>M</sup> 41.5 TREATMENT 3. A 3-3 1 97 17.40 66.9 40.7 52.9 A 3-3 2 98 17.30 55.5 37.0 48.4 50.7 B 3-3 1 80 17.10 51.2 33.0 53.4 B 3-3 2 81 17.40 40.4 28.8 50.4 51.9 C 3-3 1 90 17.70 40.4 28.8 51.1 C 3-3 2 91 17.80 45.4 30.2 55.1 53.1 D 3-3 1 27 17.10 47.9 32.2 51.0 D 3-3 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEA <sup>M</sup> 50.6 TREATMENT 4. A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 41 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEA <sup>M</sup> 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN	D 2-3 1	49	17.75	46.4	34.8	40.5		
TREATMENT 3.       BLOCK MEAN 41.5         A 3-3 1 97       17.40       66.9       40.7       52.9         A 3-3 2 98       17.30       55.5       37.0       48.4       50.7         B 3-3 1 80       17.10       51.2       33.0       53.4         B 3-3 2 81       17.40       40.4       28.8       50.4       51.9         C 3-3 2 91       17.80       45.4       30.2       55.1       53.1         D 3-3 1 27       17.10       47.9       32.2       51.0       50.6         D 3-3 2 24       17.05       35.0       27.4       42.3       46.7         BLOCK MEAN       50.6         TREATMENT 4.       A       4-3 2       100       17.45       51.8       29.5       64.9       67.8         B 4-3 1 82       17.35       57.2       28.8       71.3       8       4-3 2       100       17.45       63.7       34.1       64.0       64.9       67.8         C 4-3 2 41       17.85       60.0       32.3       65.7       64.9       0       64.9       0       64.9       0       2.5       64.9       67.8       8       8.5       65.7       64.9       64.9       0	D 2-3 2	40	16.90	47.8	34.5	43.0	41.8	
TREATMENT 3.A $3-3$ 19717.4066.940.752.9A $3-3$ 29817.3055.537.048.450.7B $3-3$ 18017.1051.233.053.4B $3-3$ 28117.4040.428.850.451.9C $3-3$ 29117.7040.428.851.1C $3-3$ 29117.8045.430.255.153.1D $3-3$ 12717.1047.932.251.0D $3-3$ 22417.0535.027.442.346.7BLOCK MEAN50.650.651.829.564.967.8C $4-3$ 19917.8580.336.270.6A $4-3$ 210017.4551.829.564.967.8B $4-3$ 19217.4563.734.164.0C $4-3$ 24117.8560.032.365.764.9D $4-3$ 19217.4563.734.164.0C $4-3$ 24117.8560.032.365.764.9D $4-3$ 22116.8545.426.566.263.8BLOCK MEAN66.881.0MEAN66.881.0TREATMENT 5.45.436.947.765.337.1A $5-3$ 17417.5045.634.240.6A $5-3$ 28517.2040.229.048.747.0C $5-3$ 139 <td< td=""><td></td><td></td><td></td><td></td><td>BLOCK</td><td>MEAN 4</td><td>+1.5</td><td></td></td<>					BLOCK	MEAN 4	+1.5	
A $3-3$ 1 97 17.40 66.9 40.7 52.9 A $3-3$ 2 98 17.30 55.5 37.0 48.4 50.7 B $3-3$ 1 80 17.10 51.2 33.0 53.4 B $3-3$ 2 81 17.40 40.4 28.8 50.4 51.9 C $3-3$ 1 90 17.70 40.4 28.8 51.1 C $3-3$ 2 91 17.80 45.4 30.2 55.1 53.1 D $3-3$ 1 27 17.10 47.9 32.2 51.0 D $3-3$ 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAM 50.6 TREATMENT 4. A $4-3$ 1 99 17.85 80.3 36.2 70.6 A $4-3$ 2 100 17.45 51.8 29.5 64.9 67.8 B $4-3$ 1 82 17.35 57.2 28.8 71.3 B $4-3$ 2 83 17.10 45.8 25.6 70.4 70.8 C $4-3$ 2 10 17.45 63.7 34.1 64.0 C $4-3$ 2 1 92 17.45 63.7 34.1 64.0 C $4-3$ 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A $5-3$ 1 74 17.50 45.6 34.2 40.6 A $5-3$ 2 75 17.60 50.2 36.1 43.3 41.9 B $5-3$ 1 84 17.10 50.4 35.3 45.3 B $5-3$ 2 85 17.20 40.2 29.0 48.7 47.0 C $5-3$ 1 39 17.80 54.3 36.9 47.7 C $5-3$ 2 51 17.60 54.3 37.1 46.9 47.3 D $5-3$ 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 65.9 47.3 D $5-3$ 1 50 17.50 57.0 38.3 47.3 D $5-3$ 1 50 17.50 45.6 34.0 45.9 47.3 D $5-3$ 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 45.7 C MEAN 45.7 COMPUTING CENTRE	TREATMEN	NT 3.						
A $3-3$ 2 98 17.30 55.5 37.0 48.4 50.7 B $3-3$ 1 80 17.10 51.2 33.0 53.4 B $3-3$ 2 81 17.40 40.4 28.8 50.4 51.9 C $3-3$ 1 90 17.70 40.4 28.8 51.1 C $3-3$ 2 91 17.80 45.4 30.2 55.1 53.1 D $3-3$ 1 27 17.10 47.9 32.2 51.0 D $3-3$ 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAN 50.6 TREATMENT 4. A $4-3$ 1 99 17.85 80.3 36.2 70.6 A $4-3$ 2 100 17.45 51.8 29.5 64.9 67.8 B $4-3$ 1 82 17.35 57.2 28.8 71.3 B $4-3$ 2 83 17.10 45.8 25.6 70.4 70.8 C $4-3$ 2 91 7.85 60.0 32.3 65.7 64.9 D $4-3$ 1 53 17.85 68.8 37.5 61.4 D $4-3$ 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A $5-3$ 1 74 17.50 45.6 34.2 40.6 A $5-3$ 2 75 17.60 50.2 36.1 43.3 41.9 B $5-3$ 1 84 17.10 50.4 35.3 45.3 B $5-3$ 2 85 17.20 40.2 29.0 48.7 47.0 C $5-3$ 1 39 17.80 54.3 36.9 47.7 C $5-3$ 2 51 17.60 54.3 37.1 46.9 47.3 D $5-3$ 1 50 17.50 45.0 34.0 45.9 46.6 BLOCK MEAN 64.9 47.3 D $5-3$ 1 50 17.50 45.0 34.0 45.9 46.6 BLOCK MEAN 66.8	A 3-3 1	97	17.40	66.9	40.7	52.9		
B $3-3$ 1 80 17.10 51.2 $33.0$ 53.4 B $3-3$ 2 81 17.40 40.4 28.8 50.4 51.9 C $3-3$ 1 90 17.70 40.4 28.8 51.1 C $3-3$ 2 91 17.80 45.4 30.2 55.1 53.1 D $3-3$ 1 27 17.10 47.9 32.2 51.0 D $3-3$ 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAN 50.6 TREATMENT 4. A $4-3$ 1 99 17.85 80.3 36.2 70.6 A $4-3$ 2 100 17.45 51.8 29.5 64.9 67.8 B $4-3$ 1 82 17.35 57.2 28.8 71.3 B $4-3$ 2 83 17.10 45.8 25.6 70.4 70.8 C $4-3$ 1 92 17.45 63.7 34.1 64.0 C $4-3$ 1 92 17.45 68.8 37.5 61.4 D $4-3$ 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A $5-3$ 1 74 17.50 45.6 34.2 40.6 A $5-3$ 2 75 17.60 50.2 36.1 43.3 41.9 B $5-3$ 1 84 17.10 50.4 35.3 45.3 B $5-3$ 2 85 17.20 40.2 29.0 48.7 47.0 C $5-3$ 2 51 17.60 54.3 37.1 46.9 47.3 D $5-3$ 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 64.6	A 3-3 2	98	17.30	55.5	37.0	<b>48 • 4</b>	50.7	
B $3-3$ 281 $17.40$ $40.4$ $28.8$ $50.4$ $51.9$ C $3-3$ 190 $17.70$ $40.4$ $28.8$ $51.1$ C $3-3$ 291 $17.80$ $45.4$ $30.2$ $55.1$ $53.1$ D $3-3$ 127 $17.10$ $47.9$ $32.2$ $51.0$ D $3-3$ 224 $17.05$ $35.0$ $27.4$ $42.3$ $46.7$ BLOCKMEAN $50.6$ TREATMENT 4. $A$ $4-3$ $99$ $17.85$ $80.3$ $36.2$ $70.6$ A $4-3$ 1 $99$ $17.85$ $80.3$ $36.2$ $70.6$ $A$ A $4-3$ 2 $100$ $17.45$ $51.8$ $29.5$ $64.9$ $67.8$ B $4-3$ 1 $82$ $17.35$ $57.2$ $28.8$ $71.3$ B $4-3$ 2 $81.7.10$ $45.8$ $25.6$ $70.4$ $70.8$ C $4-3$ 1 $92$ $17.45$ $63.7$ $34.1$ $64.0$ C $4-3$ 2 $21$ $16.85$ $45.4$ $26.5$ $66.2$ $63.8$ B $17.85$ $60.0$ $32.3$ $65.7$ $64.9$ $64.9$ D $4-3$ 2 $21$ $16.85$ $45.4$ $26.5$ $66.2$ $63.8$ BLOCKMEAN $66.8$ $81.0$ $81.0$ $45.3$ $41.9$ B $5-3$ $1$ $74$ $17.50$ $45.6$ $34.2$ $40.6$ A $5-3$ <	B 3-3 1	80	17.10	51.2	33.0	53.4		
C $3-3$ 1 90 17.70 40.4 28.8 51.1 C $3-3$ 2 91 17.80 45.4 30.2 55.1 53.1 D $3-3$ 1 27 17.10 47.9 32.2 51.0 D $3-3$ 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAN 50.6 TREATMENT 4. A $4-3$ 1 99 17.85 80.3 36.2 70.6 A $4-3$ 2 100 17.45 51.8 29.5 64.9 67.8 B $4-3$ 1 82 17.35 57.2 28.8 71.3 B $4-3$ 2 83 17.10 45.8 25.6 70.4 70.8 C $4-3$ 1 92 17.45 63.7 34.1 64.0 C $4-3$ 2 41 17.85 60.0 32.3 65.7 64.9 D $4-3$ 1 53 17.85 68.8 37.5 61.4 D $4-3$ 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A $5-3$ 1 74 17.50 45.6 34.2 40.6 A $5-3$ 2 75 17.60 50.2 36.1 43.3 41.9 B $5-3$ 1 84 17.10 50.4 35.3 45.3 B $5-3$ 2 85 17.20 40.2 29.0 48.7 47.0 C $5-3$ 2 51 17.60 54.3 37.1 46.9 47.3 D $5-3$ 1 50 17.50 57.0 38.3 47.3 D $5-3$ 1 50 17.50 57.0 38.3 47.3 D $5-3$ 2 52 17.50 48.0 34.0 45.9 46.6 MEAN 66.4	B 3-3 2	81	17.40	40.4	28.8	<b>5</b> 0 <b>.</b> 4	51.9	
C $3-3$ 2 91 17.80 45.4 $30.2$ 55.1 53.1 D $3-3$ 1 27 17.10 47.9 $32.2$ 51.0 D $3-3$ 2 24 17.05 $35.0$ 27.4 42.3 46.7 BLOCK MEAN 50.6 TREATMENT 4. A $4-3$ 1 99 17.85 80.3 $36.2$ 70.6 A $4-3$ 2 100 17.45 51.8 29.5 64.9 67.8 B $4-3$ 1 82 17.35 57.2 28.8 71.3 B $4-3$ 2 83 17.10 45.8 25.6 70.4 70.8 C $4-3$ 1 92 17.45 63.7 34.1 64.0 C $4-3$ 2 41 17.85 60.0 32.3 65.7 64.9 D $4-3$ 1 53 17.85 68.8 37.5 61.4 D $4-3$ 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A $5-3$ 1 74 17.50 45.6 34.2 40.6 A $5-3$ 2 75 17.60 50.2 $36.1$ 43.3 41.9 B $5-3$ 1 84 17.10 50.4 $35.3$ 45.3 B $5-3$ 2 85 17.20 40.2 29.0 48.7 47.0 C $5-3$ 1 39 17.80 54.3 36.9 47.7 C $5-3$ 2 51 17.60 54.3 37.1 46.9 47.3 D $5-3$ 1 50 17.50 57.0 $38.3$ 47.3 D $5-3$ 1 50 17.50 57.0 $38.3$ 47.3 D $5-3$ 2 52 17.50 48.0 $34.0$ 45.9 46.6 BLOCK MEAN 45.7	C 3-3 1	90	17.70	40.4	28.8	51.1		
D $3-3$ 1 27 17.10 47.9 $32.2$ 51.0 D $3-3$ 2 24 17.05 $35.0$ 27.4 42.3 46.7 BLOCK MEAN 50.6 TREATMENT 4. A $4-3$ 1 99 17.85 80.3 $36.2$ 70.6 A $4-3$ 2 100 17.45 51.8 29.5 64.9 67.8 B $4-3$ 1 82 17.35 57.2 28.8 71.3 B $4-3$ 2 83 17.10 45.8 25.6 70.4 70.8 C $4-3$ 1 92 17.45 63.7 34.1 64.0 C $4-3$ 2 41 17.85 60.0 32.3 65.7 64.9 D $4-3$ 1 53 17.85 68.8 37.5 61.4 D $4-3$ 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A $5-3$ 1 74 17.50 45.6 34.2 40.6 A $5-3$ 2 75 17.60 50.2 36.1 43.3 41.9 B $5-3$ 1 84 17.10 50.4 35.3 45.3 B $5-3$ 2 85 17.20 40.2 29.0 48.7 47.0 C $5-3$ 1 39 17.80 54.3 36.9 47.7 C $5-3$ 2 51 17.60 54.3 37.1 46.9 47.3 D $5-3$ 1 50 17.50 57.0 38.3 47.3 D $5-3$ 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 45.7	C 3-3 2	91	17.80	45.4	30.2	55.1	53.1	
D $3-3$ 2 24 17.05 35.0 27.4 42.3 46.7 BLOCK MEAN 50.6 TREATMENT 4. A 4-3 1 99 17.85 80.3 36.2 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 1 82 17.35 57.2 28.8 71.3 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 41 17.85 60.0 32.3 65.7 64.9 D 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 65.9 46.6	D 3-3 1	27	17.10	4/.9	32.2	51.0		
TREATMENT 4. A 4-3 1 99 17.85 80.3 $36.2$ 70.6 A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 1 82 17.35 57.2 28.8 71.3 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 41 17.85 60.0 32.3 65.7 64.9 D 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 66.8	0 3-3 2	24	17.05	35.0			40.1	
A 4-3 199 $17.85$ 80.3 $36.2$ $70.6$ A 4-3 2100 $17.45$ $51.8$ $29.5$ $64.9$ $67.8$ B 4-3 182 $17.35$ $57.2$ $28.8$ $71.3$ B 4-3 283 $17.10$ $45.8$ $25.6$ $70.4$ $70.8$ C 4-3 192 $17.45$ $63.7$ $34.1$ $64.0$ C 4-3 241 $17.85$ $60.0$ $32.3$ $65.7$ $64.9$ D 4-3 153 $17.85$ $68.8$ $37.5$ $61.4$ D 4-3 221 $16.85$ $45.4$ $26.5$ $66.2$ $63.8$ BLOCK MEAN $66.8$ BLOCK MEAN $66.8$ TREATMENT 5.A $5-3$ $17.60$ $50.2$ $36.1$ $43.3$ $41.9$ B 5-3 174 $17.50$ $45.6$ $34.2$ $40.6$ A 5-3 275 $17.60$ $50.2$ $36.1$ $43.3$ $41.9$ B 5-3 184 $17.10$ $50.4$ $35.3$ $45.3$ B 5-3 285 $17.20$ $40.2$ $29.0$ $48.7$ $47.0$ C 5-3 139 $17.80$ $54.3$ $36.9$ $47.7$ C 5-3 251 $17.60$ $54.3$ $37.1$ $46.9$ $47.3$ D 5-3 150 $17.50$ $57.0$ $38.3$ $47.3$ D 5-3 252 $17.50$ $48.0$ $34.0$ $45.7$ C 50.450.72 $36.0$ $46.6$	TOCATMEN	а <b>т</b> д			DLUCK	MEAN	00.0	
A 4-3 2 100 17.45 51.8 29.5 64.9 67.8 B 4-3 1 82 17.35 57.2 28.8 71.3 B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 41 17.85 60.0 32.3 65.7 64.9 D 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 Mc GULL INTY FRAME	$\Delta 4-31$	99	17.85	80.3	36.2	70.6		
B4-318217.3557.228.871.3B4-328317.1045.825.670.470.8C4-319217.4563.734.164.0C4-324117.8560.032.365.764.9D4-315317.8568.837.561.4D4-322116.8545.426.566.263.8TREATMENT 5.A5-317417.5045.634.240.6A5-327517.6050.236.143.341.9B5-318417.1050.435.345.3B5-328517.2040.229.048.747.0C5-325117.6054.336.947.7C5-325117.6054.337.146.947.3D5-315017.5057.038.347.3D5-325217.5048.034.045.7McGULLHNVERMCKMEAN45.7	A 4-3 2	100	17.45	51.8	29.5	64.9	67.8	
B 4-3 2 83 17.10 45.8 25.6 70.4 70.8 C 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 41 17.85 60.0 32.3 65.7 64.9 D 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 45.7 Mc GILL INTYFERSITY COMPLANE 45.7	B 4-3 1	82	17.35	57.2	28.8	71.3	0100	
C 4-3 1 92 17.45 63.7 34.1 64.0 C 4-3 2 41 17.85 60.0 32.3 65.7 64.9 D 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 45.7 Mc GULL HINGERSITY COMPUTING CENTRE	B 4-3 2	83	17.10	45.8	25.6	70.4	70.8	
C 4-3 2 41 17.85 60.0 32.3 65.7 64.9 D 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 HINTYERSITY COMPLETING CENTRE	C 4-3 1	92	17.45	63.7	34.1	64.0		
D 4-3 1 53 17.85 68.8 37.5 61.4 D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 45.7 Mc GILL LINVERSITY COMPUTING CENTRE	C 4-3 2	41	17.85	60.0	32.3	65.7	64.9	
D 4-3 2 21 16.85 45.4 26.5 66.2 63.8 BLOCK MEAN 66.8 TREATMENT 5. A 5-3 1 74 17.50 45.6 34.2 40.6 A 5-3 2 75 17.60 50.2 36.1 43.3 41.9 B 5-3 1 84 17.10 50.4 35.3 45.3 B 5-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 45.7 Mc GULL HINGERSITY COMPUTING CENTRE	D 4-3 1	53	17.85	68.8	37.5	61.4		
TREATMENT 5.       BLOCK MEAN 66.8         A 5-3 1       74       17.50       45.6 $34.2$ $40.6$ A 5-3 2       75       17.60 $50.2$ $36.1$ $43.3$ $41.9$ B 5-3 1       84       17.10 $50.4$ $35.3$ $45.3$ B 5-3 2       85       17.20 $40.2$ $29.0$ $48.7$ $47.0$ C 5-3 1       39       17.80 $54.3$ $36.9$ $47.7$ C 5-3 2       51       17.60 $54.3$ $37.1$ $46.9$ $47.3$ D 5-3 1       50       17.50 $57.0$ $38.3$ $47.3$ D 5-3 2       52       17.50 $48.0$ $34.0$ $45.9$ $46.6$	D 4-3 2	21	16.85	45.4	26.5	66.2	63.8	
A 5-3 17417.5045.6 $34.2$ 40.6A 5-3 27517.6050.2 $36.1$ $43.3$ $41.9$ B 5-3 18417.1050.4 $35.3$ $45.3$ B 5-3 28517.20 $40.2$ $29.0$ $48.7$ $47.0$ C 5-3 13917.8054.3 $36.9$ $47.7$ C 5-3 25117.6054.3 $37.1$ $46.9$ $47.3$ D 5-3 15017.5057.0 $38.3$ $47.3$ D 5-3 25217.50 $48.0$ $34.0$ $45.9$ $46.6$					BLOCK	MEAN	66.8	
A $5-3$ 1       74       17.50       45.6       54.2       40.6         A $5-3$ 2       75       17.60       50.2       36.1       43.3       41.9         B $5-3$ 1       84       17.10       50.4       35.3       45.3         B $5-3$ 2       85       17.20       40.2       29.0       48.7       47.0         C $5-3$ 1       39       17.80       54.3       36.9       47.7         C $5-3$ 2       51       17.60       54.3       37.1       46.9       47.3         D $5-3$ 1       50       17.50       57.0       38.3       47.3         D $5-3$ 2       52       17.50       48.0       34.0       45.9       46.6         McGULL       BLOCK MEAN       45.7		NI 5.	17 50	45 4	2/ 2	40 6		
A $5-5$ 2       75       17.60 $50.2$ $50.1$ $45.5$ $41.7$ B $5-3$ 1       84       17.10 $50.4$ $35.3$ $45.3$ B $5-3$ 2       85       17.20 $40.2$ $29.0$ $48.7$ $47.0$ C $5-3$ 1       39       17.80 $54.3$ $36.9$ $47.7$ C $5-3$ 2       51       17.60 $54.3$ $37.1$ $46.9$ $47.3$ D $5-3$ 1       50       17.50 $57.0$ $38.3$ $47.3$ D $5-3$ 2       52       17.50 $48.0$ $34.0$ $45.9$ $46.6$	A 5-3 1	75	17.50	42.0 50.2	24•2 24 1	41.0	<u> </u>	
B 5-3 2 85 17.20 40.2 29.0 48.7 47.0 C 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 45.7	A 5-5 2 B 5-2 1	21 84	17.10	50•2 50-4	30 • 1 35,2	45.3	7107	
C 5-3 1 39 17.80 54.3 36.9 47.7 C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 45.7	B 5-3 2	85	17.20	40.2	29.0	48.7	47.0	
C 5-3 2 51 17.60 54.3 37.1 46.9 47.3 D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 45.7	C 5 - 3 1	39	17.80	54.3	36.9	47.7		
D 5-3 1 50 17.50 57.0 38.3 47.3 D 5-3 2 52 17.50 48.0 34.0 45.9 46.6 BLOCK MEAN 45.7	C 5-3 2	51	17.60	54.3	37.1	46.9	47.3	
D 5-3 2 52 17.50 48.0 34.0 45.9 46.6	D 5-3 1	50	17.50	57.0	38.3	47.3		
MCGILL BLOCK MEAN 45.7	D 5-3 2	52	17.50	48.0	34.0	45.9	46.6	
				- McGILL	BLOCK	MEAN -	45.7	

## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MACDONALD COLLEGE FARM JULY 16 1968 8 AM

SAMPLE D NO. 1	ISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOLS- TURE PCT.	SAMPLE MEAN PCT.
TREATMENT	1.					
A 1 - 4 1	1 1	6.60	41.8	32.6	36 5	
A 1-4 2	2 1	6.70	54.0	41 Q	20.	24 E
B 1-4 1	11 1	6.95	38.8	32 0	21 1	54.5
B 1-4 2	12 1	7.05	47.3	36.5	35.7	33.4
C 1-4 1	21 1	6.85	42.8	35.1	29.7	55.1
C 1-4 2	22 1	6.80	39.5	32.0	33.0	31.4
D 1-4 1	31 1	6.50	62.5	47.5	32.6	3101
D 1-4 2	32 1	6.15	57.8	43.9	33.4	33.0
				BLOCK	MEAN 33	3.1
TREATMENT	2.					
A 2-4 1	31	6.60	46.4	35.6	36.2	
A 2-4 2	41	6.75	49.0	37.0	37.2	36.7
B 2-4 1	13 1	6.95	54.5	42.2	32.8	
B 2-4 2	14 1	6.95	51.0	38.7	36.1	34.4
C 2-4 1	23 1	6.75	48.1	35.7	39.6	
C 2-4 2	24 1	7.05	51.6	39.6	34.7	37.1
D 2-4 1	33 1	6.15	44.8	35.3	33.2	
D 2-4 2	34 1	6.00	47.9	37.4	32.9	33.0
	_			BLOCK	MEAN 35	5.3
IREATMENT	3.					
A 3-4 1	5 1	6.75	52.4	40.0	34.8	
A 3-4 2	6 <u>i</u>	6.60	40.0	31.4	36.8	35.8
B 3-4 1	15 1	1.05	43.0	33.1	38.2	
	10 1	0.55	39.1	30.8	38.4	38.3
0 3-4 1	20 1	( 70	46.2	35.2	3/.9	
	20 I 25 I	6.10	48.0	35.6 20 7	39.6	38.7
D 3-4 2	30 I 36 I	6 20	30 • 1 17 6	29.1	34.0	211
0 0 1 2	50 I	0.20	41.0			20,∙4 7 2
TREATMENT	4.			DLUCK	MEAN D	1.5
A 4-4 1	7 1	6.55	101.0	59.8	488	
A 4-4 2	8 1	7.00	52.3	37.6	41.6	45.2
B 4-4 1	17 1	6.45	48.7	32.1	51.5	+ <b>J</b> ●Z
B 4-4 2	18 1	6.40	47.2	31.2	51.9	51.7
C 4-4 1	27 1	7.10	51.7	33.7	52.0	
C 4-4 2	28 1	6.90	68.4	38.9	57.3	54.7
D 4-4 1	37 1	6.95	68.3	40.1	54.9	
D 4-4 2	38 1	7.20	47.6	32.3	50.3	52.6
				BLOCK	MEAN 5	l•1
TREATMENT	5.					
A 5-4 1	91	7.05	37.5	30.4	34.7	
A 5-4 2	10 1	7.10	40.0	32.0	34.9	34.8
B 5-4 1	19 1	6.45	54.3	40.1	37.5	
8 5-4 2	20 1	7.15	57.1	41.2	39.8	38.7
し ラーチ 1	29 1	6.25	47.2	36.3	35.2	<b>0</b> / -
	20 L		40.0	55•8	34.3	34.8
D 5-4 1	27 L 40 1	1.8U	うく・う 1.5 マ	28.0	30.6	<b>2</b> / /
	+0 I	0.90	42•1	24•1 BLOCV		34•4
	·····		McGILL	UNIVER	SITY COM	PUTING CENTRE

## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MACDONALD COLLEGE FARM JULY 16 1968 12 NOON

SAMPLE D: NO• N	[SH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT.	SAMPLE MEAN PCT•
TREATMENT.	1.					
A 1-5 1	1	16.60	33.0	29.0	24.4	
A 1-5 2	2	16.70	30.7	27.3	24.3	24.3
B 1-5 1	11	16.95	44.0	36.6	27.4	
B 1-5 2	12	17.05	41.5	35.1	26.2	26.8
0 1 - 5 1	21	16.85	60.0	49.0	25.5	
$C_{1-5}$ 2	21	16.80	55.U	45•5 47 1	24.9	25.2
D 1 = 5 1	32	16.15	27.0 40.3	4/+1 2/ 9	22.9	24. 2
	56	10.17	-0•J		MEAN 21	24•5 5.2
TREATMENT	2.			DLOOK	MLAN 2.	) • L
A 2-5 1	3	16.60	56.5	46.1	26.1	
A 2-5 2	4	16.75	44.8	37.5	26.0	26.0
B 2-5 1	13	16.95	52.0	43.2	25.1	
B 2-5 2	14	16.95	46.2	38.8	25.3	25.2
C 2-5 1	23	16.75	41.8	36.0	23.2	
C 2-5 2	24	17.05	54.3	44.2	27.1	25.1
0 2 - 5 1	33	16.15	50.0	42.2	23.0	<b>00</b>
0 2-5 2	54	10.00	52.3			23.8
TREATMENT	3.			DLUCK	MEAN Z:	5.0
A 3-5 1	5	16.75	37.5	30.5	33.7	
A 3-5 2	6	16.60	39.6	32.0	33.0	33.4
B 3-5 1	15	17.05	46.2	35.2	37.7	
B 3-5 2	16	16.55	40.1	32.5	32.3	35.0
C 3-5 1	25	17.15	47.5	35.6	39.2	
C 3-5 2	.26	16.70	47.3	36.9	34.0	36.6
D 3-5 1	35	16.10	51.6	39.0	35.5	
0 5-5 2	30	16.20	51.0	38.5 DLOCK	35.9	35.1
TREATMENT	4.			DLUCK	MEAN 3	0•2
A $4-5$ 1	+• 7	16.55	45.6	33.8	40.6	
A 4-5 2	8	17.00	57.0	39.8	43.0	41.8
B 4-5 1	17	16.45	55.0	38.7	42.3	1100
B 4-5 2	18	16.40	51.8	36.8	42.4	42.3
C 4-5 1	27	17.10	52.0	36.7	43.8	
	28	16.90	50.8	35.6	44.8	44.3
D 4=5 1	31 20	10.95	43.2	33.0	38.9	
0 7-7 2	50	17.20	54.9			41•1
TREATMENT	5.			DLUUK	MEAN 42	2.0
A 5-5 1	9	17.05	33.8	28.7	30.4	
A 5-5 2	10	17.10	31.3	27.3	28.2	29.3
B 5-5 1	19	16.45	43.6	36.3	26.9	
B 5-5 2	20	17.15	52.5	42.6	28.0	27.4
C 5-5 1	29	16.25	46.9	37.4	3] <b>.</b> 0	
L 5-5 2	30	16.30	48.1	39.9	25.8	28.4
り 5-5 l	39	17.80	51.2	41.8	28.1	07 0
U 2-2 2	40	T0•40	4り。(	3/•8	2/.4 MEAN 20	27.8
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#### PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MACDONALD COLLEGE FARM JULY 17 1968 9 AM

SAMPLE DIS	SH DISH	INITI-	FINAL	MOIS-	SAMPLE
NO• NO	). WT.	AL WT.	WT.	TURE	MEAN
	GMS.	GMS.	GMS.	PCT.	PCT.
TREATMENT 1					
$\Delta 1 - 7 1 - 7$	51 17.60	76.2	33.5	72.9	
Δ1-72 F	52 17.50	101.6	40.3	72.9	72.9
B 1-7 1	52 17.50	99.7	44.3	67.6	1209
B 1-7 2 6	52 17.65	95.6	41.2	69.8	68.7
(1-71)	71 17.45	74.9	32.8	73.3	
$(1-72)^{-1}$	72 17.80	106.3	41.0	73.8	73.5
	81 17.40	92.6	41.1	68.5	13.5
	82 17.35	126.1	52.6	67.6	68.0
		12001	BLOCK	MEAN 7	70.8
TREATMENT 2	2.		DECON		
Δ 2-7 1	53 17.85	82.3	37.2	70.0	
A 2-7 2	54 17.35	84.8	37.1	70.7	70.3
B 2-7 1	63 17.90	58.3	30.3	69.3	
B 2-7 2	64 17.70	88.4	41.0	67.0	68.2
(2-7)	73 17.25	110.0	48.1	66.7	0002
C = 7 = 7 = 2	74 17.50	103.6	45.8	67.1	66.9
02-71 02-71	83 17 10	79.6	34.0	73.0	00.
0272	84 17 10	97 1	43 4	67.1	70.0
0212		) / • I		MEAN 6	58.9
TREATMENT	3		02000		
$\Lambda$ 3-7 1	5• 55 17.65	85.0	35.6	73.3	
	56 17.80	88.6	37.7	71.9	72.6
R 3-7 1	65 17.45	70.2	32.8	70.9	.2.0
B 3-7 2	66 17.30	82.0	34.1	74.0	72.5
0 3 - 7 2	75 17.60	125.1	44.4	75.1	12.05
$(3-7)^{2}$	76 17 40	96 5	27 7	74.3	74.7
$D_{3-7}$	85 17 20	90.7	42.8	69.0	1 77 ● 1
	86 17.30	98.4	41.3	70.4	69.7
	00 1/000	2011	BLOCK	MEAN	72.4
TREATMENT	4.		DEGON		
A 4-7 1	57 17.60	68.0	37.0	61.5	
A 4-7 2	58 17.80	80.0	42.1	<b>60.9</b>	61.2
B 4-7 1	67 17.10	54.7	30.8	63.6	
B 4-7 2	68 17.45	47.5	26.7	69.2	66.4
C 4-7 1	77 17.10	) 76.4	37.1	66.3	
C 4-7 2	78 17.40	85.0	37.9	69.7	68.0
D 4-7 1	87 17.90	) 51.6	29.7	65.0	
D 4-7 2	88 17.50	45.7	26.0	69.9	67.4
		,	BLOCK	MEAN	65.8
TREATMENT	5.				
A 5-7 1	59 17.70	94.0	50.4	57.1	
A 5-7 2	60 17.80	) 80.1	43.8	58.3	57.7
B 5-7 1	69 17.65	5 89.7	45.2	61.8	
B 5-7 1	70 17.50	76.0	39.6	62.2	62.0
C 5-7 1	79 17.40	77.8	36.8	67.9	
C 5-7 2	80 17.10	82.7	36.7	70.1	69.0
D 5-7 1	89 17.80	48.6	31.2	56.5	
D 5-7 2	90 17.70	58.8	33.8	60.8	58.7
			BLOCK	MEAN	61.8
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## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MACDONALD COLLEGE FARM JULY 17 1968 12 NOON

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SAMPLE DISH	DISH	INITI- F	INAL	MOLS-	SAMPLE
NO. NO.	WT.	AL WT.	WT.	TURE	MEAN
	GMS.	GMS.	GMS.	ΡΟΤο	PCT.
TREATMENT 1.	<b>.</b> . <sup>.</sup>			<b>.</b>	
A 1-8 1 1	16.60	59.2	35.5	55.6	
A 1-8 2 2	16.70	50.3	30.2	59.8	57.7
B 1-8 1 11	16.95	(6.5	40.9	59.8	<i>(</i> <b>) -</b>
B 1-8 2 12	17.05	69.1	36.0	63.6	61.7
C 1 - 8 1 21	16.85	92.0	41.2	59.6	<b>F7</b> 1
	16.80	11.0	41.4	54.0	5/•L
0 1 - 8 1 31	10.50	64•2 44 4	ו•ככ ס דכ	60.0	60 7
0 1-8 2 32	10.15	40.4			0 2
TREATMENT 2			DLUUK	MEAM D	7.5
$\begin{array}{c} 1 \\ 1 \\ 1 \\ 2 \\ 2 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3$	16 60	583	36 1	53 2	
A 2-0 I 3	16.00	67 9	36 6	J ⊇ • Z 61 2	57 2
B 2-8 1 13	16.95	50.8	33.1	52.3	J!•2
B 2-8 2 14	16.95	75.8	41.2	58.8	55.5
62-8123	16.75	58.0	35.5	54.5	22.02
C 1-8 1 24	17.05	65.6	41.2	50.3	52.4
D 2 - 8 1 33	16.15	63.1	35.5	58.8	
D 2 - 8 2 34	16.00	58.0	35.2	54.3	56.5
			BLOCK	MEAN 5	5.4
TREATMENT 3.					
A 3-8 1 5	16.75	55.4	34.5	54.1	
A 3-8 2 6	16.60	50.0	30.2	59.3	56.7
B 3-8 1 15	17.05	63.6	35.7	59 <b>.9</b>	
B 3-8 2 16	16.55	66.2	35.8	61.2	60.6
C 3-8 1 25	17.15	50.0	30.0	60.9	
C 3-8 2 26	16.70	51.0	30.5	<b>5</b> 9 <b>.</b> 8	60.3
D 3-8 1 35	16.10	76.3	38.4	63.0	
D 3-8 2 36	16.20	50.6	31.0	57.0	60.0
			BLOCK	MEAN 5	9.4
TREATMENT 4.					
A 4-8 1 7	16.55	57.6	36.3	51.9	
A 4-8 2 8	17.00	53.1	36.9	44.9	48.4
B 4-8 1 17	16.45	46.5	32.9	45.3	40.0
	16.40	5/08	30.0	51.•Z	48•Z
	17.10	57.0 50.0	27.4		511
	16.90	55 0	21.4	51.8	51.1
D 4 = 0 1 37	17 20	25 0	26 0	52 Q	52 4
0 4-0 2 30	17.20	57.7		MEAN	50-0
TREATMENT 5.			DECON		
$\Delta 5-8 1 9$	17.05	46.9	31.5	51.6	
A 5-8 2 10	17.10	47.6	34.0	44.6	48.1
B 5-8 1 19	16.45	69.6	43.0	50.0	- <b>- -</b>
B 5-8 2 20	17.15	66.5	40.4	52.9	51.5
C 5-8 1 29	16.25	46.0	31.8	47.7	
C 5-8 2 30	16.30	49.7	34.0	47.0	47.4
D 5-8 1 39					
	17.80	45.5	32.8	45.8	
D 5-8 2 40	17.80 16.90	45.5 47.2	32.8 34.4	45•8 42•2	44.0

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## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MACDONALD COLLEGE FARM JULY 17 1968 6 PM

SAMPLE	DISH	DISH	INITI-	FINAL	MOT S-	SAMPLE	
NU.	NU.	WT.	AL WT.	WT.	TURE	MEAN	
		GMS.	GMS.	GMS.	РСТ.	PCT.	
TDEATMEN	NT 1						
$\Delta 1-9 1$	1	16.60	43.8	24 6	22 0		
Δ 1-9 2	2	16.70	48 4	26 2	20.0	24.0	
B 1-9 1	11	16.95	-+0•-+ 55 5	$30 \cdot 3$	20.0	30.0	
B 1-9 2	12	17.05	38.2	30.6	35 0	35 3	
C 1-9 1	21	16.85	40.0	33.1	29.8	د ور	
C 1-9 2	22	16.80	43.0	34.0	34.4	22 1	
D 1-9 1	31	16,50	47.0	37.6	30.8	52.01	
D 1-9 2	32	16.15	48.1	36.0	37.9	34 3	
		20125			MEAN 3	4.4	
TREATMEN	NT 2.			DECON			
A 2-9 1	3	16.60	49.0	40.0	27.8		
A 2-9 2	4	16.75	41.0	33.5	30.9	29.4	
B 2-9 1	13	16.95	33.5	28.4	30.8		
B 2-9 2	14	16.95	31.5	27.9	24.7	27.8	
C 2-9 1	23	16.75	51.2	41.1	29.3	21.00	
C 2-9 2	24	17.05	43.0	35.5	28.9	29.1	
D 2-9 1	33	16.15	38.6	32.3	28.1	2701	
D 2-9 2	34	16.00	65.5	48.8	33.7	30.9	
				BLOCK	MEAN 2	9.3	
TREATMEN	VT 3.						
A 3-9 1	5	16.75	43.0	34.1	33.9		
A 3-9 1	6	16.60	52.5	38.4	39.3	36.6	
B 3-9 1	15	17.05	35.5	28.6	37.4		
B 3-9 2	16	16.55	35.9	28.5	38.2	37.8	
C 3-9 1	25	17.15	41.5	33.0	34.9	- • • •	
C 3-9 2	26	16.70	38.0	29.4	40.4	37.6	
D 3-9 1	35	16.10	39.0	30.5	37.1		
D 3-9 2	36	16.20	53.0	38.6	39.1	38.1	
				BLOCK	MEAN 3	7.5	
TREATMEN	VT 4.						
A 4-9 l	7	16.55	65.0	36.4	59.0		
A 4-9 2	8	17.00	63.3	36.2	58.5	58.8	
B 4-9 1	17	16.45	44.5	28.1	58.5		
B 4-9 2	18	16.40	50.6	29.2	62.6	60.5	
C 4-9 1	27	17.10	49.5	31.1	56.8		
C 4-9 2	28	16.90	56.5	30.6	65.4	61.1	
D 4-9 1	37	16.95	56.8	31.8	62.7	2	
D 4-9 2	38	17.20	60.1	34.8	59.0	60.9	
				BLOCK	MEAN 6	0.3	
IREAIMER	VI 5.	•					
A 5-9 1	9	17.05	43.4	29.1	54.3		
	10	11.10	44.6	30.9	49.8	52.0	
	19	10.45	54.6	35.0	51.4		
	20	11.15	59.0	39.0	47.8	49.6	
	29	16.25	44.6	30.2	50.8		
	50 20	17.00	04•1	31.1	56.5	53.6	
D 5-9 1	57 70	14 00	85.5	48.8	54.2	<b>5 0 1</b>	
	40	10.40	4U•Z	27.5 BI 004	45.9 MEAN 7	50.1	
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## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MACDONALD COLLEGE FARM JULY 18 1968 8 AM

SAMPLE	DISH	DISH	INITI-	FINAL	MOIS-	SAMPLE
NO.	NO.	WT.	AL WT.	WT.	TURE	MEAN
		GMS.	GMS.	GMS.	PCT.	PCT.
70 5 4 7 11 5						
IREATMEN	NT 1.	14 40				
A1-10 1	1	16.60	46.8	35.1	38.7	_
A1-10 2		16.70	39.2	30.7	37.8	38.3
B1 = 10 1	11	16.95	41•1	33.9	31.5	20.0
51-10 2	12	1/.05	43•1	34.0	34.1	32.8
(1-10)	21	10.82	54.5 51.1	42.1	32.9	
$D_{1-10}$	22	16.60	21.1	20.0 42 E	37•7 270	34.4
D1 - 10 2	32	16 15	20.5	42.0	21.0	20.1
01 10 2	52	10.17	40.0	20.00 20.00		28•1 5 0
TREATMEN	NT 2.			DEUGR	HILAM D	2.5
A2-10 1		16.60	40.5	32.6	231	
A2-10 2	4	16.75	46.3	35.8	35.5	34.3
B2-10 1	13	16.95	44.0	35.2	32.5	5405
B2-10 2	14	16.95	42.3	34.0	32.7	32.6
C2-10 1	23	16.75	44.7	35.3	33.6	52.0
C2-10 2	24	17.05	41.5	32.8	35.6	34.6
D2-10 1	33	16.15	62.5	47.0	33.4	5100
D2-10 2	34	16.00	35.6	28.6	35.7	34.6
				BLOCK	MEAN 3	4.0
TREATMEN	NT 3.					
A3-10 1	5	16.75	45.3	34.3	38.5	
A3-10 2	6	16.60	38.2	29.6	39 <b>.</b> 8	39.2
B3-10 1	15	17.05	43.1	34.5	33.0	
B3-10 2	16	16.55	52.8	38.4	34.7	36.4
C3-10 1	25	17.15	41.9	32.5	3 <sup>8</sup> .0	
C3-10 2	26	16.70	40.3	31.0	39.4	38.7
D3-10 1	35	16.10	38.1	30.5	34.5	
03-10 2	36	16.20	35.4	28.8	34•4	34.5
TOFATHE	17 /			BLOCK	MEAN 3	7.2
	VI 4. 7	14 55	12 2	<b>22 E</b>		
$A^{+-10}$ 1	0	10.55	43.2	32.0	40.2	( 2
R4 = 10 2	0	17.00	62.4	41.6	45.8	43.0
B4-10 2	18	16.40	44.4	20 0	4/•9	45 0
(4-10)	27	17.10	57.3	38 6	46 5	49.0
C4 - 10 2	28	16.90	42.6	30.8	45.9	46 2
D4-10 1	37	16.95	69.7	46.0	44.9	±0∙2
D4-10 2	38	17.20	35.4	27.0	45.2	45.5
			<b>-</b> - <b>-</b> ,	BLOCK	MEAN 4	5.1
TREATMEN	NT 5.					
A5-10 1	9	17.05	38.7	31.0	35.6	
A5-10 2	10	17.10	48.3	36.5	37.8	36.7
B5-10 1	19	16.45	51.8	38.6	37.3	
B5-10 2	20	17.15	47.9	35.5	4().3	38.8
C5-10 1	29	16.25	35.0	28.1	36.8	
C5-10 2	30	16.30	35.7	28.3	38.1	37.5
D5-10 1	39	17.80	43.1	34.7	33.2	
D5-10 2	40	16.90	47.5	35.0	40.8	37.0
			- McGILL	UNIVER	SITY CO	7.5 MPLITING CEN

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CENTRE -

## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MACDONALD COLLEGE FARM JULY 18 1968 12 NOON

SAMPLE NO•	DISH NO.	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT.	SAMPLE MEAN PCT.	
		000					
		1/ 05	25 (	22 F	26.2		
	11	10.95	22.0	23.0	24.0	00 T	
AI-II 2	12	16.05	22.0	23.8	201	22•1	
01 - 11 1	21	16.80	20.2	24.4	2/101	<b></b>	
DI = II 2	21	16.00	20.5	29.9	24.2	~~ • <i>L</i>	
(1-1)	22	16.50	25.5	21.0	24.5	22.2	
$D_{1-11}$	52 41	17 95	29.8	23.5	22 4	23.5	
$D_{1-11}$ 2	42	19 05	29 3	25.8	24 4	22 0	
01-11 2	72	10.00	20.5	BLOCK	MEAN :	23.0	
TREATME	NT 2.			DECON			
A2-11 1	13	16.95	29.2	26.6	21.2		
A2-11 2	14	16.95	25.8	23.8	22.6	21.9	
B2-11 1	23	16.75	25.2	23.3	22.5		
B2-11 2	24	17.05	27.5	25.0	23.9	23.2	
C2-11 1	33	16.15	20.6	19.7	20.2		
C2-11 2	34	16.00	34.6	30.2	23.7	21.9	
D2-11 1	43	18.05	29.0	26.2	25.6		
D2-11 2	44	17.90	27.0	25.1	20.9	23.2	
TREATME	NT 3			BLOCK	MEAN	22.6	
A2-11 1	15	17.05	24 1	22.4	24.1		
A3 - 11 2	16	16.55	25.6	23.2	26.5	25.3	
B3-11 1	25	17.15	25.6	23.3	27.2		
B3-11 2	26	16.70	29.8	26.5	25.2	26.2	
(3-11)	35	16.10	29.5	25.8	27.6	2002	
$C_{3-11}$ 2	36	16.20	26.2	23.4	28.0	27.8	
03-11 1	45	17.85	32.0	28.0	28.3	2100	
D3 - 11 2	46	17.90	48.0	39.0	29.9	29.1	
				BLOCK	MEAN	27.1	
TREATME	NT 4.						
A4-11 1	17	16.45	46.0	33.2	43.3	<i></i>	
A4-11 2	18	16.40	57.5	40.3	4].8	42.6	
B4-11 1	27	17.10	47.0	34.1	43.1	12 1	
84-11 2	28	16.90	51.2	36.8	42.0	42.0	
(4-11)	. 31	10.95	53.0	31.1	4/•4	(1.0	
	. <u>3</u> 8	17.20	51.0	37.0	41.4	41.9	
D4-11 1	. 41	17.90	43•2	32.3	4 °• 1	/ 1 - <del>7</del>	
04-11 Z	48	17.70	53.0	38.8 BLOCK	HEAN MEAN	42.2	
TREATME	NT 5.			02001	1.27		
A5-11 1	. 19	16.45	31.2	26.3	33.2		
A5-11 2	2 20	17.15	34.7	29.2	31.3	32.3	
B5-11 1	29	16.25	36.0	30.6	27.3		
B5-11 2	2 30	16.30	28.0	24.5	29.9	28.6	
C5-11 1	L 39	17.80	28.3	24.8	33.3		
C5-11 2	2 40	16.90	27.0	24.0	29.7	31.5	
D5-11 1	L 49	17.75	36.0	30.6	29.6	)	
D5-11 2	2 50	17.50	28.7	25.5	28.6	29.1	
	·····		— McGILL	. UNHVEN	<b>ς δ'Ι Τ΄Υ</b> ΄ (	COMPUTING CENTI	RE -

## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 29 1968 8 AM

S	AMPLE NO•	DISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT.	SAMPLE MEAN PCT.
TR	EATMEN	NT 1.					
Ι	1	1	16.60	77.7	36.5	67.4	
I	2	2	16.70	63.0	30.1	<b>71.1</b>	69.2
Ι	3	3	16.60	76.0	34.2	70.4	
I	4	4	16.75	66.2	31.0	71.2	70.8
I	5	5	16.75	121.3	48.2	69 <b>.9</b>	
I	6	6	16.60	81.9	35.4	71.2	70.6

#### PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 29 1968 10 AM

5	SAMPLE	DISH	DISH	INITI-	FINAL	MOIS-	SAMPLE
	INU .	NU • 1			CMS		
			GP43 •	GM3.	643.	PUI.	PCI.
TR		NT 1.					
Α	1-1A1	51	17.60	54.8	30.0	66.7	
Α	1-1A2	52	17.50	49.2	27.7	67.8	67.2
В	1-1A1	55	17.65	75.5	34.7	<b>7</b> 0 <b>.5</b>	
В	1-1A2	56	17.80	84.4	40.5	65.9	68.2
С	1-1A1	59	17.70	67.0	34.7	65.5	
Α	5-1A2	54	17.35	77.8	39.1	64.0	64.8
С	1-1A2	60	17.80	59.5	31.6	<b>66 • 9</b>	
D	1-1A1	63	17.90	67.4	37.0	61.4	64.2
					BLOCK	MEAN 6	6.1
TF	REATMEN	VT 5.					
D	1-1A2	64	17.70	60.0	30.3	70.2	
Α	5-1A1	53	17.85	76.4	37.9	65.8	68.0
В	5-1Al	57	17.60	62.8	33.4	65.0	
В	5-1A2	58	17.80	80.0	34.9	72.5	68.8
С	5-1A1	61	17.70	67.6	32.0	71.3	
С	5-1A2	62	17.65	79.3	35.6	70.9	71.1
D	5 <b>-</b> 1A1	65	17.45	63.3	32.8	66.5	
D	5-1A2	66	17.30	66.3	33.2	67.6	67.0
					BLOCK	MEAN 6	8.7

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## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 29 1968 12 NOON

SAMPLE DI NO. N	[SH 10•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT.	SAMPLE MEAN PCT•
TREATMENT	1.					
A 1-2 1	41	17.85	75.8	39.5	62.6	
A 1-2 2	42	18.05	53.9	32.7	59.1	60.9
B 1-2 1	1	16.60	66.0	36.0	60 <b>.7</b>	
B 1-2 2	2	16.70	58.5	35.4	55.3	58.0
C 1-2 1	21	16.85	63.8	35.9	59.4	
C 1-2 2	22	16.80	52.4	33.2	53.9	56.7
D 1-2 1	31	16.50	60.6	35.0	58.0	
D 1-2 2	32	16.15	66•4	35.8	60.9	59.5
TDEATMENT	2			BLUCK	MEAN D	8.8
1 = 1 = 1	42 42	18 05	64 0	37 2	58 3	
A 2 - 2 1 A 2 - 2 2	45	17.90	61.6	35.2	60.4	59.4
B 2-2 1	3	16.60	71.2	36.4	63.7	2741
B 2-2 2	4	16.75	63.2	35.4	59.8	61.8
C 2-2 1	23	16.75	59.8	33.2	61.8	Q
C 2-2 2	24	17.05	63.8	35.5	60.5	61.2
D 2-2 1	33	16.15	86.9	41.8	63.7	
D 2-2 2	34	16.00	53.0	30.7	60.3	62.0
				BLOCK	MEAN 6	1.1
TREATMENT	3.					
A 3-2 1	45	17.85	91.9	41.3	6º • 3	
A 3-2 2	46	17.90	73.0	36.7	65.9	67.1
B 3-2 1	5	16.75	69.8	36.1	67.4	12 1
B 3-2 2	13	16.95	76.0 55.0	38.U	6 <sup>4</sup> •4	63.4
5 - 2 1	25	16 70	55.U	21.0 22 5	57 3	50 <b>3</b>
	20	16 10	52 7	30 4	60.9	
D 3-2 2	36	16.20	115.0	48.9	66.9	63.9
	20			BLOCK	MEAN 6	3.4
TREATMENT	4.					
A 4-2 1	47	17.90	66.0	36.9	60.5	
A 4-2 2	48	17.70	82.7	38.9	67.4	63.9
B 4-2 1	12	17.05	68.4	34.4	66.2	
B 4-2 2	8	17.00	60.1	34.2	60.1	63.2
C 4-2 1	27	1/.10	63.5	31.7	68.5	
	28	16.90	66•2 74 1	34.3 20 1	64•1 4/- 2	00.0
D 4 - 2 1	20	17 20	10.1 95 0	20 • I 40 6	65 Q	65 1
0 4-2 2	00	11.20	00.0		MFAN 6	54.7
TREATMENT	5.			0200		
A 5-2 1	49	17.75	97.0	41.7	69.8	
A 5-2 2	50	17.50	65.8	34.8	64.2	67.0
B 5-2 1	9	17.05	61.9	32.8	64. • 9	
B 5-2 2	10	17.10	75.0	36.4	66.7	65.8
C 5-2 1	29	16.25	73.0	32.9	70.7	· - ·
C 5-2 2	30	16.30	56.7	30.8	64.1	67•4
D 5-2 1	39	17.80	88.7	38.8	70.4	
0 5-2 2	40	16.90	99•1	42•4 ΒΙ ΩΓΚ	69.2 MEAN /	67.5
			— McGILL	UNIVE	RSITY c	ÓMPUTING CENTRE -

## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 29 1968 2 PM

S	AMPLE NO.	DISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MDIS- TURE PCT•	SAMPLE MEAN PCT•
TR	EATMEN	IT 1.					
Α	1-2A1	21	16.85	51.3	33.1	52.8	
Α	1-2A2	22	16.80	54.0	37.7	43.8	48.3
В	1-2A1	25	17.15	66.4	39.2	55.2	
В	1-2A2	26	16.70	52.7	35.6	47.5	51.4
С	1-2A1	29	16.25	46.7	33.0	<b>4</b> 5 • 0	
С	1-2A2	30	16.30	48.6	33.7	46.1	45.6
D	1-2A1	33	16.15	52.3	32.5	54.8	
D	1-2A2	34	16.00	56.5	35.7	51.4	53.1
					BLOCK	MEAN	49.6
TR	EATMEN	IT 5.					
Α	5 <b>-</b> 2A1	23	16.75	68.4	40.0	<b>5</b> 5.0	
А	5 <b>-</b> 2A2	24	17.05	76.7	44.0	54.8	54.9
В	5-2A1	27	17.10	58.8	34.0	59.5	
В	5 <b>-</b> 2A2	28	16.90	67.5	36.3	61.7	60.6
С	5 <b>-</b> 2A1	31	16.50	47.6	31.2	<b>52.7</b>	
С	5-2A2	32	16.15	65.3	36.7	58.2	55.5
D	5-2Al	35	16.10	60.4	33.8	60.0	
D	5-2A2	36	16.20	71.7	38.0	60.7	60.4
					BLOCK	MEAN	57.8

McGILL UNIVERSITY COMPUTING CENTRE

#### PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 29 1968 4 PM

SAMPLE DISH NO• NO•	DISH WT• GMS•	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT•	SAMPLE MEAN PCT•
IKEAIMENT I.	17 10	<b>F</b> ( )	27 7	11 E	
A 1-281 67	17.10	54.2	31.1	44.5	
A 1-2B2 68	17.45	47.9	31.5	<b>5</b> 3 <b>•</b> 9	49.2
B 1-2B1 71	17.45	41.9	32.0	<b>4</b> 0 <b>• 5</b>	
B 1-2B2 72	17.80	57.5	37.4	50.6	45.6
C 1-2B1 75	17.60	47.9	33.8	46.5	
C 1-2B2 76	17.40	51.0	35.0	47.6	47.1
D 1-2B1 79	17.40	58.8	40.6	44.0	
D 1-2B2 80	17.10	51.9	35.7	46.6	45.3
			BLOCK	MEAN 4	5.8
TREATMENT 5.					
A 5-2B1 69	17.65	76.2	44.3	54.5	
A 5-2B2 70	17,50	68.0	39.8	55.8	55.2
B 5-2B1 73	17.25	73.3	41.6	56.6	
B 5-2B2 74	17.50	47.3	31.7	52.3	54.5
C 5-2B1 77	17.10	60.7	35.5	57.8	
$C = 5 - 2B^2 = 78$	17.40	56.0	35.8	52.3	55.1
D 5-281 81	17 40	521	22.5	53 6	
	17 25	52 1	1 20	55.6	<b>5</b> 7 4
U D-202 82	L/•35	52.8	22.1	23.0	24.0

BLOCK MEAN 54.8

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## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 29 1968 6 PM

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SAMPLE D	DISH	DISH	INITI-	FINAL	MOIS-	SAMPLE
NO.	NO•	WT.	AL WT.	WT.	TURE	MEAN
		GMS.	GMS.	GMS.	PCI.	PC1.
	r 1					
	i 1.	16.60	48.2	36.8	36 . 1	
$\begin{array}{c} A  I = J  I \\ A  I = J  I \end{array}$	2	16.70	50.4	40.5	29.4	32.7
A = 3 = 2 B = 3 = 3 = 1	21	16.85	49.1	37.7	35.3	52.01
B 1-3 2	22	16.80	48.6	36.6	37.7	36.5
C 1 - 3 1	11	16.95	65.5	49.0	34.0	
C 1 - 3 2	12	17.05	34.9	27.7	40.3	37.2
D 1-3 1	29	16.25	52.5	37.7	40.8	
D 1-3 2	30	16.30	55.1	41.5	35.1	37.9
				BLOCK	MEAN 3	5.1
TREATMEN	r 2.					
A 2-3 1	3	16.60	51.5	35.7	<b>45.3</b>	
A 2-3 2	4	16.75	45.5	33.1	43.1	44.2
B 2-3 1	23	16.75	74.0	47.5	46.3	
B 2-3 2	24	17.05	58.0	41.9	39.3	42.8
C 2-3 1	13	16.95	34.9	27.7	40.1	
C 2-3 2	14	16.95	91.5	58.0	44.9	42.5
D 2-3 1	33	16.15	47.2	36.0	36.1	
D 2-3 2	34	16.00	45.0	32.9	4 <u>1</u> .7	38.9
				BLUCK	MEAN 4	2•1
IREAIMEN	1 3.	1/ 75	42 0	20 0	1.0 2	
A 3-3 I	2 4	16.15	42.0	29.0	40.5	48 2
A 3-3 2 B 3-3 1	25	17 15	61 6	40.7	47.0	
B 3-3 2	25	16 70	50.7	34.3	48.2	47.6
C 3-3 1	15	17.05	57.5	38.2	47.7	
$(3-3)^{2}$	16	16.55	44.8	32.4	43.9	45.8
D 3-3 1	35	16.10	74.6	48.1	45.3	
D 3-3 2	36	16.20	46.0	31.6	48.3	46.8
				<b>BLOCK</b>	MEAN 4	7.1
TREATMEN	T4.					2
A 4-4 1	7	16.55	65.0	35.6	60.7	
A 4-4 2	8	17.00	65.3	33.1	66.7	63.7
B 4-3 1	27	17.10	86.0	43.0	62.4	
B 4-3 2	28	16.90	83.8	40.5	64.7	63.6
C 4-3 1	17	16.45	64.0	35.9	59.1	
C 4-3 2	18	16.40	71.8	35.8	65.0	62.0
D 4-3 1	37	16.95	84.7	43.7	60.5	( <b>A</b> (
D 4-3 2	38	17.20	70.0	38.2	60.2	60.4
	<b>T</b> C			BLUCK	MEAN 0	2•4
IKEAIMEN	1 2.	17 05	E 2 7	2/. /.	<b>51 2</b>	
	10	17.05	52.1	24.4	5 - 5 7 0 0	50.2
R 5-2 1	21	16.50	60.7	41.0	+ 7 ● U 44 - 6	JU • 2
B 5-3 2	32	16-15	68.5	44.0	46.8	45.7
C 5-3 1	19	16.45	61.6	42.0	43.4	
C 5-3 2	20	17.15	52.3	37.1	43.2	43.3
D 5-3 1	39	17.80	110.0	66.5	47.2	
D 5-3 2	40	16.90	53.8	35.4	49 <b>.9</b>	48.5
		- ,	- McGILL	BLOCK		6.9

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## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 29 1968 8 PM

S	SAMPLE NO•	DISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT.	SAMPLE MEAN PCT•
TR		VT 1.					
Α	1-3A1	83	17.10	37.0	30.5	32.7	
Α	1-3A2	84	17.10	53.8	41.8	32.7	32.7
В	1-3A1	87	17.90	55.2	41.4	37.0	
В	1-3A2	88	17.50	48•4	37.4	35.6	36.3
С	1-3A1	91	17.80	46.6	35.4	38.9	
С	1-3A2	92	17.45	48.2	37.2	35.8	37.3
D	1-3A1	95	18.00	42.4	33.7	35.7	
Ð	1-3A2	96	17.80	53.7	40.4	37.0	36.4
					BLOCK	MEAN 3	5.7
TF	REATME	NT 5.					
Α	5-3A1	85	17.20	60.2	38.8	<b>4</b> 9 <b>• 8</b>	
Α	5-3A2	94	17.70	57.7	38.5	<b>4</b> 8 <b>.</b> 0	48.9
В	5-3A1	89	17.80	58.5	38.9	<b>4</b> 8 • <b>2</b>	
В	5-3A2	90	17.70	55.1	35.5	52.4	50.3
С	5-3A1	93	17.85	48.4	34.2	46.5	
С	5-3A2	86	17.30	48.4	33.7	47.3	46.9
D	5-3A1	97	17.40	49.4	35.0	45.0	
D	5-3A2	98	17.30	54.3	35.0	52.2	48.6
					BLOCK	MEAN 4	8.7

#### PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 29 1968 10 PM

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S	AMPLE NO•	DISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT.	SAMPLE MEAN PCT•
TR		VT 1.					
Α	1-3B1	41	17.85	48.3	35.7	41.4	
Α	1-3B2	42	18.05	43.4	33.3	39.8	40.6
В	1-3B1	45	17.85	49.7	36.9	<b>4</b> 0 • <b>2</b>	
В	1-3B2	46	17.90	47.9	35.9	<b>4</b> 0 <b>.0</b>	40.1
С	1-381	51	17.60	47.5	37.0	35.1	
С	1-3B2	52	17.50	45.8	36.0	34.6	34.9
D	1-381	55	17.65	47.8	35.0	42.5	
D	1-3B2	56	17.80	42.4	33.4	36.6	39.5
					BLOCK	MEAN 3	8.8
TF	REATMEN	VT 5.					
Α	5-3B1	43	18.05	54.3	38.5	<b>43.6</b>	
Α	5-3B2	44	17.90	49.3	35.0	45.5	44.6
В	5-3B1	47	17.90	51.6	36.5	<b>4</b> 4 • 8	
В	5-3B2	48	17.70	49.0	34.5	46.3	45.6
С	5-3B1	53	17.85	56.0	39.4	43.5	
С	5-3B2	54	17.35	50.0	35.1	45.6	44.6
D	5-3B1	57	17.60	74.0	47.5	47.0	
D	5-3B2	58	17.80	45.5	31.8	49.5	48.2
					BLOCK	MEAN 4	5.7

## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 30 1968 8 AM

SAMPLE DISH	DISH	INITI-	FINAL	MOIS-	SAMPLE
NO• NO•	WT.	AL WT.	WI.	IURE	MEAN
	GMS.	GMS.	GMS.	PCT.	PCT.
TDEATMENT 1					
1 = 4	17.90	48.8	37.4	36.9	
A = 1 + 1 = 01	17 25	40.0	36 5	29.7	22 2
A 1 - 4 2 02	17 90	44.0	24 9	27.1	و وو
B = 1 - 4 = 71 B = 1 - 4 = 72	17.60	42.7	34 0	32.64	22 5
$0 1^{-4} 2 52$		42.00	22 6	27 5	52.05
C 1 = 4 1 51 C 1 = 4 2 52	17.50	43.2	55.0 46 0	3/ 0	36 3
0 1 = 4 2 52	17.70	41.9	32.0	40.9	50.2
D 1 - 4 1 01	17 45	4109	24 7	4.0 <b>D</b>	40 0
0 1-4 2 02	11.05	- U - J		MEAN 3	57
TREATMENT 2.			DECON	MLAN J	2.1
A 2-4 1 83	17.10	51.3	39.8	33.6	
A 2-4 2 84	17.10	45.8	36.3	33.1	33.4
B 2-4 1 93	17.85	62.9	46.4	36.6	
B 2-4 2 94	17.70	50.3	36.4	42.6	39.6
C 2-4 1 53	17.85	44.5	35.4	34.1	
C 2-4 2 54	17.35	49.7	38.0	36.2	35.2
D 2-4 1 63	17.90	45.3	37.0	30.3	
D 2-4 2 64	17.70	45.3	36.4	32.2	31.3
			BLOCK	MEAN 3	4.9
TREATMENT 3.					
A 3-4 1 85	17.20	49.0	32.0	<b>53.5</b>	
A 3-4 2 86	17.30	63.5	42.4	45.7	49.6
B 3-4 1 95	18.00	55.7	36.4	51.2	
B 3-4 2 96	17.80	45.5	30.4	54.5	52.9
C 3-4 1 55	17.65	56.0	35.0	54.8	
C 3-4 2 56	17.80	56.7	35.0	<b>5</b> 5 <b>.</b> 8	55.3
D 3-4 1 65	17.45	57.5	40.3	42.9	
D 3-4 2 66	17.30	48.0	33.4	47.6	45.3
			BLOCK	MEAN 5	50.7
TREATMENT 4.				<b>7</b> 0 0	
A 4-4 1 87	17.90	55.8	35.4	53.8	
A 4-4 2 88	17.50	63.5	35.0	62.0	57.9
B 4-4 1 97	17.40	52.0	32.8	55.5	
B 4-4 2 98	17.30	53.0	32.8	56.6	56.0
C 4-4 1 57	17.60	60.8	38.3	52.1	
C 4-4 2 58	17.80	55.7	34.7	<b>55.4</b>	53•7
0 4-4 1 67	17.10	56.4	31.4	63.6	(2.2.2)
0 4-4 2 68	11.45	60.5	34.3	60.9 MEAN	02•2
TREATMENT 5.			BLUCK	MEAN	01+0
Λ 5-4 1 89	17.80	40.6	31.8	38.6	
$\Lambda 5-42$ 90	17.70	87.4	62.4	35.9	37.2
B 5-4 1 99	17.85	50.7	37.5	40.2	5102
B 5-4 2 100	17.45	54.0	39.8	38.9	39.5
(.5-41 59)	17.70	47.3	34.7	42.6	
C 5-4 2 60	17.80	56.2	43.3	33.6	38.1
D 5-4 1 69	17.65	52.1	39.0	38.0	
D 5-4 2 70	17.50	58.5	41.2	42.2	40.1
	2		BLOCK	MEAN	38.7
		McGILL	UNIVE	KSITY C	OMPUTING CENTRE



## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 30 1968 10 AM

SAMPLE	DISH	DISH	INITI-	FINAL	MOIS-	SAMPLE
NO.	NO.	WT.	AL WT.	WT.	TURE	MEAN
		GMS.	GMS.	GMS.	ΡΟΤο	PCT.
REATMEN	NT 1.					
1-4Al	51	17.60	42.0	34.8	<b>29.5</b>	
1-4A2	52	17.50	53.2	42.4	30.3	29.9
1-4A1	55	17.65	39.3	32.0	<b>33 • 7</b>	
1-4A2	56	17.80	49.8	40.6	28.7	31.2
1-4A1	59	17.70	39.5	33.9	<b>25 • 7</b>	
1-4A2	60	17.80	44.6	37.1	28.0	26.8
1-4A1	63	17.90	49.4	40.9	27.0	
1-4A2	64	17.70	45.8	39.3	23.1	25.1
-				BLOCK	MEAN 2	8.3
REATMEN	NT 5.					
5-441	53	17.85	43.0	34.4	34.2	
5-442	54	17.35	42.6	33.4	36.4	35.3
5-4A1	57	17.60	42.1	33.2	36.3	
5-442	58	17.80	42.2	34.9	29.9	33.1
5-441	61	17.70	43.0	35.3	30.4	
5-402	62	17.65	55.1	41.6	36.0	33.2
5-41	65	17.45	42.8	35.2	30.0	3302
5-412	66	17 30	87 4	62 4	35 7	32 8
J-742	00	11.30	0104			2 4
	SAMPLE NO. EATMEN 1-4A1 1-4A2 1-4A1 1-4A2 1-4A1 1-4A2 1-4A1 1-4A2 1-4A1 1-4A2 1-4A1 1-4A2 S-4A1 5-4A2 5-4A1 5-4A2 5-4A1 5-4A2 5-4A1 5-4A2	SAMPLE DISH         NO.         NO.         NO.         NO.         NO.         REATMENT 1.         1-4A1         1-4A2         1-4A2         1-4A1         50         1-4A2         1-4A2         1-4A2         60         1-4A2         1-4A2         60         1-4A2         64         REATMENT         5-4A1         57         5-4A2         58         5-4A1         61         5-4A2         62         5-4A2         66	SAMPLE DISH       DISH         NO.       WT.         GMS.         REATMENT 1.         1-4A1       51         1-4A1       51         1-4A2       52         1-4A1       55         1-4A1       55         1-4A2       56         1-4A2       56         1-4A2       60         1-4A2       60         1-4A2       60         1-4A2       60         1-4A2       64         17.70         1-4A2       64         17.90         1-4A2       64         17.90         1-4A2       64         17.90         1-4A2       64         17.90         1-4A2       54         17.85         5-4A1       57         5-4A2       54         17.80         5-4A1       57         5-4A2       58         5-4A1       61         17.70       5         5-4A2       62         17.65       5         5-4A1       65         5-4A2	SAMPLE DISH NO. NO.       DISH INITI- WT. AL WT. GMS. GMS.         REATMENT 1.       -4A1 51 17.60 42.0         1-4A1 51 17.60 42.0         1-4A2 52 17.50 53.2         1-4A1 55 17.65 39.3         1-4A2 56 17.80 49.8         1-4A1 59 17.70 39.5         1-4A2 60 17.80 44.6         1-4A2 64 17.70 45.8         REATMENT 5.         5-4A1 53 17.85 43.0         5-4A1 57 17.60 42.1         5-4A2 58 17.80 42.2         5-4A1 61 17.70 43.0         5-4A2 62 17.65 55.1         5-4A1 61 17.70 43.0         5-4A2 66 17.30 87.4	SAMPLE DISH NO. NO.       DISH INITI- WT. AL WT. GMS. GMS.       FINAL WT. GMS.         1-4A1       51       17.60       42.0       34.8         1-4A1       51       17.60       53.2       42.4         1-4A1       55       17.65       39.3       32.0         1-4A2       56       17.80       49.8       40.6         1-4A2       56       17.80       49.8       40.6         1-4A2       56       17.70       39.5       33.9         1-4A2       60       17.80       44.6       37.1         1-4A2       64       17.70       45.8       39.3         BLOCK         REATMENT 5.       5-4A1       57       17.60       42.1       33.2         5-4A2       54       17.70       43.0       35.3         5-4A2       58       17.80       42.2       34.9         5-4A1       57       17.60       42.1       33.2         5-4A2       58       17.80       42.2       34.9         5-4A2       58       17.80       42.2       34.9         5-4A2       58       17.65       55.1       41.6         5-4A1       61	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

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## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 30 1968 12 NOON

SAMPLE DISE NO• NO•	H DISH • WT• GMS•	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT•	SAMPLE MEAN PCT	
TREATMENT 1						
$\Delta 1-5 1 4$	•	46.3	41.0	18.6		
A 1-5 2 42	2 18.05	39.2	33.9	25.1	21.8	
B 1-5 1 5	1 17.60	43.0	35.9	28.0		
B 1-5 2 52	2 17.50	39.7	34.9	21.6	24.8	
C 1-5 1 6	1 17.70	45.8	40.0	20.6		
C 1-5 2 6	2 17.65	41.0	35.8	22.3	21.5	
D 1-5 1 7	1 17.45	42.3	36.3	24.1		
D 1-5 2 7	2 17.80	42.8	37.0	23.2	23.7	
			BLOCK	MEAN 2	2.9	
TREATMENT 2	•			0 - 0		
A 2-5 1 4	3 18.05	49.8	41.6	25.8		
A 2-5 2 4	4 17.90	44.8	36.1	30.1	28.0	
	$\begin{array}{ccc} 5 & 17 & 5 \\ 6 & 17 & 5 \\ 6 & 17 & 5 \\ \end{array}$	49.5	27•7 20 1	29.9	20.2	
	4 17.35	41.2	30.L	<u> 30.</u>	50.2	
$- \frac{1}{2} - $	5 17.90 4 17.70	50.4	21.0 45 Q	28.2	30.2	
	$\frac{1}{2}$ 17 25	40 0	22.1	34.7	50.2	
$D_{2-5} = 7$	4 17.50	49.1	40.0	28.8	31.8	
	1 11.50	1241	BLOCK	MEAN 3	0.0	
TREATMENT 3	•					
A 3-5 1 4	5 17.85	65.8	43.0	47.5		
A 3-5 2 4	6 17.90	48.7	36.2	40.6	44.1	
B 3-5 1 5	5 17.65	48.9	38.3	<b>33.9</b>		
B 3-5 2 5	6 17.80	58.2	39.9	45.3	39.6	
C 3 <del>-</del> 5 1 6	5 17.45	51.3	36.7	43.1		
C 3 <del>-</del> 5 2 6	6 17.30	46.8	36.0	36.6	39.9	
D 3-5 1 7	5 17.60	48.4	36.3	39.3	20.0	
0 3-5 2 7	6 17.40	61.3	49.0	36.1	38.0	
			BLUCK	MEAN 4	0.4	
	7 17 00	<u> </u>	21 0	57 2		
	1 17.50	40.0	25 5	5/ • 2	58 9	
84-52 4 8451 5	7 17.60	54.4	32.8	58.7	<b>J0</b> • <b>y</b>	
B 4-5 2 5		67.0	41.4	52.0	55.4	
C 4-5 1 6	7 17.10	58.0	35.0	56.2		
C 4-5 2 8	17.50	94.3	48.3	59 <b>.</b> 9	58.1	
D 4-5 1 7	7 17.10	76.2	44.6	<b>5</b> 3 • <b>5</b>		
D 4-5 2 7	8 17.40	62.7	37.4	55.8	54.7	
			BLOCK	MEAN 5	56.7	
TREATMENT 5	•					
A 5-5 1 4	9 17.75	57.3	46.0	28.6		
A 5-5 2 5		43.6	36.0	29.1	28.8	
	DA T(•(0	55.6	29•8 42 E	<u></u> 2∕.∙4	21.0	
		レージと•ソー んん O	42•9 27 0	29.0	21.0	
	70 17 50	44•7 ) 44 5	36 8	29.U 28.K	28.8	
	10 11.50 79 17 40	, <del>, , , ,</del> , , , , , , , , , , , , , ,	40.5	20.0	20.0	
D 5-5 2 8	30 17.10	) 56.5	43.2	33.8	28.9	
			BLOCK	MEAN	29.4	
		McGILL	UNIVE	кзнт с	OMPUTING CENT	rre



## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 30 1968 2 PM

S	AMPLE	DISH	DISH	INITI-	FINAL	MOIS-	SAMPLE
	NO.	NO.	WT.	AL WT.	WT.	TURE	MEAN
			GMS.	GMS -	GMS .	PCT.	PCT.
			0/10	0110	0110		1010
IR	REAIMEN						
Α	1-5A1	15	17.05	38.8	34.0	22.1	
Α	1-5A2	16	16.55	39.5	35.5	17.4	19.7
В	1-5A1	19	16.45	46.6	40.2	21.2	
В	1-5A2	20	17.15	41.3	35.6	23.6	22.4
r	1-5/1	43	18.05	49.8	43.3	20.5	
č		10	10.00	1200	20 5	10.2	10 0
L	1-245	44	17.90	43.4	38.2	19.2	19.8
D	1-5A1	47	17.90	42.6	37.6	20.2	
D	1-5A2	48	17.70	39.0	34.3	22.1	21.2
					BLOCK	MEAN 2	0.8
TF	REATME	VT 5.					
Δ	5-541	17	16.45	55.5	46.0	24.3	
7	5	10	16 40	25 0	21 5	22 6	22 4
A	5-5A2	10	10.40	5,00	51.0	27.00	2304
В	5-5Al	41	17.85	44.0	37.6	24.5	
В	5-5A2	42	18.05	43.2	36.9	25.0	24.8
С	5-5A1	45	17.85	56.1	45.9	26.7	
Č.	5-542	46	17.90	56.2	45.7	27.4	27.0
ň	5-5/1	49	17.75	54.4	43.7	29.2	
5		- T J	17 50		20 2	/ • ⊃ ⊏ 1	27 1
υ	5-5A2	50	17.50	46.6	37.3	22.1	21.1
					BLOCK	MEAN 2	5.6

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## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 30 1968 4 PM

ç	NO.	DISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT.	SAMPLE MEAN PCT.
TF		NT 1.					
A	1-5B1	2	16.70	37.5	34.1	16.3	
А	1-5B2	3	16.60	40.2	37.7	10.6	13.5
В	1-5B1	5	16.75	37.3	33.5	18.5	
В	1-5B2	6	16.60	34.8	32.3	13.7	16.1
С	1-581	9	17.05	51.2	45.4	17.0	
С	1-5B2	10	17.10	46.8	42.4	14.8	15.9
D	1-5B1	13	16.95	41.8	39.1	10 <b>.9</b>	
D	1-5B2	- 14	16.95	46.8	42.4	14.7	12.8
					BLOCK	MEAN 1	4.6
TF	REATME	NT 5.					
Α	5-5B1	4	16.75	50.7	40.6	29.7	
Α	5-5B2	1	16.60	48.4	38.7	30.5	30.1
В	5-5B1	7	16.55	49.0	39.5	29,3	
В	5 <b>-5</b> B2	8	17.00	48.5	39.3	29.2	29.2
С	5-5B1	11	16.95	54.3	44.4	26.5	
С	5 <b>-</b> 5B2	12	17.05	53.4	41.4	33.0	29.8

## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 30 1968 6 PM

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SAMPLE NO.	DISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT•	.SAMPLE MEAN PCT.
TREATME	NT 1.					
A 1-6 1	1	16.60	36.6	33.6	15.0	
A 1-6 2	2	16.70	31.7	29.7	13.3	14.2
B 1-6 1	11	16.95	56.8	50.7	15.3	
B 1-6 2	12	17.05	38.8	35.9	13.3	14.3
C 1-6 1	21	16.85	41.7	38.1	14.5	
C 1-6 2	22	16.80	37.8	34.8	14.3	14.4
D 1-6 1	31	16.50	34.0	32.0	11.4	
D 1-6 2	32	16.15	31.9	30.1	11.4	11.4
				BLOCK	MEAN	13.6
TREATME	NT 2.				• • •	
A 2-6 1	3	16.60	37.4	34.1	13.0	17 0
A 2-6 2	12	16.15	44•4	38.5	21.5	11.2
B 2-6 1	15	10.95	33•1 (2 0	31.0	10.1	177
B 2-6 2	14	16.90	42.9	31.9	17.1	11.1
$C_{2-6}^{2-6}$	25	17.05	32.5	30.0	16.2	16.6
D 2-6 1	22	16.15	37.4	33.3	19.3	1000
D 2-6 2	34	16.00	35.4	32.7	13.9	16.6
	5.	10.00		BLOCK	MEÂN	17.0
TREATME	NT 3.					
A 3-6 1	5	16.75	38.0	32.2	27.3	
A 3-6 2	6	16.60	59.4	44.6	34.6	30.9
B 3-6 1	17	16.45	49.0	39.0	30.7	
B 3-6 2	18	16.40	51.7	38.4	37.7	34.2
C 3-6 1	39	17.80	48.0	38.0	33.1	
C 3-6 2	40	16.90	51.6	38.2	38.6	35.9
D 3-6 1	35	16.10	43.4	34.4	33.0	20 7
0 3-6 2	36	16.20	45.3	37.0		30.1
TOEATME	NT /			BLUCK	MEAN	5209
A 4-6 1	NI 4.	16 55	63.0	36.6	56.8	
A + 0 1 A 4-6 2		17.00	72.2	38.2	61.6	59.2
B 4-6 1	15	17.05	66.1	40.6	52.0	
B 4-6 2	16	16.55	61.0	38.0	5].7	51.9
C 4-6 1	. 27	17.10	58.3	36.1	53.9	)
<u>C 4-6 2</u>	28	16.90	62.7	35.5	59.4	56.6
D 4-6 1	. 37	16.95	94.8	49.0	58.8	6
D 4-6 2	2 38	17.20	56.5	36.0	52.2	55.5
				BLOCK	MEAN	55.8
TREATME	NT 5.					
A 5-6 ]	9	17.05	49.8	41.5	25.3	3
A 5-6 2	2 10	17.10	49.2	39.9	29.0	21•2
B 5-6 ]	19	10.40	59•4 50 3	48.0	24.1	2/ 2
0 0-0 2 C 5-6 1	20	16 25	56.8	ኅረ•ኅ ፈና ደ	27.1	ς τ <b>ι</b> β
C 5-6 2	2 30	16.30	59.4	44_8	33.9	30.5
D 5-6 1	25	17.15	43.3	35.7	29.1	
D 5-6 2	2 26	16.70	45.5	39.2	21.9	25.5
				BLOCK	MEAN	26.8
			- McGILI	LUNIVE	K 21   Y	COMPUTING CENTRE *

#### PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 30 1968 8 PM

S	AMPLE NO•	DISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MDIS- TURE PCT•	SAMPLE MEAN PCT•
TR	EATME	NT 1.					
Α	1-6A1	67	17.10	37.0	34.0	15.1	
Α	1-6A2	68	17.45	34.8	32,.5	13.3	14.2
В	1-6A1	71	17.45	48.5	42.6	19.0	
В	1-6A2	72	17.80	32.5	30.1	16.3	17.7
С	1-6A1	75	17.60	41.1	37.9	13.6	
С	1-6A2	76	17.40	40.9	37.9	12.8	13.2
Ð	1-6A1	79	17.40	42.0	38.4	14.6	
D	1-6A2	80	17.10	42.6	37.9	18.4	16.5
					BLOCK	MEAN	15.4
ΤR	REATME	NT 5.					
Α	5-6Al	69	17.65	46.8	38.2	29.5	
Α	5-6A2	70	17.50	47.8	38.8	29.7	29.6
В	5-6A1	73	17.25	38.8	34.2	21.3	
В	5-6A2	74	17.50	49.2	40.7	26.8	24.1
С	5-6A1	77	17.10	55.0	43.4	30.6	
С	5-6A2	78	17.40	68.6	53.2	30.1	30.3
D	5-6A1	81	17.40	48.6	40.0	27.6	
D	5-6A2	82	17.35	38.8	34.2	21.4	24.5
				•	BLOCK	MEAN	27.1

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#### PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 30 1968 10 PM

S	AMPLE	DISH	DISH	INITI-	FINAL	MOIS-	SAMPLE
	NO •	NO.	WT.	AL WT.	WT.	TURE	MEAN
			GMS.	GMS.	GMS.	PCT.	PCT.
TR	EATMEN	NT 1.					
Α	1-681	41	17.85	43.4	37.0	25.0	
Α	1-682	42	18.05	54.7	46.0	23.7	24.4
В	1-681	45	17.85	44.3	39.6	17.8	
В	1-6B2	46	17.90	54.2	46.9	20.1	18.9
С	1-6B1	49	17.75	38.7	34.3	21.0	
С	1-6B2	50	17.50	35.4	32.3	17.3	19.2
D	1-681	53	17.85	38.3	32.7	27.4	
D	1-6B2	54	17.35	46.0	40.0	20.9	24.2
					BLOCK	MEAN 2	21.7
TR	EATMEN	VT 5.					
Α	5-6B1	43	18.05	48.1	38.4	32.3	
Α	5-6B2	44	17.90	60.3	45.0	36.1	34.2
В	5-6B1	47	17.90	52.1	40.2	34.8	
В	5-6B2	48	17.70	50.6	38.9	35.6	35.2
С	5-6B1	51	17.60	59.8	44.0	37.4	
С	5-6B2	52	17.50	61.7	48.1	30.8	34.1
D	5-6B1	55	17.65	45.0	36.1	32.5	
D	5-6B2	56	17.80	46.2	36.7	<b>33 • 5</b>	33.0
					BLOCK	MEAN :	34.1

McGILL UNIVERSITY COMPUTING CENTRE

## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 31 1968 8 AM

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SAMPLE NO•	DISH NO.	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT.	SAMPLE MEAN PCT•
TREATMEN A 1-7 1	NT 1. 71	17.45	45.5	38.0	26.7	05 0
B 1-7 1	81	17.80	46.0 54.0	39.0 45.0	24.8	25.8
B 1-7 2	82	17.35	51.4	41.1	30.2	27.4
C 1-7 1	91	17.80	46.3	39.0	25.6	<u> </u>
D 1-7 1	92 11	16.95	28•3 39•1	48•0 34•1	22.6	25.4
D 1-7 2	12	17.05	49.0	41.0	25.0	23.8
TDEATMEN	UT 2			BLOCK	MEAN 2	5.6
A $2-7$ 1	73	17.25	44.5	38.4	22.4	
A 2-7 2	74	17.50	52.5	41.7	30.9	26.6
B 2-7 1	83	17.10	49.1	41.2	24.7	
B 2-7 2 C 2-7 1	84	17.45	58.0 50.1	46.0	29.3	27.0
C 2-7 2	94	17.70	57.3	47.2	25.5	26.1
D 2-7 1	13	16.95	50.0	42.5	22.7	
D 2-7 2	14	16.95	61.5	51.6	22.2	22.5
TREATMEN	NT 3.			BLUCK	MEAM Z	2.2
A 3-7 1	75	17.60	48.0	39.8	27.0	
A 3-7 2	76	17.40	46.3	39.4	23.9	25.4
B 3-7 2	85 86	17.30	59.4 47.8	49.3	23.9	20 0
C 3-7 1	95	18.00	69.5	51.7	34.6	20.0
C 3-7 2	93	17.85	51.5	41.1	30.9	32.7
D 3-7 1	15	17.05	45.0	38.1	24.7	<b>2 2 5</b>
0 5-1 2	10	10.00	5/.4	44•2 BLOCK	37.3 MEAN 2	28.5
TREATMEN	VT 4.			DLOOK	HLA Z	0.1
A 4-7 1	77	17.10	56.0	34.5	55.3	
A 4-7 2 B 4-7 1	/8 87	17.40	73.5	43.1	54.2	54.7
B 4-7 2	88	17.50	59.0	41.3	42.7	47.1
C 4-7 1	97	17.40	59.4	45.3	33.6	
C 4-7 2	98 17	17.30	54.5	36.0	49.7	41.7
D 4-7 2	18	16.40	63.0	42.0	54•6 46•4	50.5
			0000	BLOCK	MEAN 4	8.5
	NT 5.	17 (0		<b></b>		
A = 5 - 7 = 1 A = 5 - 7 = 2	80	17.10	44.3 42.5	35.6	32.3	30.0
B 5-7 1	89	17.80	52.7	41.2	33.0	0.00
B 5-7 2	90	17.70	52.3	42.0	29.8	31.4
0 5-7 1	99 04	17.85	48.7	40 <u>•2</u>	27.6	07 /
D 5-7 1	70 19	16-45	46.2	41•2 38.5	21.5	۲.4
D 5-7 2	20	17.15	45.1	37.2	28.3	27.1
	•		- McGILL	UNIVER		9.0 MPUTING CENT

COMPUTING CENTRE

#### PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 31 1968 10 AM

S	AMPLE NO.	DISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT.	SAMPLE MEAN PCT•
TR	EATMEN	NT 1.					
Å	1-7A1	75	17.60	50.9	44.7	18.6	
Α	1-742	76	17.40	32.2	29.9	15.5	17.1
В	1-7A1	79	17.40	40.5	36.3	18.2	
В	1-7A1	80	17.10	41.2	37.0	17.4	17.8
С	1-7A1	83	17.10	31.0	28.3	19.4	
С	1-7A2	84	17.10	39.0	34.9	18.7	19.1
D	1-7A1	87	17.90	43.8	39.2	17.8	
D	1-742	88	17.50	44.9	40.1	17.5	17.6
					BLOCK	MEAN	17.9
TR	EATMEN	NT 5.					
Α	5-7A1	77	17.10	35.8	31.0	25.7	
Α	5-7A2	78	17.40	31.2	27.6	26.1	25.9
В	5-7Al	81	17.40	49.6	41.4	25.5	
В	5-7A2	82	17.35	44.8	36.1	31.7	28.6
С	5-7A1	85	17.20	40.0	34.7	23.2	
С	5-7A2	86	17.30	49.6	42.0	23.5	23.4
D	5-741	89	17.80	44.6	38.4	23.1	
D	5-7A2	90	17.70	63.4	52.8	23.2	23.2
					BLOCK	MEAN	25.3

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## PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 31 1968 12 NOON

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TREATMENT 1. A 1-8 1 44 17.90 40.8 37.1 16.2 A 1-8 2 46 17.90 37.0 34.4 13.6 14.9 B 1-8 1 56 17.80 38.3 35.8 12.2 B 1-8 2 54 17.35 36.2 33.4 14.9 13.5 C 1-8 1 11 16.95 44.3 40.5 13.9 C 1-8 2 28 16.90 46.4 41.7 15.9 14.9 D 1-8 1 32 16.15 39.4 36.0 14.6 D 1-8 2 37 16.95 45.2 41.5 13.1 13.9 BLOCK MEAN 14.3 TREATMENT 2. A 2-8 1 39 17.80 43.0 39.0 15.9 A 2-8 2 51 17.60 46.1 39.9 21.8 18.8 B 2-8 2 52 17.50 41.2 37.4 16.0 14.3 C 2-8 2 17 16.45 31.9 29.1 18.1 17.1 D 2-8 1 55 17.65 38.1 35.4 13.2 B 2-8 2 7 16.45 31.9 29.1 18.1 17.1 D 2-8 1 55 17.65 38.1 35.4 13.2 D 2-8 2 34 16.00 33.9 30.9 16.8 15.0 BLOCK MEAN 16.3 TREATMENT 3. A 3-8 1 55 17.65 44.8 37.3 27.8 A 3-8 2 77 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 2 9 16.25 42.0 35.0 27.2 25.4 D 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 2 29 16.55 50.2 36.7 47.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 50.2 36.7 47.0 B 4-8 1 43 18.05 50.2 36.7 47.0 B 4-8 1 43 18.05 50.2 36.7 45.0 43.5 C 4-8 1 30 16.30 99.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.6 19.9 40.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.9 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 43.6 38.4 19.4 21.3 D 5-8 1 33 17.20 53.1 46.0 19.8 BLOCK MEAN 43.3 BLOCK MEAN 43.3 B 5-8 1 38 17.20 53.1 46.0 19.8 BLOCK MEAN 43.3 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 43.3 B 5-8 1 38 17.20 53.1 46.0 19.8 B 100 CK MEAN 43.3 B 5-8 1 38 17.20 53.1 46.0 19.8 B 100 CK MEAN 19.5 B 17.8 BLOCK MEAN 19.5 B 17.8	SAMPL NC	E DI	SH 10.	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT.	SAMPLE MEAN PCT•	
TREATMENT 1.       4       17.90       40.8       37.1       16.2         A 1-8 1       56       17.90       37.0       34.4       13.6       14.9         B 1-8 2       56       17.35       36.2       33.4       14.9       13.5         C 1-8 1       11       16.95       44.3       40.5       13.9         C 1-8 2       28       16.90       46.4       41.7       15.9       14.9         D 1-8 1       32       16.95       45.2       41.5       13.1       13.9         BLOCK MEAN       14.3       14.3       14.3       14.3       14.3         TREATMENT 2.       BLOCK MEAN       14.3       14.3       14.3         TREATMENT 2.       A 2-8 2       51       17.60       42.0       38.9       12.7         B 2-8 1       50       17.50       42.0       38.9       12.7       14.3         C 2-8 2       17       16.45       31.9       29.1       18.1       14.3         C 2-8 1       31       16.50       34.3       35.6       15.0       14.3         C 2-8 2       17.165       38.1       35.4       13.2       10       27.5       27.7									
A 1-8 1 44 17.90 40.8 37.1 16.2 B 1-8 1 56 17.80 38.3 35.8 12.2 B 1-8 2 54 17.35 36.2 33.4 14.9 13.5 C 1-8 1 11 16.95 44.3 40.5 13.9 C 1-8 2 28 16.90 46.4 41.7 15.9 14.9 D 1-8 1 32 16.15 39.4 36.0 14.6 D 1-8 2 37 16.95 45.2 41.5 13.1 13.9 BLOCK MEAN 14.3 TREATMENT 2. A 2-8 1 39 17.80 43.0 39.0 15.9 A 2-8 2 51 17.60 46.1 39.9 21.8 18.8 B 2-8 1 50 17.50 42.0 38.9 12.7 B 2-8 2 52 17.50 41.2 37.4 16.0 14.3 C 2-8 1 13 16.95 34.3 31.5 16.1 C 2-8 2 17 16.45 31.9 29.1 18.1 17.1 D 2-8 1 55 17.65 38.1 35.4 13.2 D 2-8 1 55 17.65 38.1 35.4 13.2 D 2-8 1 53 17.85 44.8 37.3 27.8 A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 49 16.25 42.0 35.0 27.2 25.4 D 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 11 6.65 50.2 41.0 2 <sup>A</sup> .3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 46 17.70 52.9 36.4 46.0 A 4-8 1 22 1 16.85 50.2 36.7 42.0 B LOCK MEA <sup>M</sup> 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 1 27 17.10 52.9 36.4 46.0 A 4-8 2 21 16.85 50.2 36.7 42.0 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 1 27 17.15 54.5 39.6 39.9 40.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 B 10.0 K MEA <sup>M</sup> 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 26 16.70 44.5 39.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 B 10.0 K MEA <sup>M</sup> 43.3 B 10.0 K MEA <sup>M</sup> 43	TREATM	IENT	1.	17 00	(0.0	<b></b>	1 / 0	-	
A 1-8 2 46 17.90 37.0 34.4 13.0 14.9 B 1-8 1 56 17.80 38.3 35.8 12.2 B 1-8 2 54 17.35 36.2 33.4 14.9 13.5 C 1-8 1 11 16.95 44.3 40.5 13.9 C 1-8 2 28 16.90 46.4 41.7 15.9 14.9 D 1-8 1 32 16.15 39.4 36.0 14.6 D 1-8 2 37 16.95 45.2 41.5 13.1 13.9 BLOCK MEAN 14.3 TREATMENT 2. A 2-8 1 39 17.80 43.0 39.0 15.9 A 2-8 2 51 17.60 46.1 39.9 21.8 18.8 B 2-8 2 52 17.50 42.0 38.9 12.7 B 2-8 2 52 17.50 42.0 38.9 12.7 B 2-8 2 52 17.50 42.0 38.9 12.7 D 2-8 1 33 16.95 34.3 31.5 16.1 C 2-8 1 13 16.95 34.3 31.5 16.1 C 2-8 2 17 16.45 31.9 29.1 18.1 17.1 D 2-8 1 55 17.65 38.1 35.4 13.2 D 2-8 2 34 16.00 33.9 30.9 16.8 15.0 BLOCK MEAM 16.3 TREATMENT 3. A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 48 17.70 50.2 41.0 28.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 36 16.10 50.3 41.5 25.7 D 3-8 2 36 16.10 50.3 41.5 25.7 D 3-8 2 36 16.20 48.5 40.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 1 16.85 56.3 38.5 45.1 45.6 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 20 16.30 59.4 41.7 41.1 C 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 43 18.05 50.2 36.7 42.0 BLOCK MEAM 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAM 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.6 39.9 40.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAM 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 26 16.70 44.5 39.0 19.8 BLOCK MEAM 43.3 TREATMENT 5. A 5-8 1 26 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 BLOCK MEAM 43.3 TREATMENT 5. A 5-8 1 26 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 BLOCK MEAM 43.15 BLOCK MEAM 43.3 BLOCK MEAM 43.15 BLOCK MEAM 43.5 BLOCK MEAM 43.5 BLOCK MEAM 43.3 BLOCK MEAM 42.1.3 BLOCK MEAM 42.1.3 BLOCK MEAM 42.1.3 BLOCK MEAM 42.1.3	A 1-8	1	44	17.90	40.8	31.1	16.2	14 0	
D 1-80 1       300       30.3       30.4       14.9       13.5         C 1-8 1       11       16.95       44.3       40.5       13.9         C 1-8 2       28       16.90       46.4       41.7       15.9       14.9         D 1-8 1       32       16.95       45.2       41.5       13.1       13.9         BLOCK MEAN       14.3       80.0       14.6       14.3         TREATMENT 2.       42.8       39.0       15.9       80.0       80.0       14.3         A 2-8 2       51       17.60       46.1       39.9       21.8       18.8       8         B 2-8 1       50       17.50       42.0       38.9       12.7       8       14.3         C 2-8 2       17       16.45       31.9       29.1       18.1       17.1         D 2-8 1       55       17.65       38.1       35.4       13.2       0       0.9       16.8       15.0         BLOCK MEAN       16.3       14.2       37.4       16.0       14.3       14.3       14.60       14.3       14.5       14.1       17.1       15.0       15.0       15.0       16.10       16.3       15.0       16.3	A 1-8	2	46	17.90	31.0	34.4	12.2	14.9	
b 1 - 6 2       34       11       16.95       35.7       1.7.9       1.7.9         C 1 - 8 1       11       16.95       44.3       40.5       13.9         C 1 - 8 1       32       16.15       39.4       36.0       14.6         D 1 - 8 2       37       16.95       44.3       40.5       13.1       13.9         TREATMENT 2.       A       2-8       39       17.80       45.2       41.5       13.1       13.9         REATMENT 2.       A       2-8       151       17.60       46.4       39.9       21.8       18.8         B 2-8       150       17.50       42.0       38.9       12.7       8         B 2-8       13       16.95       34.3       31.5       16.1       C         C 2-8       17       16.45       31.9       29.1       18.1       17.1         D 2-8       34       16.00       33.9       30.9       16.8       15.0         BLOCK MEAN       16.3       17.85       44.8       37.3       27.8       3.4       3.8       1.5       1.6       1.6       3.4       3.5       1.6       3.6       1.5       2.7       1.6       3.6	D 1-0	1	20 57	17 25	26.2	22.4	14.0	12 5	
C 1-8 2 28 16.90 46.4 41.7 15.9 14.9 D 1-8 1 32 16.15 39.4 36.0 14.6 D 1-8 2 37 16.95 45.2 41.5 13.1 13.9 BLOCK MEAN 14.3 TREATMENT 2. A 2-8 1 39 17.80 43.0 39.0 15.9 A 2-8 2 51 17.60 46.1 39.9 21.8 18.8 B 2-8 1 50 17.50 42.0 38.9 12.7 B 2-8 2 52 17.50 41.2 37.4 16.0 14.3 C 2-8 1 13 16.95 34.3 31.5 16.1 C 2-8 2 17 16.45 31.9 29.1 18.1 17.1 D 2-8 1 55 17.65 38.1 35.4 13.2 D 2-8 2 34 16.00 33.9 30.9 16.8 15.0 BLOCK MEAN 16.3 TREATMENT 3. A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 2 48 17.70 50.2 40.2 31.1 B 3-8 2 48 17.70 50.2 40.2 31.1 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 1 42 18.05 50.2 40.2 31.1 D 3-8 2 36 16.20 48.5 40.0 26.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 1 33 16.10 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 45.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 26 16.70 44.5 39.0 19.8 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.8 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.8 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.75 43.6 38.4 19.4 21.3 D 5-8 2 31 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 BLOCK MEAN 19.5 BLOCK MEAN 19.5	D 1 = 0	2	24 11	14 05	50.2	55.4 40 5	12 0	TOOD	
C 1-8 2       20       10:10       10:15       39:4       36:0       14:6         D 1-8 2       37       16:95       45:2       41:5       13:1       13:9         BLOCK MEAN       14:3         TREATMENT 2.       A       2-8 2       51       17:60       46:1       39:9       21:8       18:8         B 2-8 1       50       17:50       41:2       37:4       16:0       14:3         C 2-8 2       52       17:50       41:2       37:4       16:0       14:3         C 2-8 1       13       16:95       38:1       31:5       16:1       17:1         D 2-8 1       55       17:65       38:1       35:4       13:2       17:1         D 2-8 2       34       16:00       33:9       30:9       16:8       15:0         BLOCK MEAN       16:3       16:20       48:5       13:2       17:7       16:3         A 3-8 1       53       17:85       44:8       37:3       27:8       16:3         A 3-8 1       53       17:85       42:0       35:0       27:2       25:4         D 3-8 2       29       16:25       42:0       35:0       27:2       25:4 <td>C 1 = 0</td> <td>1</td> <td>70</td> <td>16 00</td> <td>44.5</td> <td>40.9</td> <td>15 0</td> <td>14 0</td> <td></td>	C 1 = 0	1	70	16 00	44.5	40.9	15 0	14 0	
D 1-8 2 37 16.95 45.2 41.5 13.1 13.9 BLOCK MEAN 14.3 TREATMENT 2. A 2-8 1 39 17.80 43.0 39.0 15.9 A 2-8 2 51 17.60 46.1 39.9 21.8 18.8 B 2-8 2 52 17.50 42.0 38.9 12.7 B 2-8 2 52 17.50 41.2 37.4 16.0 14.3 C 2-8 1 13 16.95 34.3 31.5 16.1 C 2-8 2 17 16.45 31.9 29.1 18.1 17.1 D 2-8 2 34 16.00 33.9 30.9 16.8 15.0 BLOCK MEAN 16.3 TREATMENT 3. A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 48 17.70 50.2 41.0 28.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 36 16.10 50.3 41.5 25.7 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.6 39.9 40.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.6 19.8 A 5-8 1 26 16.70 44.5 39.6 19.9 A 5-8 2 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 1 26 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 BLOCK MEAN 19.5 BLOCK MEAN 19.5 BLOCK MEAN 19.5 BLOCK MEAN 19.5 BLOCK MEAN 19.5 BLOCK MEAN 19.5 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 20.5 18.9 C 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 BLOCK	$D_{1-8}$	2	20	16.15	40.4 20 4	36.0	14.6	T.4 0 2	
TREATMENT 2.       A 2-8 1 39 17.80 43.0 39.0 15.9         A 2-8 1 39 17.80 443.0 39.0 15.9         BLOCK MEAN 14.3         C 2-8 1 13 16.95 34.3 31.5 16.1         C 2-8 2 17 16.45 31.9 29.1 18.1 17.1         D 2-8 1 55 17.65 38.1 35.4 13.2         D 2-8 2 34 16.00 33.9 30.9 16.8 15.0         BLOCK MEAN 16.3         TREATMENT 3.         A 3-8 1 53 17.85 44.8 37.3 27.8         A 3-8 1 53 16.10 50.2 41.0 29.3 1.1         B 3-8 2 48 17.70 50.2 41.0 29.3 29.7         C 3-8 2 29 16.25 42.0 35.0 27.2 25.4         D 3-8 2 36 16.20 48.5 40.0 26.3 26.0         BLOCK		1 2	27	16 95	45 2	41 5	12.1	12.9	
TREATMENT 2.       A 2-8 1 39 17.80 43.0 39.0 15.9         A 2-8 2 51 17.60 46.1 39.9 21.8 18.8         B 2-8 1 50 17.50 42.0 38.9 12.7         B 2-8 2 52 17.50 41.2 37.4 16.0 14.3         C 2-8 1 13 16.95 34.3 31.5 16.1         C 2-8 2 17 16.45 31.9 29.1 18.1 17.1         D 2-8 2 34 16.00 33.9 20.9 16.8 15.0         BLOCK MEAN 16.3         TREATMENT 3.         A 3-8 1 53 17.85 44.8 37.3 27.8         A 3-8 1 53 17.85 44.8 37.3 27.8         A 3-8 1 42 18.05 50.2 40.2 31.1         B 3-8 2 48 17.70 50.2 41.0 28.3 29.7         C 3-8 1 14 16.95 43.2 37.0 23.6         C 3-8 2 29 16.25 42.0 35.0 27.2 25.4         D 3-8 1 35 16.10 50.3 41.5 25.7         D 3-8 2 36 16.20 48.5 40.0 26.3 26.0         BLOCK MEAN 27.2         TREATMENT 4.         A 4-8 1 24 17.05 52.9 36.4 46.0         A 4-8 1 24 17.05 52.9 36.4 45.1 45.6         B 4-8 1 43 18.05 50.2 36.7 42.0         B 4-8 1 43 18.05 50.2 36.7 42.0         B 4-8 1 27 17.10 47.0 33.4 45.5         D 4-8 2 33 16.15 50.1 35.9 41.8 43.7         BLOCK MEAN 43.3         C 4-8 2 22 16.80 51.3 44.4 20.0 19.9         B 4-8 2 49 17.75 49.5 43.0 20.5 18.9         C 4-8 2 22 16.80 51.3 44.4 20.1 19.9         B 5-8 1 26 16.75 43.6 38.4 19.4 21.3         D 4-8 2 33 16.15 50.1 35.9 1	0 1-0	٤	10	10.95	7002		MEAN	14.3	
A 2-8 1 39 17.80 43.0 39.0 15.9 A 2-8 2 51 17.60 46.1 39.9 21.8 18.8 B 2-8 1 50 17.50 42.0 38.9 12.7 B 2-8 2 52 17.50 41.2 37.4 16.0 14.3 C 2-8 1 13 16.95 34.3 31.5 16.1 C 2-8 2 17 16.45 31.9 29.1 18.1 17.1 D 2-8 1 55 17.65 38.1 35.4 13.2 D 2-8 2 34 16.00 33.9 30.9 16.8 15.0 BLOCK MEAM 16.3 TREATMENT 3. A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 48 17.70 50.2 41.0 28.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAM 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAM 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 2 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 BLOCK MEAM 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 47 17.90 41.9 88.1 15.8 17.8 D 5-8 1 47 17.90 41.9 88.1 15.8 17.8 D 5-8 2 47 17.90 41.9 88.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 47 17.90 41.9 88.1 15.8 17.8 D 5-8 1 47 17.90 41.9 88.1 15.8 17.8 D 5-8 1 247 17.90 41.9 88.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1	TREATM	1ENT	2.			DLOOK	ULA"	1100	
A 2-8 2 51 17.60 46.1 39.9 21.8 18.8 B 2-8 1 50 17.50 42.0 38.9 12.7 B 2-8 2 52 17.50 41.2 37.4 16.0 14.3 C 2-8 1 13 16.95 34.3 31.5 16.1 C 2-8 2 17 16.45 31.9 29.1 18.1 17.1 D 2-8 1 55 17.65 38.1 35.4 13.2 D 2-8 2 34 16.00 33.9 30.9 16.8 15.0 BLOCK MEAN 16.3 TREATMENT 3. A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 48 17.70 50.2 41.0 28.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.C 19.8 A 5-8 2 29 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 40.5 35.0 23.2 C 5-8 2 21 16.85 11.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 40.5 35.0 23.2 C 5-8 2 49 17.79 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 2 47 17	Δ 2-8	1	39	17.80	43.0	39.0	15.9		
B 2-8 1 50 17.50 42.0 38.9 12.7 B 2-8 2 52 17.50 41.2 37.4 16.0 14.3 C 2-8 1 13 16.95 34.3 31.5 16.1 C 2-8 2 17 16.45 31.9 29.1 18.1 17.1 D 2-8 1 55 17.65 38.1 35.4 13.2 D 2-8 2 34 16.00 33.9 30.9 16.8 15.0 BLOCK MEAN 16.3 TREATMENT 3. A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 48 17.70 50.2 41.0 28.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 2 29 17.75 49.5 43.0 20.5 18.9 C 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 2 49 17.79 41.9 38.1 15.8 17.8 MCGILL UNIVERSITY COMPUTING CENTRE	A 2-8	2	51	17.60	46.1	39.9	21.8	18.8	
B 2-8 2 52 17.50 41.2 37.4 16.0 14.3 C 2-8 1 13 16.95 34.3 31.5 16.1 C 2-8 2 17 16.45 31.9 29.1 18.1 17.1 D 2-8 1 55 17.65 38.1 35.4 13.2 D 2-8 2 34 16.00 33.9 30.9 16.8 15.0 BLOCK MEAN 16.3 TREATMENT 3. A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 48 17.70 50.2 41.0 28.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLDCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 43 18.05 50.2 36.7 42.0 BLDCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 25 17.15 54.5 39.6 39.9 40.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.C 19.8 A 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 38 17.8 B 5-8 1 38 17.8 B 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 38 17.8 B 5-8 1 38 17.8 B 5-8 1 38 17.8 B 5-8 1 38 17	B 2-8	ī	50	17.50	42.0	38.9	12.7		
C 2-8 1 13 16.95 34.3 31.5 16.1 C 2-8 2 17 16.45 31.9 29.1 18.1 17.1 D 2-8 1 55 17.65 38.1 35.4 13.2 D 2-8 2 34 16.00 33.9 30.9 16.8 15.0 BLOCK MEAN 16.3 TREATMENT 3. A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 2 48 17.70 50.2 41.0 29.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 1 27 17.10 47.0 33.4 45.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 1 33 16.75 40.5 35.0 23.2 C 5-8 1 30 16.30 59.4 41.7 41.8 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 26 16.70 44.5 39.0 19.8 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.75 40.5 35.0 23.2 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 McGILL UNIVERSITY COMPUTING CENTRE	B 2-8	2	52	17.50	41.2	37.4	16.0	14.3	
C 2-8 2 17 16.45 31.9 29.1 18.1 17.1 D 2-8 1 55 17.65 38.1 35.4 13.2 D 2-8 2 34 16.00 33.9 30.9 16.8 15.0 BLOCK MEAN 16.3 TREATMENT 3. A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 48 17.70 50.2 41.0 29.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEA <sup>M</sup> 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 1 27 17.10 47.0 33.4 45.5 D 4-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 23 16.75 40.5 35.0 23.2 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 1 33 16.75 40.5 35.0 23.2 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 B HOCK MEAN 19.4 B 5-8 2 47 17.90 41.9 38.1 15.8 17.8 MCGILL UNIVERSITY COMPUTING CENTRE	C 2-8	1	13	16.95	34.3	31.5	16.1		
D 2-8 1 55 17.65 38.1 35.4 13.2 D 2-8 2 34 16.00 33.9 30.9 16.8 15.0 BLOCK MEAN 16.3 TREATMENT 3. A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 48 17.70 50.2 41.0 28.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 1 27 17.10 47.0 33.4 45.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAM 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.C 19.8 A 5-8 1 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 40.5 35.0 23.22 C 5-8 1 23 16.75 40.5 35.0 23.22 C 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 49.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 49.5 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 49.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 49.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 49.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 49.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 49.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 49.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 49.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 49.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 19.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 19.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 19.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 19.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 19.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 19.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 19.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM 19.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PLOCK MEAM	C 2-8	2	17	16.45	31.9	29.1	18.1	17.1	
D 2-8 2 34 16.00 33.9 30.9 16.8 15.0 BLOCK MEAN 16.3 TREATMENT 3. A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 48 17.70 50.2 41.0 29.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 D 4-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 C 47.8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 BLOCK ME	D 2-8	1	55	17.65	38.1	35.4	13.2		
BLOCK MEAN 16.3         TREATMENT 3.         A 3-8 1       53       17.85       44.8       37.3       27.8         A 3-8 2       27       17.10       49.8       40.8       27.5       27.7         B 3-8 2       27       17.10       50.2       40.2       31.1         B 3-8 2       48       17.70       50.2       41.0       28.3       29.7         C 3-8 1       14       16.95       43.2       37.0       23.6       23.6         C 3-8 2       29       16.25       42.0       35.0       27.2       25.4         D 3-8 1       35       16.10       50.3       41.5       25.7       0         D 3-8 2       36       16.20       48.5       40.0       26.3       26.0         BLOCK MEAN       27.2       7.4       3.4       4.8       24.15       17.05         D 3-8 2       21       16.85       56.3       38.5       45.1       45.6         B 4-8 2       45       17.85       63.0       42.7       45.0       43.5         C 4-8 1       30       16.30       59.4       41.7       41.1       1         C 4-8	D 2-8	2	34	16.00	33.9	30.9	16.8	15.0	
TREATMENT 3.         A 3-8 1       53       17.85       44.8       37.3       27.8         A 3-8 2       27       17.10       49.8       40.8       27.5       27.7         B 3-8 1       42       18.05       50.2       40.2       31.1         B 3-8 1       42       18.05       50.2       40.2       31.1         B 3-8 1       42       18.05       50.2       40.2       31.1         B 3-8 2       29       16.25       42.0       35.0       27.2       25.4         D 3-8 1       35       16.10       50.3       41.5       26.7       D         D 3-8 2       36       16.20       48.5       40.0       26.3       26.0         BLOCK MEAN       27.2       27.2       27.2       27.2       27.2         TREATMENT 4.       44.8       17.05       52.9       36.4       46.0       46.0         A 4-8 1       24       17.05       52.9       36.4       46.0       44.6       63.0         B 4-8 2       21       16.85       56.3       38.5       45.1       45.6         B 4-8 2       25       17.15       54.5       39.6       39.9 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>BLOCK</td> <td>MEAN</td> <td>16.3</td> <td></td>						BLOCK	MEAN	16.3	
A 3-8 1 53 17.85 44.8 37.3 27.8 A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 48 17.70 50.2 41.0 28.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 1 27 17.10 47.0 33.4 45.5 D 4-8 1 26 16.70 44.5 39.6 19.9 40.5 D 4-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 26 16.70 44.5 39.0 19.8 A 5-8 1 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 1 23 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 PHOCK MEAN 19.5 M GILL UNIVERSITY COMPUTING CENTRE	TREAT	1ENT	3.						
A 3-8 2 27 17.10 49.8 40.8 27.5 27.7 B 3-8 1 42 18.05 50.2 40.2 31.1 B 3-8 2 48 17.70 50.2 41.0 28.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEA <sup>M</sup> 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 1 27 17.10 47.0 33.4 45.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEA <sup>M</sup> 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.C 19.8 A 5-8 2 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 2 5 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8	A 3-8	1	53	17.85	44.8	37.3	27.8		
B       3-8       1       42       18.05       50.2       40.2       31.1         B       3-8       2       48       17.70       50.2       41.0       28.3       29.7         C       3-8       1       14       16.95       43.2       37.0       23.6         C       3-8       2.9       16.25       42.0       35.0       27.2       25.4         D       3-8       1       35       16.10       50.3       41.5       25.7         D       3-8       2       36       16.20       48.5       40.0       26.3       26.0         BLOCK       MEAN       27.2       27.2       36.4       46.0       44.8       24       17.05       52.9       36.4       46.0       46.0         A       4-8       24       17.05       52.9       36.4       46.0       45.6       84.8       43.18.05       50.2       36.7       42.0       44.8       45.6       84.8       43.18.05       50.2       36.7       42.0       43.5       50.2       44.5       44.7       41.1       44.8       43.5       50.2       50.4       45.5       50.5       50.1       35.9       41.	A 3-8	2	27	17.10	49.8	40.8	27.5	27.7	
B 3-8 2 48 17.70 50.2 41.0 28.3 29.7 C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 5.7 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.6 19.8 A 5-8 2 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 C 4.8 1 7.8 BLOCK MEAN 19.5 D 4.9 23.1 0.15 50.1 35.9 41.8 43.7 BLOCK MEAN 42.3 3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 C 4.8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 C 500 20.5 18.9 C 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 C 500 20.5 18.9 C 500 20.5 18.9 C 500 20.5 18.9 C 500 20.5 18.9 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 20.0 19.9 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 20.0 19.9 B 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 20.5 19.5 D 4.5 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 20.5 19.5 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 20.5 20.5 18.7 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 20.5 15.8 17.8 BLOCK MEAN 20.5 15.8 17.8 BLOCK MEAN 20.5 18.9 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 20.5 18.9 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 20.5 18.9 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 D 5-8 1 38 17.20 53.1 45.8 17.8	B 3-8	1	42	18.05	50.2	40.2	31.1		
C 3-8 1 14 16.95 43.2 37.0 23.6 C 3-8 2 29 16.25 42.0 35.0 27.2 25.4 D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 1 27 17.10 47.0 33.4 45.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.C 19.8 A 5-8 2 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 McGILL UNIVERSITY COMPUTING CENTRE	B <b>3-</b> 8	2	48	17.70	50.2	41.0	28.3	29.7	
C $3-8$ 2 29 $16.25$ 42.0 $35.0$ 27.2 $25.4$ D $3-8$ 1 $35$ $16.10$ 50.3 $41.5$ $25.7$ D $3-8$ 2 $36$ $16.20$ $48.5$ $40.0$ $26.3$ $26.0$ BLOCK MEAN 27.2 TREATMENT 4. A $4-8$ 1 24 $17.05$ 52.9 $36.4$ $46.0$ A $4-8$ 2 21 $16.85$ 56.3 $38.5$ $45.1$ $45.6$ B $4-8$ 2 $45$ $17.85$ $63.0$ $42.7$ $45.0$ $43.5$ C $4-8$ 1 $30$ $16.30$ $59.4$ $41.7$ $41.1$ C $4-8$ 2 $25$ $17.15$ $54.5$ $39.6$ $39.9$ $40.5$ D $4-8$ 1 $27$ $17.10$ $47.0$ $33.4$ $45.5$ D $4-8$ 1 $27$ $17.10$ $47.0$ $33.4$ $45.5$ D $4-8$ 2 $33$ $16.15$ $50.1$ $35.9$ $41.8$ $43.7$ BLOCK MEAN $43.3$ TREATMENT 5. A $5-8$ 1 $26$ $16.70$ $44.5$ $39.0$ $19.8$ A $5-8$ 2 $22$ $16.80$ $51.3$ $44.4$ $20.0$ $19.9$ B $5-8$ 1 $40$ $16.90$ $39.9$ $35.9$ $17.4$ B $5-8$ 2 $49$ $17.75$ $49.5$ $43.0$ $20.5$ $18.9$ C $5-8$ 1 $23$ $16.75$ $40.5$ $35.0$ $23.2$ C $5-8$ 1 $23$ $16.75$ $40.5$ $35.0$ $23.2$ C $5-8$ 1 $38$ $17.20$ $53.1$ $46.0$ $19.8$ D $5-8$ 1 $38$ $17.8$ BLOCK MEAN $19.5$ C $MECHLL$ UNIVERSITY COMPUTING CENTRE	C 3-8	1	14	16.95	43.2	37.0	23.6		
D 3-8 1 35 16.10 50.3 41.5 25.7 D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 1 27 17.10 47.0 33.4 45.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.C 19.8 A 5-8 2 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 MCGILL UNIVERSITY COMPUTING CENTRE	C 3-8	2	29	16.25	42.0	35.0	27.2	25.4	
D 3-8 2 36 16.20 48.5 40.0 26.3 26.0 BLOCK MEAN 27.2 TREATMENT 4. A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 1 27 17.10 47.0 33.4 45.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.C 19.8 A 5-8 2 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5	D 3-8	1	35	16.10	50.3	41.5	25.7		
BLUCK MEAN       27.2         TREATMENT 4.       A 4-8 1       24       17.05       52.9       36.4       46.0         A 4-8 2       21       16.85       56.3       38.5       45.1       45.6         B 4-8 2       21       16.85       50.2       36.7       42.0         B 4-8 2       45       17.85       63.0       42.7       45.0       43.5         C 4-8 1       30       16.30       59.4       41.7       41.1       11         C 4-8 2       25       17.15       54.5       39.6       39.9       40.5         D 4-8 1       27       17.10       47.0       33.4       45.5       55         D 4-8 2       33       16.15       50.1       35.9       41.8       43.7         BLOCK MEAN       43.3       TREATMENT 5.       A       5-8 1       26       16.70       44.5       39.0       19.8         A 5-8 2       22       16.80       51.3       44.4       20.0       19.9       9         B 5-8 1       40       16.90       39.9       35.9       17.4       8       5.8       24.9       17.75       49.5       43.0       20.5       18.9	D 3-8	2	36	16.20	48.5	40.0	26.3	26.0	
IREATMENT 4.A 4-8 124 $17.05$ $52.9$ $36.4$ $46.0$ A 4-8 221 $16.85$ $56.3$ $38.5$ $45.1$ $45.6$ B 4-8 243 $18.05$ $50.2$ $36.7$ $42.0$ B 4-8 245 $17.85$ $63.0$ $42.7$ $45.0$ B 4-8 245 $17.85$ $63.0$ $42.7$ $45.0$ C 4-8 130 $16.30$ $59.4$ $41.7$ $41.1$ C 4-8 225 $17.15$ $54.5$ $39.6$ $39.9$ $40.5$ D 4-8 127 $17.10$ $47.0$ $33.4$ $45.5$ D 4-8 233 $16.15$ $50.1$ $35.9$ $41.8$ $43.7$ BLOCK MEAN $43.3$ BLOCK MEAN $43.3$ TREATMENT 5. $A5-8$ $2$ $22$ $16.80$ $51.3$ $44.4$ $20.0$ $19.9$ B 5-8 126 $16.70$ $44.5$ $39.0$ $19.8$ $A5-8$ $222$ $16.80$ $51.3$ $44.4$ $20.0$ $19.9$ B 5-8 140 $16.90$ $39.9$ $35.9$ $17.4$ $B5-8$ $123$ $16.75$ $43.6$ $38.4$ $19.4$ $21.3$ D 5-8 123 $16.75$ $43.6$ $38.4$ $19.4$ $21.3$ $5.8$ $17.8$ D 5-8 138 $17.20$ $53.1$ $46.0$ $19.8$ $17.8$ D 5-8 247 $17.90$ $41.9$ $38.1$ $15.8$ $17.8$ D 5-8 247 $17.90$ $41.9$ $38.1$ $15.8$						BLOCK	MEAN	27.2	
A 4-8 1 24 17.05 52.9 36.4 46.0 A 4-8 2 21 16.85 56.3 38.5 45.1 45.6 B 4-8 1 43 18.05 50.2 36.7 42.0 B 4-8 2 45 17.85 63.0 42.7 45.0 43.5 C 4-8 1 30 16.30 59.4 41.7 41.1 C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 1 27 17.10 47.0 33.4 45.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.C 19.8 A 5-8 2 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 McGILL UNIVERSITY COMPUTING CENTRE	TREAT	MENT	4.	17 05	52.0	3/ /		<b>`</b>	
A       4-8       2       21 $18.85$ $56.3$ $38.5$ $45.1$ $45.6$ B       4-8       1       43 $18.05$ $50.2$ $36.7$ $42.0$ B       4-8       2 $45$ $17.85$ $63.0$ $42.7$ $45.0$ $43.5$ C       4-8       1       30 $16.30$ $59.4$ $41.7$ $41.1$ C       4-8       2 $25$ $17.15$ $54.5$ $39.6$ $39.9$ $40.5$ D       4-8       2 $25$ $17.15$ $54.5$ $39.6$ $39.9$ $40.5$ D       4-8       2 $33$ $16.15$ $50.1$ $35.9$ $41.8$ $43.7$ BLOCK       MEAN $43.3$ $44.4$ $20.0$ $19.9$ B       5-8       1 $26$ $16.70$ $44.5$ $39.0$ $19.8$ A       5-8       2 $22$ $16.80$ $51.3$ $44.4$ $20.0$ $19.9$ B       5-8       1 $23$ $16.75$ $43.6$	A 4-8	1	24	1/.05	52.9	30.4 30.5	45.0	)	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	A 4-8	2	21	10.05	50.3	38.5	47•1 47•1	. 42.0	
B       4+0       2       4+3       17.05       05.0       42.7       47.0       41.1         C       4+8       1       30       16.30       59.4       41.7       41.1         C       4+8       2       25       17.15       54.5       39.6       39.9       40.5         D       4+8       27       17.10       47.0       33.4       45.5         D       4+8       23       16.15       50.1       35.9       41.8       43.7         BLOCK       MEAN       43.3       43.3       84.4       20.0       19.9         A       5-8       1       26       16.70       44.5       39.0       19.8         A       5-8       2       22       16.80       51.3       44.4       20.0       19.9         B       5-8       1       40       16.90       39.9       35.9       17.4         B       5-8       2       49       17.75       49.5       43.0       20.5       18.9         C       5-8       1       23       16.75       43.6       38.4       19.4       21.3         D       5-8       1       38 <td>D 4-8</td> <td>1</td> <td>45</td> <td>17 05</td> <td>50•2 43 0</td> <td>20 • 1 42 7</td> <td>47.00</td> <td>) 435</td> <td></td>	D 4-8	1	45	17 05	50•2 43 0	20 • 1 42 7	47.00	) 435	
C 4-8 2 25 17.15 54.5 39.6 39.9 40.5 D 4-8 1 27 17.10 47.0 33.4 45.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.C 19.8 A 5-8 2 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 McGILL UNIVERSITY COMPUTING CENTRE	6 4-8	2	20	16 30	59.0	41.7	41.1	+3.5	
D 4-8 1 27 17.10 47.0 33.4 45.5 D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.C 19.8 A 5-8 2 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 McGILL UNIVERSITY COMPUTING CENTRE	C 4-8	2	25	17.15	54.5	39.6	39.9	40.5	
D 4-8 2 33 16.15 50.1 35.9 41.8 43.7 BLOCK MEAN 43.3 TREATMENT 5. A 5-8 1 26 16.70 44.5 39.C 19.8 A 5-8 2 22 16.80 51.3 44.4 20.0 19.9 B 5-8 1 40 16.90 39.9 35.9 17.4 B 5-8 2 49 17.75 49.5 43.0 20.5 18.9 C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 McGILL UNIVERSITY COMPUTING CENTRE	D 4 - 8	1	27	17,10	47.0	33.4	45.5	5	
TREATMENT 5.       BLOCK MEAN 43.3         A 5-8 1       26       16.70       44.5       39.0       19.8         A 5-8 2       22       16.80       51.3       44.4       20.0       19.9         B 5-8 1       40       16.90       39.9       35.9       17.4         B 5-8 2       49       17.75       49.5       43.0       20.5       18.9         C 5-8 1       23       16.75       40.5       35.0       23.2       23.2         C 5-8 2       5       16.75       43.6       38.4       19.4       21.3         D 5-8 1       38       17.20       53.1       46.0       19.8         D 5-8 2       47       17.90       41.9       38.1       15.8       17.8         BLOCK MEAN       19.5       McGILL       UNIVERSITY       computing centre	D 4-8	2	33	16.15	50.1	35.9	41.8	43.7	
TREATMENT 5.         A 5-8 1       26       16.70       44.5       39.0       19.8         A 5-8 2       22       16.80       51.3       44.4       20.0       19.9         B 5-8 1       40       16.90       39.9       35.9       17.4         B 5-8 2       49       17.75       49.5       43.0       20.5       18.9         C 5-8 1       23       16.75       40.5       35.0       23.2         C 5-8 2       5       16.75       43.6       38.4       19.4       21.3         D 5-8 1       38       17.20       53.1       46.0       19.8         D 5-8 2       47       17.90       41.9       38.1       15.8       17.8         BLOCK       MEAN       19.5       COMPUTING CENTRE	5,0	-	55	10010	2001	BLOCK	MEAN	43.3	
A       5-8       1       26       16.70       44.5       39.0       19.8         A       5-8       2       22       16.80       51.3       44.4       20.0       19.9         B       5-8       1       40       16.90       39.9       35.9       17.4         B       5-8       2       49       17.75       49.5       43.0       20.5       18.9         C       5-8       2       49       17.75       49.5       35.0       23.2         C       5-8       2       5       16.75       43.6       38.4       19.4       21.3         D       5-8       1       38       17.20       53.1       46.0       19.8         D       5-8       2       47       17.90       41.9       38.1       15.8       17.8         BLOCK       MEAN       19.5       COMPUTING CENTRE	TREAT	MENT	5.						
A       5-8       2       16.80       51.3       44.4       20.0       19.9         B       5-8       1       40       16.90       39.9       35.9       17.4         B       5-8       2       49       17.75       49.5       43.0       20.5       18.9         C       5-8       1       23       16.75       40.5       35.0       23.2         C       5-8       2       5       16.75       43.6       38.4       19.4       21.3         D       5-8       1       38       17.20       53.1       46.0       19.8         D       5-8       2       47       17.90       41.9       38.1       15.8       17.8         BLOCK       MEAN       19.5       COMPUTING CENTRE	A 5-8	1	26	16.70	44.5	39.0	19.8	3	
B       5-8       1       40       16.90       39.9       35.9       17.4         B       5-8       2       49       17.75       49.5       43.0       20.5       18.9         C       5-8       1       23       16.75       40.5       35.0       23.2         C       5-8       2       5       16.75       43.6       38.4       19.4       21.3         D       5-8       1       38       17.20       53.1       46.0       19.8         D       5-8       2       47       17.90       41.9       38.1       15.8       17.8         B       DCK       MEGILL       UNIVERSITY       COMPUTING CENTRE	A 5-8	2	22	16.80	51.3	44.4	20.0	) 19.9	
B       5-8       2       49       17.75       49.5       43.0       20.5       18.9         C       5-8       1       23       16.75       40.5       35.0       23.2         C       5-8       2       5       16.75       43.6       38.4       19.4       21.3         D       5-8       1       38       17.20       53.1       46.0       19.8         D       5-8       2       47       17.90       41.9       38.1       15.8       17.8         BLOCK       MEGILL       UNIVERSITY       COMPUTING CENTRE	B 5-8	1	40	16.90	39.9	35.9	17.4	+	
C 5-8 1 23 16.75 40.5 35.0 23.2 C 5-8 2 5 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 McGILL UNIVERSITY COMPUTING CENTRE	B 5-8	2	49	17.75	49.5	43.0	20.5	5 18.9	
C 5-8 2 5 16.75 43.6 38.4 19.4 21.3 D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 McGILL UNIVERSITY COMPUTING CENTRE	C 5-8	1	23	16.75	40.5	35.0	23.2	2	
D 5-8 1 38 17.20 53.1 46.0 19.8 D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 McGILL UNIVERSITY COMPUTING CENTRE	C 5-8	2	5	16.75	43.6	38.4	19.4	+ 21.3	
D 5-8 2 47 17.90 41.9 38.1 15.8 17.8 BLOCK MEAN 19.5 McGILL UNIVERSITY COMPUTING CENTRE	D 5-8	1	38	17.20	53.1	46.0	19.8	3	
McGILL UNIVERSITY COMPUTING CENTRE	D 5-8	2	47	17.90	41.9	38.1	15.8	3 17.8	
					McGILl	UNIVEI	₹ \$ I T Y	COMPUTING CENTRE	· ·····

#### PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 31 1968 2 PM

S	AMPLE NO.	DISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT•	SAMPLE MEAN PCT•
TR	EATMEN	NT 1.					
Α	1-8A1	59	17.70	31.9	29.8	14.8	
Α	1-8A2	60	17.80	27.6	26.2	14.3	14.5
В	1-8A1	63	17.90	45.7	41.0	16.9	
В	1-8A2	64	17.70	33.6	31.2	15.1	16.0
С	1-8A1	67	17.10	32.0	29.7	15.4	
С	1-8A2	68	17.45	40.0	36.9	13.7	14.6
D	1-8A1	71	17.45	40.1	36.5	15.9	
D	1-8A2	72	17.80	42.3	38.4	15.9	15.9
					BLOCK	MEAN ]	5.3
TR	EATME	NT 5.					
Α	5-8A1	61	17.70	45.0	39.1	21.6	
А	5-8A2	62	17.65	34.8	31.3	20.4	21.0
В	5-8A1	65	17.45	46.2	40.9	18.4	
В	5-8A2	66	17.30	34.1	31.3	16.7	17.6
С	5-8Al	69	17.65	38.2	35.0	15.6	
С	5-8A2	70	17.50	38.2	34.9	15.9	15.8
D	5-8A1	73	17.25	45.0	40.7	15.5	
D	5-8A2	74	17.50	38.5	35.5	14.3	14.9
					BLOCK	MEAN	17.3

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#### PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 31 1968 4 PM

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S	AMPLE NO•	DISH NO•	DISH WT• GMS•	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT.	SAMPLE MEAN PCT•
TR	EATMEN	NT 1.					
Α	1-8B1	1	16.60	33.8	31.3	14.5	
Α	1-8B2	9	17.05	49.3	45.2	12.7	13.6
В	1-8B1	5	16.75	40.6	37.4	13.4	
В	1-8B2	6	16.60	38.6	35.4	14.5	14.0
Ċ	1-8B1	14	16.95	38.4	35.7	12.6	
С	1-8B2	10	17.10	40.1	37.1	13.0	12.8
D	1-8B1	13	16.95	45.8	42.6	11.1	
D	1-8B2	16	16.55	42.1	38.4	14.5	12.8
					BLOCK	MEAN	13.3
TR	EATME	NT 5.					
Α	5-8B1	3	16.60	30.0	28.4	11.9	
Α	5-8B2	4	16.75	33.1	30.4	16.5	14.2
В	5-8B1	7	16.55	39.4	36.4	13.1	
В	5-8B2	8	17.00	31.0	28.9	15.0	14.1
С	5-8B1	11	16.95	51.4	47.2	12.2	
С	5-8B2	12	17.05	34.6	32.2	13.7	12.9
D	5-8B1	15	17.05	39.9	37.2	11.8	
D	5-882	2	16.70	37.7	34.3	16.2	14.0
					BLOCK	MEAN	13.8

MCGILL UNIVERSITY COMPUTING CENTRE -

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# PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 31 1968 4 PM

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S	AMPLE NO.	DISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT.	SAMPLE MEAN PCT.
TR		NT 1.					
Α	1-881	1	16.60	33.8	31.3	14.5	
Α	1-8B2	9	17.05	49.3	45.2	12.7	13.6
В	1-8B1	5	16.75	40.6	37.4	13.4	
В	1-8B2	6	16.60	38.6	35.4	14.5	14.0
С	1-8B1	14	16.95	38.4	35.7	12.6	
С	1-8B2	10	17.10	40.1	37.1	13.0	12.8
D	1-8B1	13	16.95	45.8	42.6	11.1	
D	1-8B2	16	16.55	42.1	38.4	14.5	12.8
					BLOCK	MEAN 1	.3.3
TR	EATME	NT 5.					
Α	5-8B1	3	16.60	30.0	28.4	11.9	
Α	5-8B2	4	16.75	33.1	30.4	16.5	14.2
В	5-8B1	7	16.55	39.4	36.4	13.1	
В	5-8B2	8	17.00	31.0	28.9	15.0	14.1
С	5-8B1	11	16.95	51.4	47.2	12.2	
С	5-8B2	12	17.05	34.6	32.2	13.7	12.9
Ð	5-8B1	15	17.05	39.9	37.2	11.8	
D	5-8B2	2	16.70	37.7	34.3	16.2	14.0
					BLOCK.	MEAN	13.8

MCGILL UNIVERSITY COMPUTING CENTRE -

#### PERCENTAGE MOISTURE CONTENT OF HAY FIRST CUT MR. LEGAULT'S FARM JULY 31 1968 6 PM

SAMPLE NO•	DISH NO•	DISH WT. GMS.	INITI- AL WT. GMS.	FINAL WT. GMS.	MOIS- TURE PCT•	SAMPLE MEAN PCT.
TREATMEN	NT 1.	17 70	20 0	25 2	101	
A 1-9 1	1	16.00	20.0	20 0		14 0
A 1-9 2 B 1-0 1	11	16.70	26 9	30.0 34 5	12.5	14•2
B 1-9 1	12	17.05	34.2	31.7	14.6	13.1
(1-9)	21	16.85	40.1	36.9	13.8	1.7 • 1
$C_{1-9}$	22	16.80	32.4	30.1	14.7	14.3
D 1-9 1	31	16.50	30.8	29.0	12.6	1105
$D_{1-2}$	32	16.15	32.5	30.2	14.1	13.3
		100122	5205	BLOCK	MEAN 1	3.7
TREATME	VT 2.					
A 2-9 1	3	16.60	38.4	34.9	16.1	
A 2-9 2	4	16.75	46.8	41.0	19.3	17.7
B 2-9 1	13	16.95	34.3	32.0	13.3	
B 2-9 2	14	16.95	41.0	36.3	19.5	16.4
C 2-9 1	23	16.75	37.9	34.8	14.7	
C 2-9 2	24	17.05	40.6	37.1	14.9	14.8
D 2-9 1	33	16.15	39.2	35.8	14.8	
D 2-9 2	34	16.00	38.0	34.5	15.9	15.3
				BLOCK	MEAN .	16.0
TREATME	NT 3	14 75	( <b>)</b>	24 5	<b>n</b> n <b>n</b>	
A 3-9 1	5	16.75	42.5	30.5	20.0	24 4
A 3-9 Z	15	17 05	21.4 25 5	21 1	20.0	24.4
B 3-9 I	12	14 55	22.2 20.2		20.0	22 6
C 3-9 2	10	10.00	43.0	36 8	23.5	25.0
$(3-9)^{2}$	26	16 70	27 2	32 1	200	22.0
	20	16.10	40.1	35.2	20.4	22.00
$D_{3-9}^{2}$	36	16.20	42.5	36.5	22.8	21.6
	20	20020		BLOCK	MEAN	22.9
TREATME	NT 4.					
A 4-9 1	7	16.55	59 <b>.</b> 7	41.5	42.2	
A 4-9 2	8	17.00	53.8	37.8	<b>43.5</b>	42.8
B 4-9 1	17	16.45	50.6	36.4	41.6	
B 4-9 2	18	16.40	49.0	34.9	43.3	42.4
C 4-9 1	31	16.50	46.1	35.0	37.5	
C 4-9 2	28	16.90	48.7	35.8	<b>40.6</b>	39.0
D 4-9 1	·· 37	16.95	70.6	48.6	41.0	
D 4-9 2	38	17.20	75.0	52.7	38.6	39.8
				BLOCK	MEAN	41.0
IREAIME	NI 5.	1 - 0 -		/ <b>-</b> -	10 5	
A 5-9 1	9	17.05	49.5	43.5	18.5	17 0
A 5-9 2	10	14 45	43•U 25 0	ンソ・U スク フ	12.4	T / • O
B 5-0 7	20	10.47 17 15	20.0	20 0	エロ・フ 1に つ	15.0
( 5-9 L	20 20	16 25	22 2 22 2	2707 30.4	17.0	1707
C 5 - 9 2	30	16.30	40.1	36.7	14.3	15.6
D 5-9 1	39	17.80	32.6	30.0	17.6	
D 5-9 2	40	16.90	33.2	30.3	17.8	17.7
				BLOCK	MEAN	16.5
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