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Design and Performance of a Solar Energy Intensifier System for Drying Shelled Corn

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DESIGN AND PERFORMANCE OF A SOLAR ENERGY INTENSIFIER SYSTEM FOR DRYING SHELLED CORN

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INTENSIFIER SYSTEM FOR DRYING SHELLED CORN

This thesis is approved as a creditable and independent investigation by a candidate for the degree, Master of Science, and is acceptable for meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

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INTRODUCTION

The increasing costs of non-renewable energy plus the uncertainty of its availability have emphasized the need for alternate energy research. Research needs to be focused on the utilization of a renewable energy source to economically provide a replacement for non-renewable energy.

Morrison (20) estimated that at least as much energy is used in drying an acre of corn as is used for all the other farm operations necessary to grow and harvest that acre of corn, including operations, such as soil preparation, planting, cultivation and harvesting. For in-storage crop drying, low temperature rises can provide a majority of the energy requirements. Foster and Peart (10) stated that, since corn dried by low temperature methods can better tolerate intermittent or variable levels of heat input, this type of drying is suited to the use of solar energy. A large quantity of energy is required for crop drying, and at least a portion of this need may be met with solar energy.

Farms with ample area for collectors, fuel reserves for backup or peak demands, and a wide range of low to intermediate heat requirements provide excellent conditions for utilization of solar collectors, Hansen and Smith (12). However, the use of solar energy as an alternate energy source for agricultural applications has been restricted, largely by system costs. Kline and Odekirk (18) indicated that multiple use of collectors on farms offers the promise of cost effectiveness. Consequently, the development of a low cost, multi-purpose solar energy system would offer a potential solution to this problem.

There are concentrating and non-concentrating solar energy systems. Studies, Rabl (30), Hellickson (15) and Peterson (24), have shown that the concentrator cost per unit area may be lower than the unit area cost of many collectors. Also, the use of concentrators or reflectors may increase the efficiency of the systems, because less collector area is needed, so there is less surface area from which to lose heat. Therefore, the use of a concentrating system may lower the cost and improve the performance.

Since utilizing solar energy as an alternate energy source for agricultural applications is dependent on improvement in the design of solar systems and on documentation of the performance characteristics, reliability and economic feasibility of solar systems, research was conducted with the following objectives:

1. Design a multi-purpose solar energy system with a diurnally tracking solar energy intensifier and a thermal energy storage unit to warm the ventilation air for a swine confinement building and to dry corn.
2. Test the solar energy intensifier-collector system for corn drying under actual conditions.
3. Evaluate the performance and economic feasibility of a diurnally tracking solar energy intensifier system for crop drying in South Dakota.

LITERATURE REVIEW

Solar energy is widely recognized as an energy source that has the potential to make major contributions to the energy needs of the world. A vast quantity of literature is available on solar energy. This literature review will look only to applications specifically relating to this research.

Grain Drying

Drying is normally accomplished by one of two methods. High speed, high temperature dryers lower the moisture content of the corn before it is put into storage. Low speed, low temperature units dry the corn while it is in storage, Foster and Peart (10). Peterson (26) reported that fast drying methods usually exact an energy "penalty" for speed, while slow drying methods use more of the natural drying ability of air. The last few points of moisture are the hardest to remove in a high-speed dryer. Removing these by slow, in storage, low temperature drying can reduce fuel requirements to one-half or one-third that of conventional high speed drying according to Peterson (28).

Solar Grain Drying Systems

Peterson and Hellickson (25) reported that a covered suspended-sheet type solar collector constructed on a drying bin provided a 26 percent saving in energy used compared to low temperature conventional drying in 1974 and in 1975 it provided a saving of 55 percent. It was concluded that relatively simple, low cost collectors are suitable for the low temperature rises required for low-temperature in-storage drying. It was also reported that because of the variability in solar radiation, heaters should be available for seasons that do not provide good solar availability. Saienga, Hellickson, and Peterson (32) published the results of a study on a solar energy-intensifier system with a two sided, vertical, covered, flat-plate collector and a parabolic trough reflector that showed that the solar energy-intensifier system collected sufficient energy to nearly double the drying rate as compared to a conventional, ambient air, in-storage drying system.

The six collector types listed in Table 1 were evaluated by Kline and Odekirk (18). None of these solar grain drying systems could

Table 1. Description of Collectors Tested

Collector Number	Cover Plate	Absorber	Back Plate	Expected Life Years
1	Clear Polyethylene	Black Polyethylene	Ground	5
2	Clear Polyethylene	Suspended Black Polyethylene	Chipboard Uninsulated	5
3	Bare	1/2" Corrugated Roofing Metal	Chipboard Uninsulated	8
4	Fiberglass	Suspended Chipboard	Chipboard 3/4" Styrofoam	8
5	Single-Strength Glass	Suspended 1/2" Corrugated Roofing Metal	Chipboard 1 1/2" Styrofoam	10
6	Fiberglass	Suspended 60^{o} V, 28 Ga. Metal	Chipboard 1 1/2" Styrofoam	10

compete on an economical basis with electric resistance heaters, either as an addition to or a complete replacement for electrical energy.

Inflated tubular plastic-type collectors and rigid frame solar collectors were tested by Converse, Lai and Sauer (4). The results of the studies indicated that in-storage drying is an effective and efficient method for on-the-farm drying. The slow drying methods saved energy and produced high quality grain that was free from heat stress cracks.

Siegel et al. (33) reported on the experimental use of a solar energy intensifier system with a two sided, vertical, covered, flat plate collector and a parabolic trough reflector in eastern South Dakota. It was concluded that this sun tracking solar energy intensifier could not be justified for use during the coldest winter months, based on the small additional energy collected as compared to the higher overall cost of the system.

A bin-wall type, covered plate collector, solar air heater was examined by Johnson and Otten (17). It was concluded that corn can be successfully dried to a safe moisture content for short-term storage using solar heated air. For both the solar drying system and the ambient air drying system, energy efficiencies were good as compared with conventional high temperature drying systems. The solar assisted system was more efficient due to the reduced drying time versus the ambient air system and electricity or fuel was saved. Johnson and Otten (17) also reported that supplemental heat should be available to heat the drying air, when the equilibrium humidity ratio of the air rises to a point where drying is prevented for periods of 24 hours or more. Analysis showed that the solar drying system was not economically competitive with conventional drying systems.

Three solar grain drying systems, a round bin with a wrap around collector, a square bin with collectors on the roof and wall and an A-frame collector with rock storage were tested by Wrubleski, Davidson and Korven (37). The square bin configuration was the most practical and most efficient design. The A-frame and rock storage was not a practical concept due to excessive costs. The rock storage is satisfactory only if the stored heat is used to level off diurnal effects. The configuration on the round bin worked well enough to dry grain, but was a difficult system to construct.

Dale and Turner (5) tried a covered, flat plate, A-frame type collector. The angle of the collector was adjustable and flat reflectors were mounted at the top and bottom of the collector surface to concentrate additional radiation onto the collector. The system also included a soil type heat storage unit. The primary conclusion was that large amounts of energy were lost from the storage to the surrounding soil and the atmosphere. The collector system approached an overall efficiency of 45 percent in collection of solar energy impinging on its surface, which is above the average efficiency of most systems for the collection and storage of solar energy.

Principles of Solar Energy

According to the ASHRAE (1), 99 percent of the sun's radiant energy is contained between 0.28 and 4.96 μm. Duffie and Beckman (7) indicate that from the viewpoint of terrestrial applications of solar energy, only radiation of wavelength between 0.29 and 2.5 μm need to be considered because shortwave radiation is absorbed in the ionisphere, ultraviolet radiation is absorbed by ozone, and long wave radiation is absorbed by carbon dioxide and moisture in the air. ASHRAE (1) states that the major variations in solar radiation intensity, which are experienced on earth, are the result of the slightly elliptical nature of the earth's orbit around the sun, and the tilt, with respect to the orbital plane, of the axis about which the earth rotates. The basic problems for solar energy utilization are inherent in the nature of solar radiation. It is relatively low in intensity, is intermittent, and is subject to interruptions due to clouds.

Flat Plate Collector Orientation

A flat plate collector is an ideal type of device in that it contains no moving parts, is relatively easy to construct and is easy to maintain, Pelletier (23). Peterson (27) indicates that the three basic types of flat plate collectors are the bare-plate, the covered-plate and the covered suspended-plate.

According to Daniels (6) permanent collectors are to be tilted at an angle with the horizontal equal to the latitude. However, better results are obtained by adjusting so it is always at a right angle to the sun's rays at noon. Balcomb, Hedstrom and Rogers (2) stated that the optimum collector angle, with the horizontal, corresponded to the oft-quoted rule-of-thumb of latitude plus 15^{o}. Duffie and Beckman (7) indicated that at a fixed slope, the effect of azimuth orientation, γ, increases with latitude, but that for $\gamma = 22.5^{o}$ the relative annual insolation is within two percent of that for $\gamma = 0$, for latitudes up to 45^{o}. Each 15^{o} of surface azimuth angle will shift the daily distribution of available energy by about one hour.

The Absorber Surface

The functions of the collector plate are to absorb as much of the radiation reaching it through the glazing as possible, to lose as little heat as possible upward to the atmosphere, and to transfer the retained heat to the transport fluid, ASHRAE (1). Duffie and Beckman (7) report that an examination of solar collector energy balances shows the desirability of obtaining surfaces with the combination of high absorptance for solar radiation and low emittance of long wave radiation. This combination of properties is possible to achieve because there is little overlap in wavelength ranges between incoming solar energy and emitted long wave radiation. The data available for absorptivity and emissivity of surfaces are most often available for freshly prepared surfaces, however, solar collectors must be designed to operate for many years. The absorptance of the collector surface for shortwave solar radiation depends on the nature and color of the coating and on the incident angle, ASHRAE (1).

Duffie and Beckman (7) state that the directional absorptance of ordinary blackened surfaces for solar radiation is a function of the angle of incidence of the radiation on the surface and that absorptance decreases from approximately 98 percent for radiation striking perpendicular to the surface to about 90 percent at an angle of 50 degrees, then decreases very rapidly. According to ASHRAE (1), materials most frequently used for collector plates, in decreasing order of cost and thermal conductance are copper, aluminum and steel. If the entire collector area is in contact with the heat transfer fluid, the thermal conductance of the material is less important. Forbes (9) recommended Rustoleum flat black paint for non-selective surfaces, while Dale and Turner (5) used black Slip Plate #1 graphite base paint.

Daniels (6) stated that in flat-plate collectors for heating air for drying or other purposes, the transfer of heat from the black absorbing plates to the stream of air passing over the plates is one of the most important factors. When the flow of air is rapid, this heat transfer may be the limiting factor to determine the efficiency of the operation. Daniels (6) also indicated that usually the largest heat losses are through radiation of the heated body in the far infrared, which increases directly as the area and as the fourth power of the absolute temperature.

Collector Covers

Godbey, Bond and Zornig (11), indicated that the choice of cover materials for solar collectors depends on several factors, including: solar energy transmission, long wavelength energy transmission, the resulting amount of diffused radiation under the cover, resistance to ultraviolet degradation, mechanical strength, material cost, and installation costs. According to ASHRAE (1), glass with low iron content has a relatively high transmittance for solar radiation (approximately 0.85 to 0.90 at normal incidence), but its transmittance is essentially zero for the long wave thermal radiation (5.0 to 50 μm) emitted by sun-heated surfaces. Plastic films and sheets also possess high shortwave transmittance, but most usable varieties also possess transmission bands in the middle of the thermal radiation spectrum. Resulting long wave transmittances may be as high as 0.40. Plastics also generally have limited high temperature tolerances before deteriorating or undergoing dimensional changes. Only a few can withstand the sun's ultraviolet radiation for long periods of time.

Hartman and Whitridge (13) state that fiberglass reinforced panels, unlike many plastics, have a transmittance of far infrared radiation (5 to 50 micrometers) that is identical with that of glass, thus assuring that the glazing will restrict loss of energy re-radiating from an absorber surface. The coefficient of linear thermal expansion for fiberglass reinforced panels is almost identical with that of aluminum.

Although glass is virtually opaque to long wave radiation emitted by the collector plate, the absorption of that radiation causes the glass temperature to rise and thus to lose heat by radiation and convection to the surrounding atmosphere, ASHRAE (1). All of the solar radiation that is absorbed by a cover system is not lost, since this absorbed energy tends to increase the cover temperature and consequently reduce the losses from the plate, Duffie and Beckman (7). ASHRAE (1) indicates that the glazing also reduces heat loss by convection. The insulating effect of the glazing is enhanced by the use of several sheets of glass or glass plus plastic. Daniels (6) indicated that an optimum number of covers can be determined by considering the decrease in heat loss against the loss caused by reflection, as well as the cost of materials and construction. According to Phillips (29) two covers appear best for high temperature applications while for lower temperature requirements one cover is sufficient.

Robbins and Spillman (31) tested a collector with a transparent cover used as the air intake, and concluded that dust buildup had little effect on transmittance. After 11 months of service, a collector with two layers of Tedlar showed a slight decrease in transmittance, while one with a single layer actually showed a slight improvement. Duffie and Beckman (7) indicate that dust may reduce the transmissibility of the glass by one to eight percent, depending on conditions.

Where there is much danger of breakage from hail, or of vandalism, a one-half inch wire mesh has been used to protect the glass from damage. The screen shades the glass and decreases the effective area by about 15 percent, so the total area must be increased accordingly. There is not generally a problem with breakage, though, except when hail strikes the glass surface at right angles, Phillips (29). Hartman and Whitridge (13) indicate that the use of low-iron glass covers has added significant weight to collectors and the glass has been highly susceptible to the dangers of breakage.

According to Zerlaut (38), covers must be reliable for a stagnant air condition. High temperatures would occur if the fan providing air flow, during operation of the solar system, should stop. Also during periods when the collector is not being used, high temperatures could occur, if the system is not vented or the air flow is restricted.

The difference in the observed heat transfer values between enclosures glazed with corrugated and flat fiberglass was entirely accounted for by the increased exposed surface area due to the corrugations with corrugated heat loss about nine percent greater, Hellickson (14). Consequently by using corrugated fiberglass to increase the cover's rigidity, the heat loss is increased.

Solar Concentrators

Hellickson (15) defined a solar concentrator as a device which focuses or reflects energy from a relatively large area to a relatively small area. The aperture, according to Kreith (19), is the projected opening through which solar energy is admitted and then redirected to the absorber. Hellickson (15) and Kreith (19) further define the concentration ratio as the aperture area divided by the absorber area.

System cost can be reduced when the absorber cost is higher than the concentrator cost, Rabl (30). Hellickson (15) and Peterson (24) state that overall system efficiency may also be improved as a result of concentration. Higher energy flux on the energy-absorbing surface means a smaller surface area for a given total amount of energy, and correspondingly reduced thermal losses, Duffie and Beckman (7). However, Kreith (19) indicate that much less diffused light may be utilized.

Zwerdling (39) reported that for the reflecting surface of solar concentrators, aluminum continues to be the favored material either in the form of a reflecting evaporated layer on suitable substrates or a polished sheet. In either case, a thin overcoating of S_iO, S_iO_2 or Al_2O_3 applied by vacuum evaporation or anodization is used to protect the surface from reflectivity loss due to corrosion effects. Daniels (6) also states that aluminum is perhaps the best and cheapest metal for direct reflection of sunlight. Reflective aluminum sheets commonly used include "Alzak" (from Alcoa) and "Kinglux" (from Kingston Industries). Flexible solar reflective surfaces using sheet-plastic substrates have been developed by commercial sources including the Sheldahl Company and the Tyco Laboratories.

Parker (21) used an aluminum mirror consisting of vapor deposited aluminum on a polyester film (FEK163 of the 3M Company) for the reflective mirror. Duffie and Beckman (7) indicated that for practical focusing collector systems, it is important that high values of specular reflectance be obtained throughout the life of the collector. The specular reflectance is defined as the fractional portion of an incident, collimated beam which is reflected such that the angle of reflectance equals the angle of incidence.

Solar concentrator systems can be of either the sun-tracking or non-tracking types, ASHRAE (1). As the sun moves across the sky, two motions can be readily tracked. One is the sun's azimuth, or its angular position in a horizontal plane from true south. The second is the solar altitude, or the vertical angular measurement in a plane parallel to the sun's rays made with respect to the horizontal. During the days of solar equinox, the sun describes an exact semi-circle in a plane passing through the observer, with an angle from the vertical equal to the geographic latitude of the site. In this plane, the sun moves horizontally across the sky, without any vertical displacement. On any other day, a vertical translation of the sun's image will occur. Since, according to Tabor and Ziemer (36), the vertical movement is much less than the sun's azimuthal movement, tracking of the sun's vertical movement is more easily accomplished. The tracking systems can be divided into sun-seeking and programmed systems, Duffie and Beckman (7). Tabor (35) stated that, since tracking the sun using a mechanism attached to the reflector involves an increase in the cost of equipment and maintenance, careful consideration of the relative advantages must be made before it is used.

Thermal Energy Storage

Heated air from the collectors can be applied directly to the grain drying process without an intermediate energy-storage facility, Bauman and Finner (3). Converse, Lai and Sauer (4) indicate that overdrying of the bottom grain provided drying potential during periods with high relative humidity. When heating buildings, heat storage is beneficial. The heat storage will create a thermal lag, storing energy during the daylight hours and releasing it at night. This reduces the temperature of the air entering the building during daylight hours, which lessens the possibility of overheating the building.

According to Eckhoff and Okos (8), rocks are a popular storage medium for air type solar collecting systems primarily because of the low thermal response time of the rocks, the good air to solid transfer characteristics, the fact that rock is more easily contained than water, and the ability of rock to act as its own heat exchanger, which reduces total system costs. The large surface area promotes good heat transfer, and consequently air flow rate becomes less important. Results indicate that the system should be designed to decrease the air velocity through the bed thereby enhancing the heat transfer and decreasing the pressure drop. Daniels (6) indicates that the resistance to air flow increases as the size of the pebbles decreases. Parker et al. (22) state that, although the surface heat transmission coefficient between a fluid and a bed of solid particles increases with diameter of the particle, the volumetric heat transfer coefficient increases as the particle size decreases, due to the rapidly increasing surface area per unit volume. The smaller the rock size the more rapidly the flow of heat between air and stone on both charging and discharging.

Air quickly gives up its heat in flowing through the labyrinthine path, Balcomb, Hedstrom and Rogers (2). As a result, the rocks near the air entry end of the bed can be at quite a different temperature than rocks near the exit end. If the air flow in the rock bed during the evening were not reversed, there would be hours in delay before the heat would wash through the bed. Phillips (29) reports that 1-1/2-inch diameter material is generally recommended as optimum size for rock storages, which use air as the heat transfer fluid. Most rock has a specific heat of about 0.21 BTU/lb/^{o}F, a density of about 165 lbs/ft^3 and packs with a void fraction of about 0.42, if the rocks are all roughly the same size, Balcomb, Hedstrom and Rogers (2).

Performance and Economics

Smit and Shove (34) indicated that the performance of a flat plate suspended sheet collector will depend on several factors: the air velocity through the collector, the transmissibility and heat insulation of the cover, the angle between the sun and collector surface, the characteristics of the absorber surface, and the properties of the insulation. All these factors determine the useful heat output of the collector. Duffie and Beckman (7) defined collector efficiency as the ratio between useful energy gain and radiation received on the collector surface.

Balcomb, Hedstrom and Rogers (2) state that component lifetime and maintenance should receive major consideration in the design. The solar energy which falls on a building may be free, but the equipment involved can represent five to 15 percent of the building cost and must have a lifetime of 15 to 30 years to warrant the investment. Corrosion, infrared degradation, weathering, and fouling are areas which deserve special considerations. Phillips (29) reported that an economic analysis must include fixed costs (depreciation, interest, repairs, taxes, insurance), operating costs (labor, energy), and consider escalated fuel costs, inflation, tax incentives, and increased property value. A realistic evaluation of the economic feasibility of solar energy systems is dependent on an integration of the solar system characteristics and climatic conditions with the economic parameters for the specific system application and geographic location, according to Hellickson (16). Additionally, for agricultural operations it is important to consider any biological constraints on the solar system.

RESEARCH PROCEDURE: DESIGN AND OPERATION

The solar energy intensifier-thermal energy storage system, Figure 1, was designed with a trapazoidal shaped collector, plus a diurnally tracking concentrator. The design of the system used readily available materials and construction that was relatively simple.

The collector, which used air as the heat transfer fluid, was built in three sections for ease of transportation and construction. The dimensions of the collector were: base 1.22 m, top 0.35 m, height 0.83 m and the total length 9.75 m, Figures 2 and 3. Two collector sections were 3.05 m long and the third section was 3.65 m long; each being standard steel lengths. The sections were bolted together and the seams were sealed with a silicone base caulking compound.

The absorber surface, 1.52 mm sheet steel cut to 0.86 m wide, was welded to the collector base and a steel frame. The absorber plate was tilted at 60^{o} from the horizontal. The angle of 60^{o} was selected, because that is the tilt angle for the Brookings, South Dakota, area for systems used during the period from fall through spring based on the rule-of-thumb "latitude plus 15^{o}". The absorber plate was painted with a lacquer base, black, absorber paint, which had an absorptivity of 0.95 and an emissivity of 0.95.

The absorber plate also served as the wall for the rock thermal energy storage, when the system was used to preheat the ventilation air for a livestock confinement building. With this arrangement, heat loss from the rock thermal energy storage through the absorber plate was picked up by the air passing between the absorber and the glass cover.

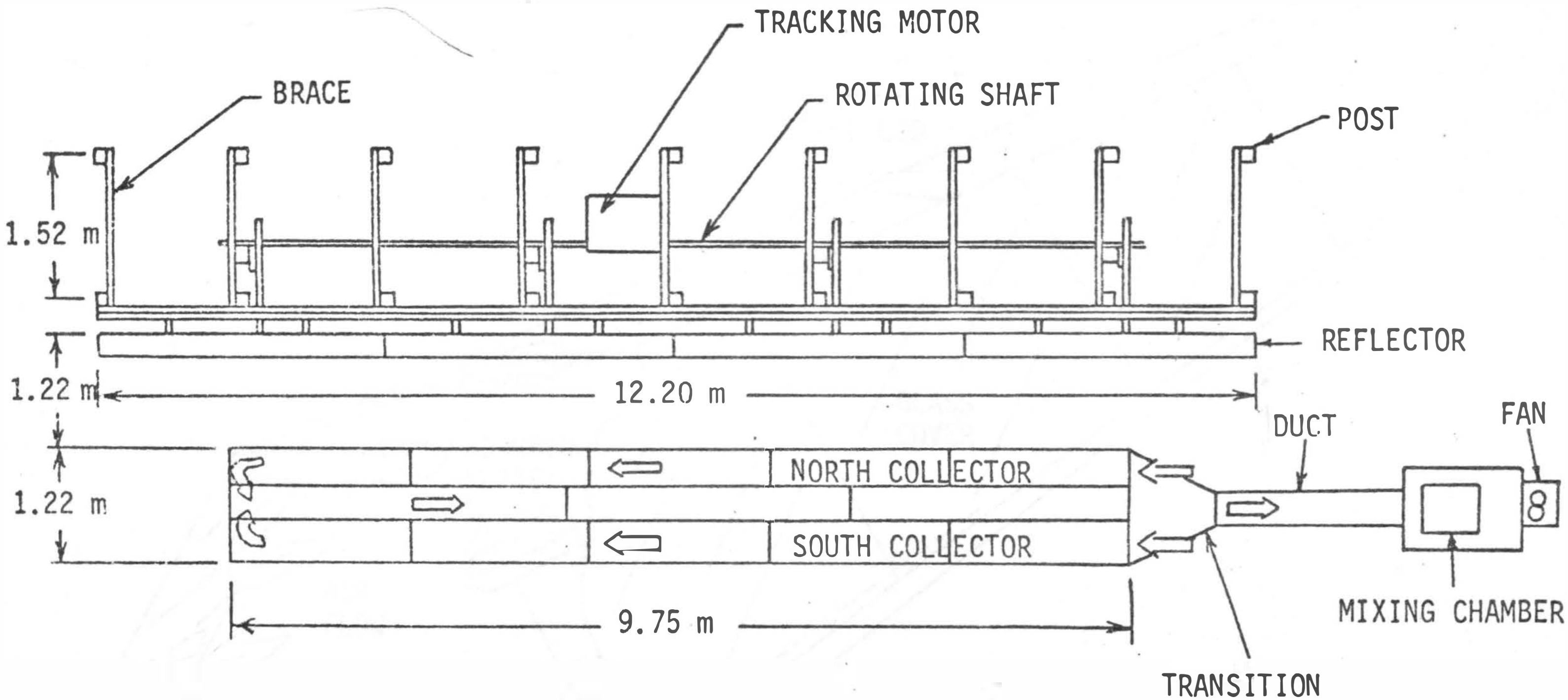


Figure 1. Plan view of SEI system.

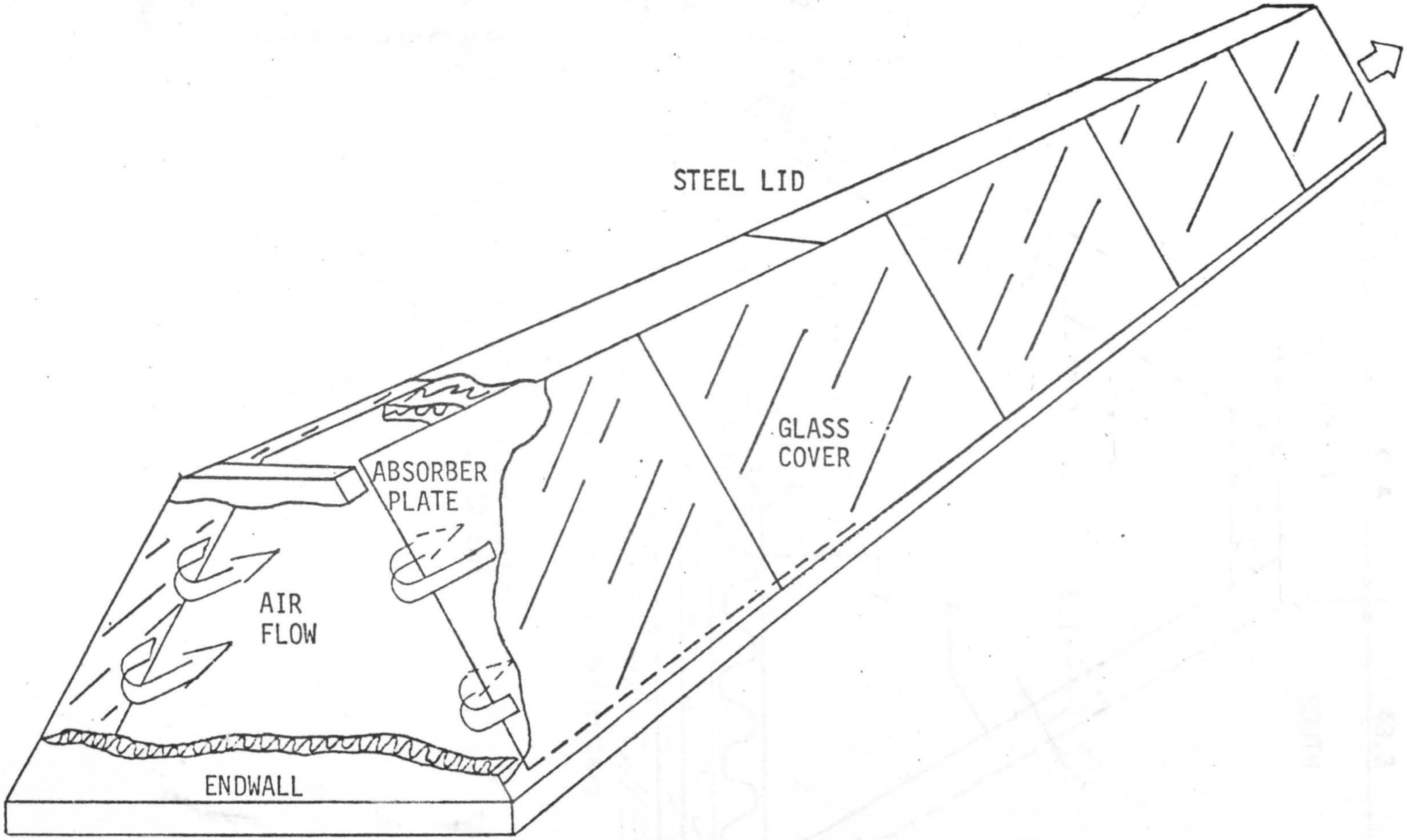
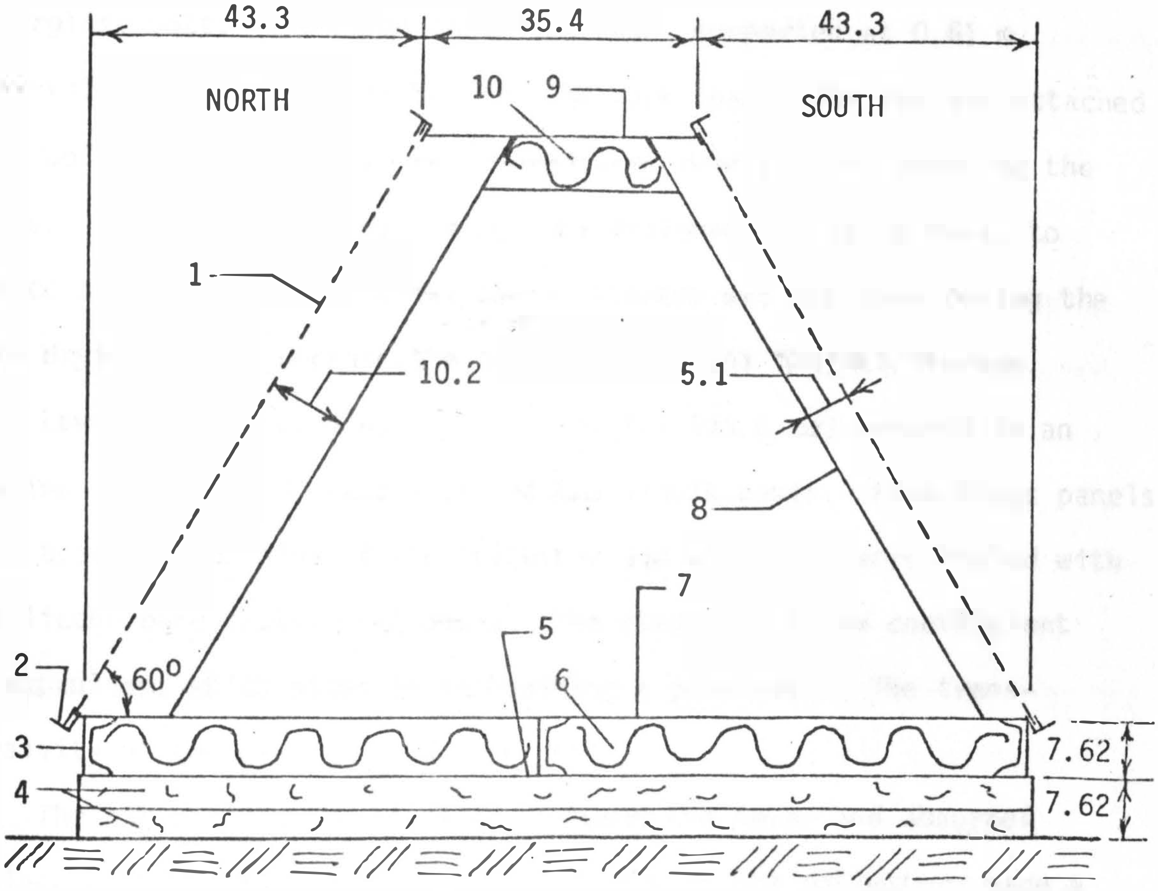


Figure 2. Cutaway view of west end of collector.



Note: All dimensions are in centimeters

1. 3.18 mm low-iron, tempered glass cover
2. Angle iron (2.5 cm x 2.5 cm x .32 cm)
3. C 7.6 x 6.1 channel iron
4. Boards (5 cm x 10 cm)
5. 0.9 mm sheet steel
6. 7.6 cm fiberglass insulation
7. 2.7 mm sheet steel
8. 1.5 mm sheet steel absorber plate
9. 2.7 mm sheet steel cover
10. 7.6 cm fiberglass insulation

Figure 3. Sectional view of collector.

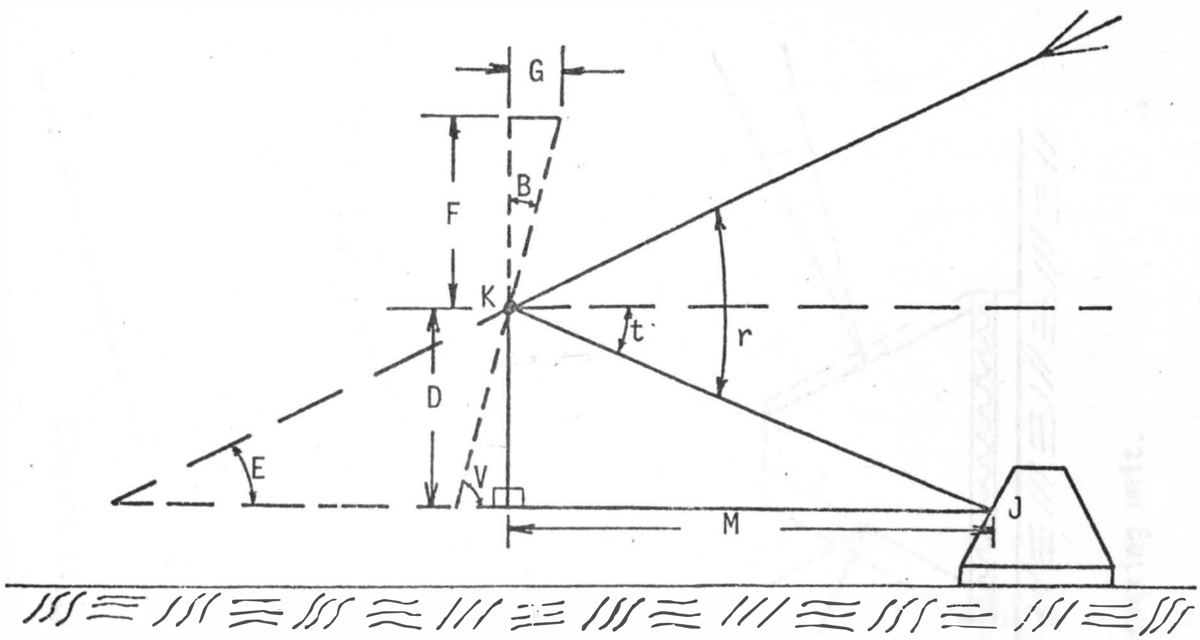
The top and bottom of the collector were each insulated with 7.6 cm of fiberglass batt. The steel collector base, supported at 0.61 m intervals, was designed to support the rock load. The top was attached with bolts, allowing it to be removed when inserting or removing the rocks. The thermal energy storage was designed for 15 cm rock, to reduce pressure drop. Thermal energy storage was not used during the corn drying study, because the corn acted as the thermal storage.

Low-iron, tempered glass (0.4 x 86.4 x 193.0 cm) encased in an aluminum wrap around frame provided the single cover. Five glass panels were used on each side of the collector and all seams were sealed with a silicone base caulking compound. The glass has a low coefficient of expansion, which aided in maintaining a good seal. The transmissivity of the glass was 90.1 percent.

The air entered the collector between the cover and absorber surface on both sides, travelled the length of the collector, made a 180^{0} turn, and then flowed through the area between the absorber plates, before entering the duct leading to the solar application. The end-wall, where the air made the turn, was insulated with a 7.6 cm batt of fiberglass insulation. The space between the absorber surface and the glass cover was 10.2 cm on the north side and 5.1 cm on the south side. This space was selected, so the temperature rise on both sides would be approximately equal. The temperature rise is dependent on the air flow rate, which can be regulated by varying the cross-sectional area of the passageway. The air flow rate was 16.8 m^3/min on the north side and 12.2 m^3/min on the south side. A turbulent air flow was desired in order to increase heat transfer from the absorber plate to the air, but air flow was limited so as to maintain an acceptable pressure drop. For the north side, turbulence was increased by placing baffles, consisting of thin strips of metal in a spiral configuration in the air passageway.

The reflector consisted of four sections, each having a 3.05 m curved surface and a 3.05 m width. Four sections made transportation and construction easier. The curvature of the reflector was designed using trigonometry and the properties of optics, Figure 4. There was a specific and different curvature for each solar altitude angle. The curvature for an altitude angle of 30^0 was selected, because it was the average angle during the period from October to April in this area. The horizontal distance between the center of the reflector and the top of the absorber plate was 1.83 m. The reflector was elevated so the bottom of the reflector was never shaded by the collector. Support for the reflector was provided by wood posts and planking, Figure 5. The pipe, which was the pivot and support point for the reflectors, was attached to the planking by a steel mounting bracket. The entire system was designed to withstand a 129 km/hr wind. The reflector was constructed by cutting and welding the structural tubing to form the curvature and then welding 1.21 mm sheet steel to the tubing. This formed the backing for the 0.30 mm, polished aluminum, reflective surface, which was bonded to the sheet steel using an adhesive. Desert Sunshine Exposure Tests, Inc. tested the aluminum reflective surface and found the reflectivity to be 85 percent both before and after exposure for one year.

The reflector tracked the sun diurnally, pivoting about its



$e = 90 - E$
$s = \text{Arctan}\ (M/D)$
$r = 180 - s - e$
$t = r/2$
$B = 90 - t - s$
$V = 90 - B$
$G = F\ \text{Tan}\ B$
$M_2 = |M_1 \pm G|$
$D_2 = D_1 \pm F$
E = Solar altitude angle
K = A point on the reflector
J = Center of absorber plate
M = Horizontal distance between the collector point and the reflector point
D = Vertical distance between the collector point and the reflector point
V = Reflector angle from horizontal
G = Change in M
F = Change in D

Figure 4. Design of the reflector.

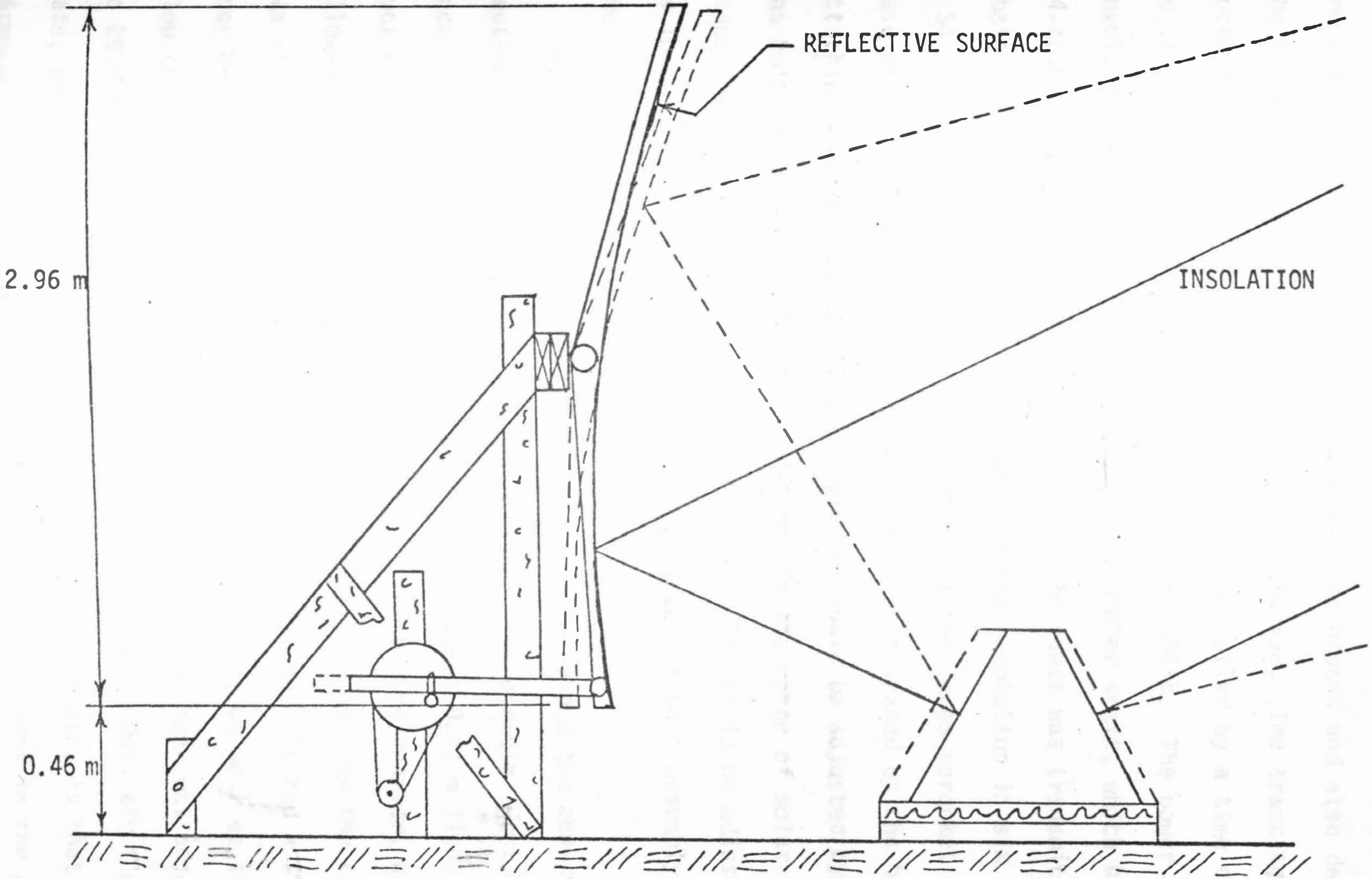


Figure 5. Side view of solar energy-intensifier and diurnal tracking unit.

vertical center, Figures 1 and 5. Pivoting about the center allowed the tracking mechanism to be located near the ground and also decreased the horizontal movement required to track the sun. The tracking mechanism was powered by a 187 watt motor controlled by a time clock, so it operated from 0830 to 1130 and 1330 to 1530 h. The power train involved two gear reducers and a 2.54 cm diameter shaft, which had a 14-tooth sprocket behind each reflector. The power was transmitted by chain to an 84-tooth sprocket, which made one revolution in six hours. A 54 x 8 mm pipe transmitted the movement of the large sprocket to the base of the reflector. The radius of the circle traced by the bolt attaching the pipe to the 84-tooth sprocket could be adjusted by moving the bolt to compensate for the variations in the range of solar altitudes during a day. Also, the length of the pipe could be adjusted, by loosening the U-bolts attaching the pipe to the bolt assembly of the 84-tooth sprocket.

A sheet metal transition was formed that provided the connection between the trapazoidal collector and the circular duct. The duct from the collector to the mixing chamber was a 0.41 m light metal duct with exterior fiberglass insulation. The mixing chamber, which allowed outside air to mix with the heated air coming from the collector, was of wood construction insulated with polystyrene. It had a sliding door on top, so the amount of ambient air entering, as well as the air flow through the collector could be regulated. The door was adjusted so 29.0 m^3/min of air flowed through the collector. This air flow rate, when mixed with an equal amount of non-heated air, is that recommended for the quantity of corn (35.2 m^3) simulated in the study.

The fan was an aeration type with vane axial blades and was powered by a 2237 watt, single phase, 230 volt motor.

A first collector was built of wood, with fiberglass covers and steel absorber plates at the Agricultural Engineering Research Farm. The system had just been set up to dry corn, when on October 27, 1978, the collector was destroyed by fire. It appeared that spontaneous combustion of the wood due to the concentrated light was the cause of the fire. The system was then redesigned and built as has been described. It was tested simulating corn drying at the South Dakota State University Swine Unit just north of Brookings.

The data were collected from 1600 h on March 8, 1979 to 1000 h on April 18, 1979. Data collected consisted of system temperatures, air flow rate, and solar radiation. Temperatures at 24 locations, Figure 6, were measured with copper-constantan thermocouples and were recorded by two, multipoint, strip chart potentiometers. The solar radiation on a horizontal surface was measured using an Epply pyranometer and was recorded with a strip chart recorder. Measurements were made on the hour from 0700 to 1900 h. The pyranometer recorder operated continuously and the thermocouple recorder operated for 15 minutes of each hour. Air velocity was measured with a hot wire anemometer. The velocity was measured at several points on each side of the collector and at the middle of the duct between the collector and the mixing chamber.

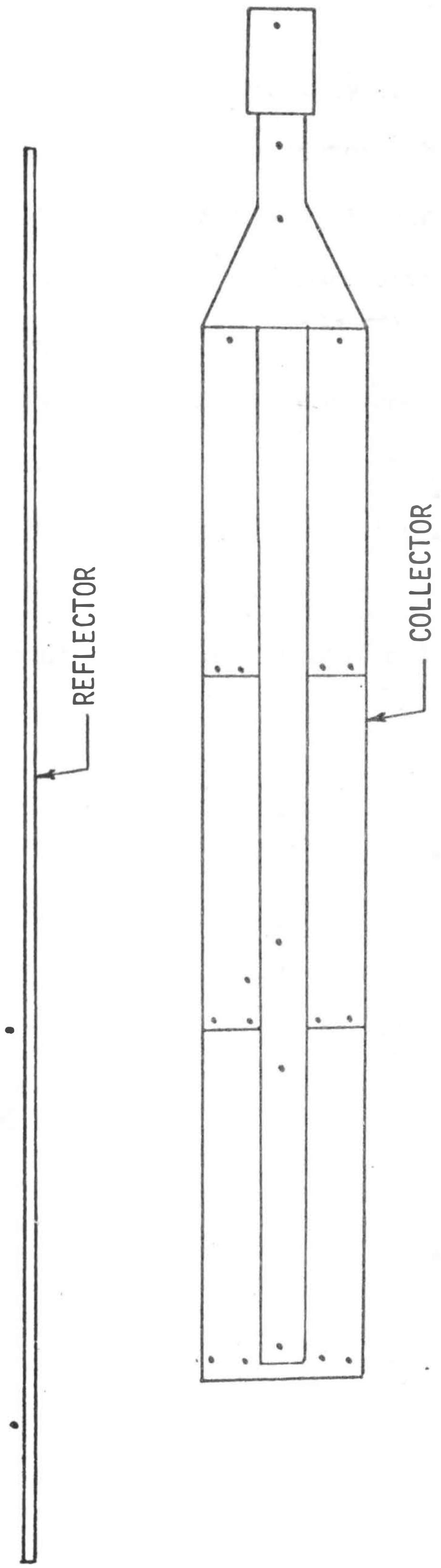


Figure 6. Thermocouple locations.

RESULTS AND DISCUSSION

The results include overall system performance, effectiveness of individual portions of the collector, the relationship between energy collected and radiation received and economics of the system. The data, collected during simulation of corn drying in Brookings, South Dakota, are listed in Appendix B.

The efficiency of the solar energy intensifier system for the 528 hours of operation, 1600 h March 8, 1979, to 1000 h April 18, 1979 (0700 to 1900 h of each day) was 45.6 percent. This efficiency was based on the total solar radiation received perpendicular to the effective area of the collector and reflector, 18.3 GJ, and the energy collected, 8.3 GJ, Figure 7.

The data were collected during March and April, however, generally corn drying would be during October and November. According to the records of William Lytle, Agricultural Engineering Department, South Dakota State University, this area normally receives a mean value of 11,412 langleys of radiation during October and November based on data from 1961 to 1976. For March and April, 1979, Brookings received 16,900 langleys of radiation. Therefore, values of radiation and energy collected are probably larger than would be obtained during the normal corn drying period of the year.

Figure 8. shows the efficiency, the heat gained and the radiation available for each day of the study. A large variation in the daily efficiency (67.1 percent on April 3 and 0.0 percent on April 11, 1979) is observed. This is primarily dependent on the type of radiation

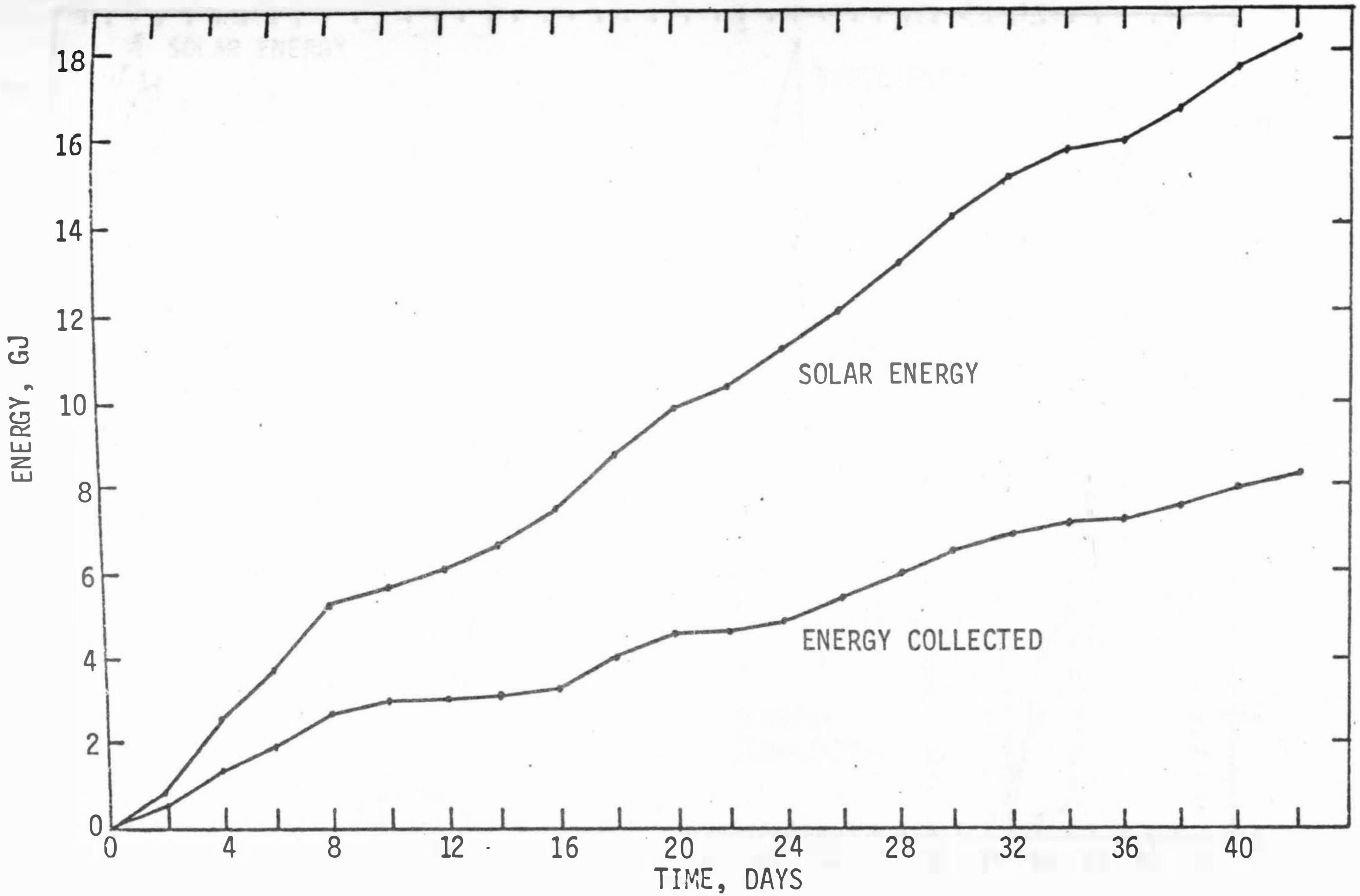


Figure 7. Accumulated solar and collected energies, drying study 8 March to 18 April, 1979.

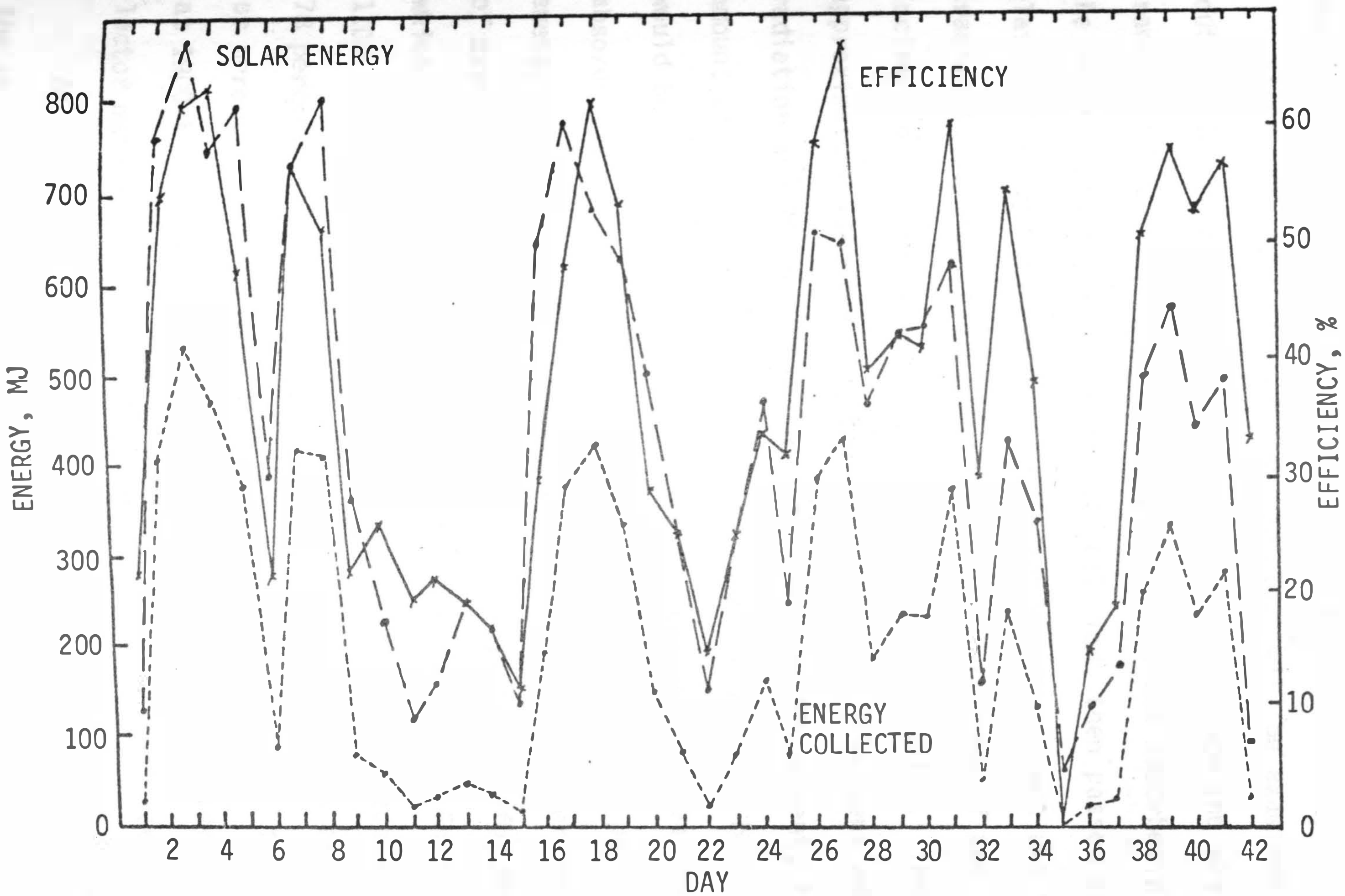


Figure 8. Solar energy available, energy collected and collector efficiency for each day of the study.

being received; diffuse radiation when it is cloudy and primarily beam radiation on clear days. By examining the system's principles of operation, this influence can be explained.

First, the condition of beam radiation will be examined. For the south collector surface, the light must pass through the glass, with a transmissivity of 90 percent, before reaching the absorber plate. On the north side, the light was first reflected, then passed through the glass. The reflectivity of the aluminum was 85 percent and the glass transmissivity was, again, 90 percent, so 77 percent of the light incident on the reflector would pass through the glass. Therefore, with approximately 70 percent of the area receiving 77 percent of the incident radiation and 30 percent of the area receiving 90 percent, the expected amount of radiation reaching the absorber surface with beam radiation would be 82 percent of the solar energy available. When the 95 percent absorptivity of the absorber surface is considered, 78 percent of the energy available would be expected to be collected under the condition of zero heat loss. The collector hourly efficiencies for March 25, which was sunny after 1000 h, are shown in Figure 9. The efficiency at 1100 and 1200 h, 87 and 79 percent respectively, exceeded the expected 78 percent. This may be explained by a small error in the instruments or errors in transferring data from the strip charts. The efficiency at 1900 h is large due to the system releasing heat stored in the collector materials and receiving virtually no incident radiation.

On days with diffuse solar radiation, such as during overcast days, the reflector would concentrate very little solar energy due to the diverse incident angles. The moisture of the clouds would absorb much

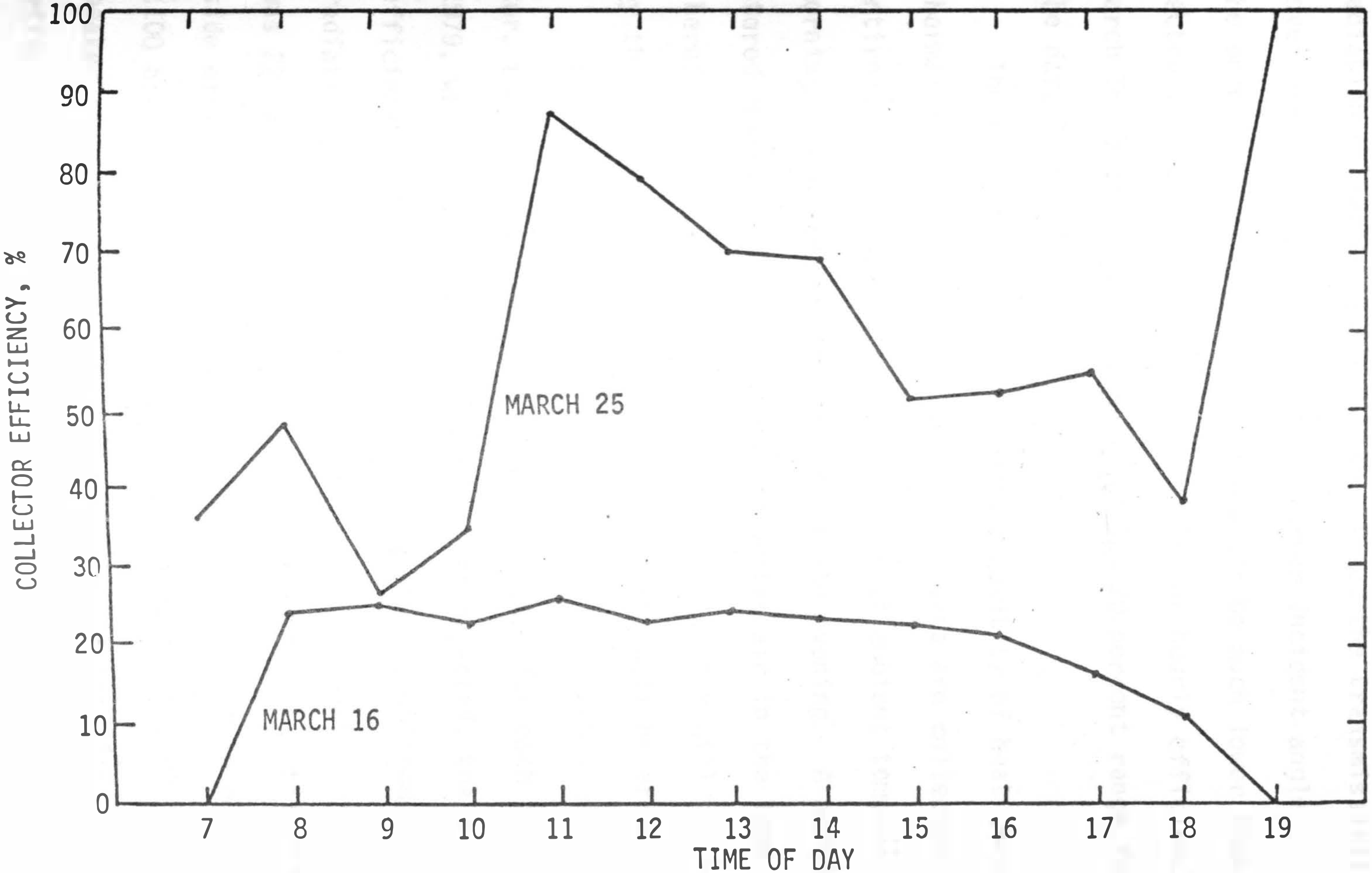


Figure 9. Collector hourly efficiency for March 16 and March 25, 1979.

of the infrared portion of the radiation, which is the primary type of radiation collected by the system. Also, the transmissivity of the cover glass might be lower due to larger incident angles. Consequently, the percent of radiation collected would be much lower than that collected from beam radiation. The collector hourly efficiencies for March 16, a cloudy day, were in the low 20 percent range for most of the day, Figure 9.

The collector materials stored a quantity of heat creating a thermal lag in the system. However, if data are collected for the entire day, the collector materials are at ambient temperature in the morning and at ambient temperature in the evening. A portion of this stored energy is added to the solar heated air in the late afternoon. Therefore, the daily efficiency of the collector will not be affected by the thermal lag, but hourly efficiencies will be affected.

Figure 10 shows the efficiencies of the north side of the collector, the south side, and the total collector for each hour on March 25, 1979, which was cloudy until 1100 h. As expected, the south collector efficiency was not affected as much by the switch from diffuse to beam radiation as was the reflector side. The efficiency of the north side was 22 percent at 1000 h and 85 percent at 1100 h, while the south side efficiency changed from 41 percent at 1000 h to 82 percent at 1100 h. The efficiency of the south side, north side and collector peaked at 1100 h; 82, 85 and 87 percent, respectively. Then the efficiencies of the north and south side decreased to zero, at 1800 h for the north side and at 1900 h for the south side. The collector efficiency increased at 1900 h due to recapturing some of the heat

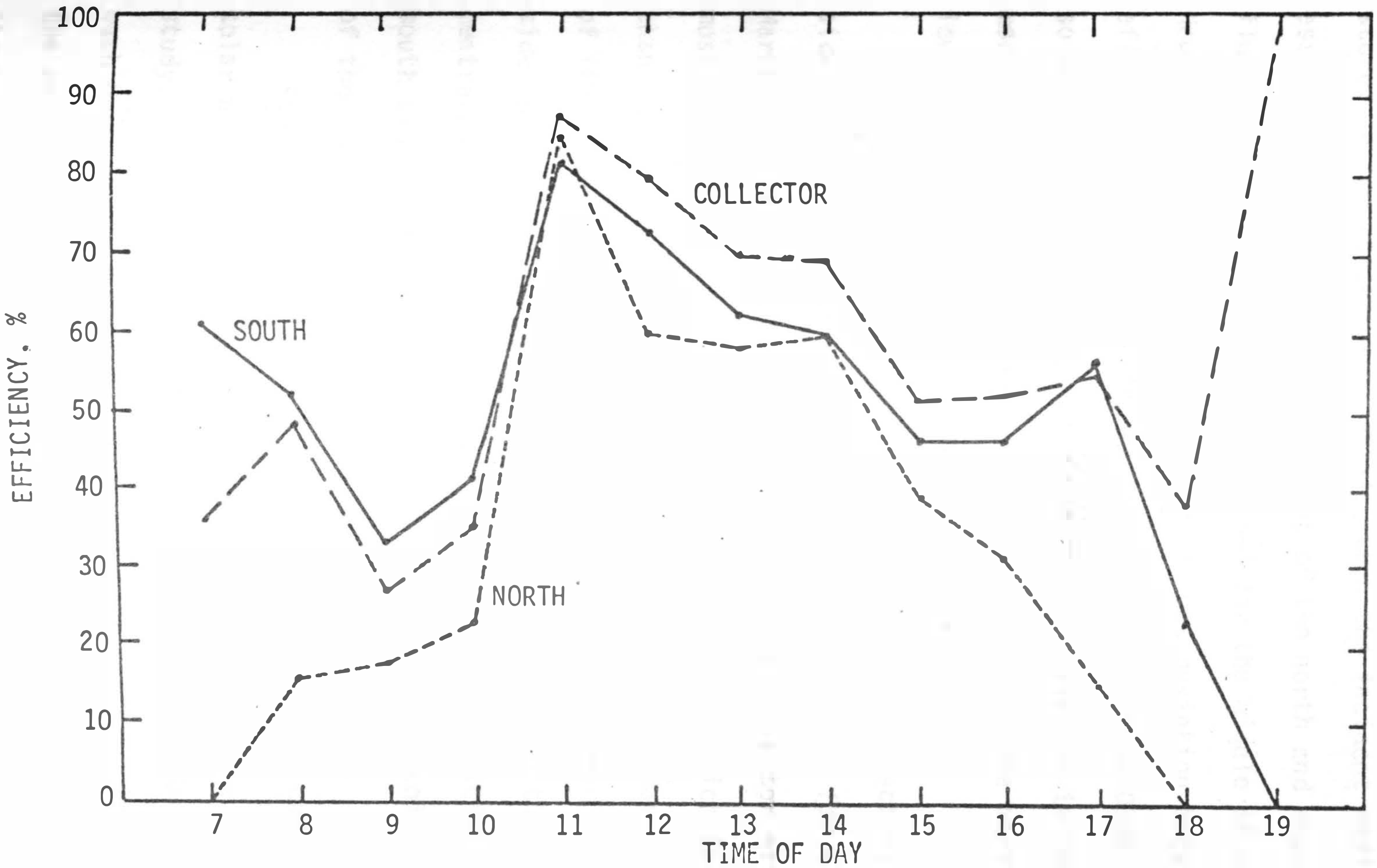


Figure 10. Hourly efficiencies of the total collector, north side and south side for March 25, 1979.

stored in the collector materials, when the incident radiation was essentially zero. The efficiencies of the north and south sides fluctuated, but were relatively equal for the middle of the day. However, at 1200 h, there was a 12 percent deviation between the efficiencies. The tracking mechanism operated from 0830 to 1530 h, so all the light was not reflected on the collector in the early morning and late afternoon. The efficiencies of the north side were lower than the south side when this occurred.

The efficiencies of the north side of the collector, the south side and the total collector are shown in Figure 11 for each hour on March 16, 1979, which was a cloudy day. The collector efficiency for most of the day was in the low 20 percent range, which is much lower than the 87 percent efficiency peak during a clear day. The efficiency of the south side was approximately 10 percent higher than the north side for most of the day. This is expected because the reflector concentrates little of the diffuse radiation. The efficiency of the south side became very large at 1900 h, indicating collection of some of the heat stored in the south collector materials.

Figure 12 shows the average efficiency, energy collected, and solar energy available for each hour, 0700 to 1800 h, for the 40.6 day study. The average energy collected and solar energy available for each hour is the sum of the energy collected for a given hour during the entire study, as well as the solar energy available, divided by the number of hours data were gathered. The efficiency for an hour is the total energy collected divided by the total solar energy available. The average maximum energy collected, 35 MJ/h, and average solar

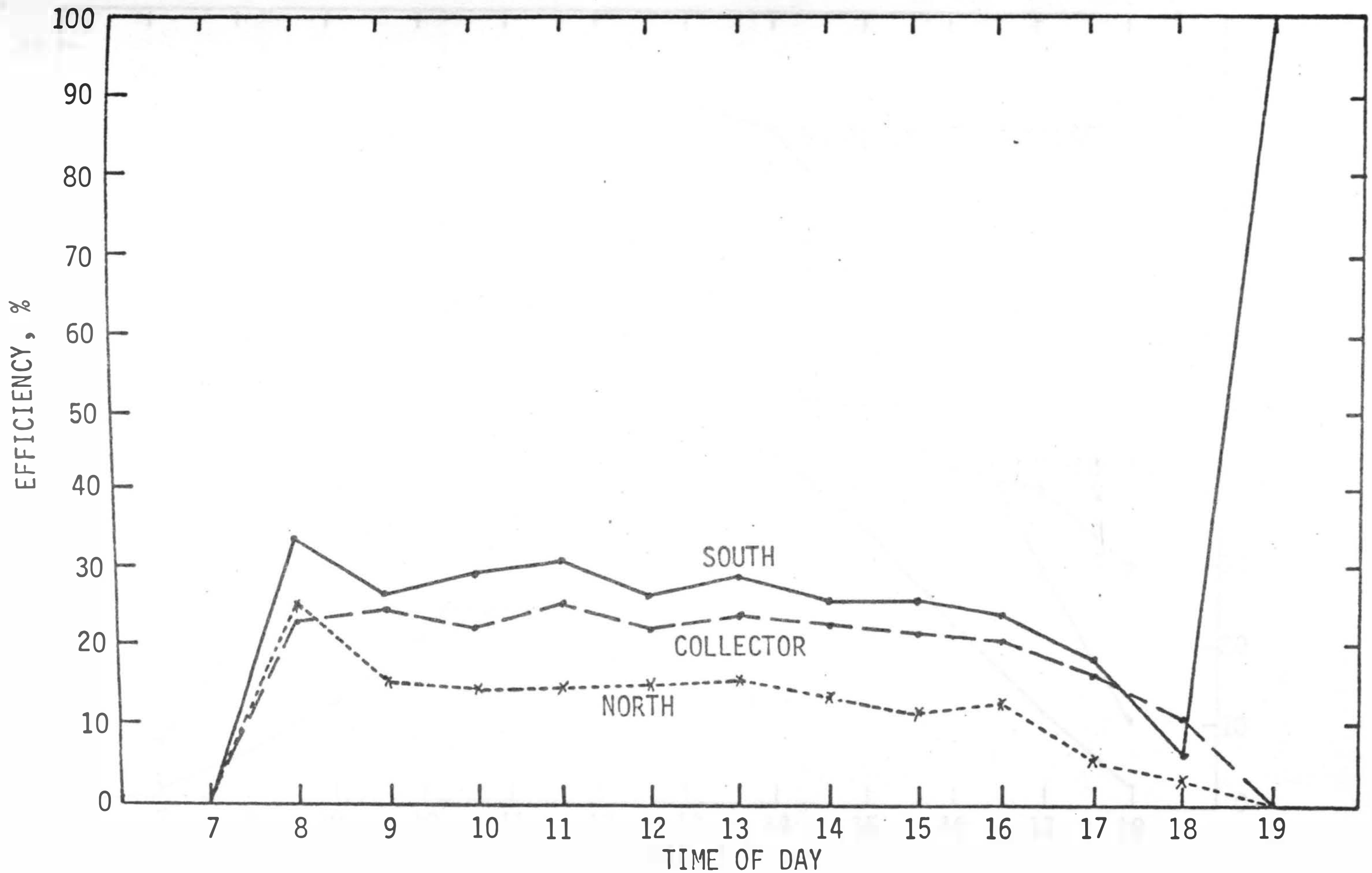


Figure 11. Hourly efficiencies of the total collector, north side and south side for March 16, 1979.

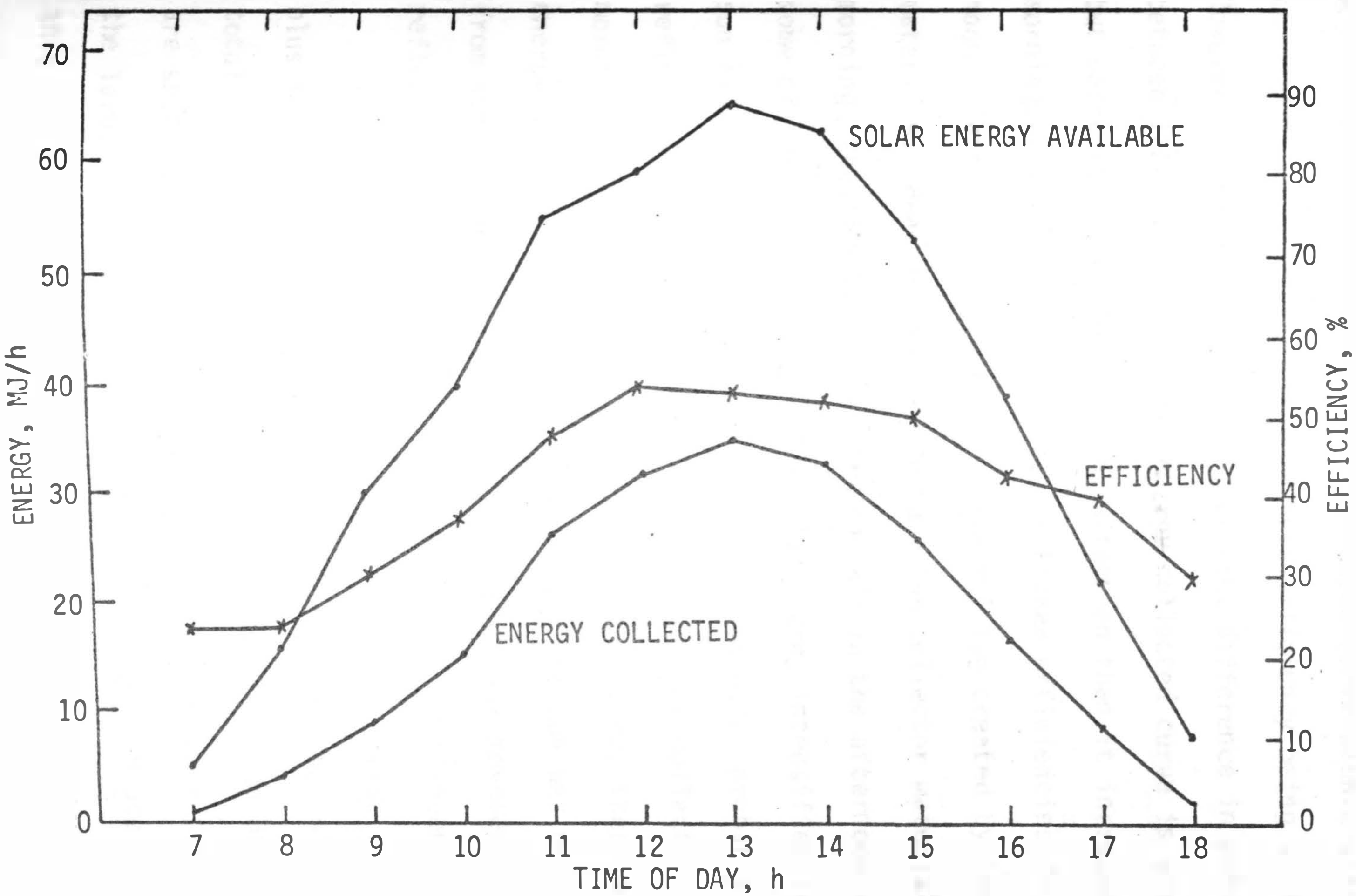


Figure 12. Average efficiency, energy collected, and solar energy available as influenced by time of day; 1600 h March 8 to 1000 h April 18, 1979.

radiation available, 65 MJ/h, took place at 1300 h, however, the average maximum efficiency, 54.6 percent, was at 1200 h. The solar energy available is an almost bell shaped curve with a slight deviation at 1200 h, which explains the largest efficiency being at that hour. However, there is only about one percent difference in efficiency between 1200 and 1300 h. The energy collected curve is also bell shaped, but decreases more slowly in the afternoon than it increases in the morning, which is also indicated by higher efficiencies in the afternoon. This is the result of the thermal lag created by the collector materials. Heat is required to warm the collector materials in the morning, then the materials warm the air in the afternoon recapturing some of the stored energy. The solar energy intensifier tracked the sun from 0830 to 1530 h, therefore, the reflector probably did not reflect all the solar energy available onto the collector during early morning or late afternoon. If this is considered, there was solar energy available that was not collected. The sun was not tracked from sunrise to sunset due to the large angular movement of the reflector required for early morning and late afternoon.

The temperature rise for each third of each side of the collector plus the temperature rise through the inside of the collector and the total temperature rise of the collector at 1200 h on March 25, 1979, are shown in Figure 13. The collector temperature rise, 39.7^{o} C, is the largest temperature rise during the study. In use for corn drying, this air would be mixed with an equal amount of outside air before entering the corn, therefore the temperature rise would be one-half or 19.9^{o} C. The corn temperature should not exceed 78^{o} C, well above

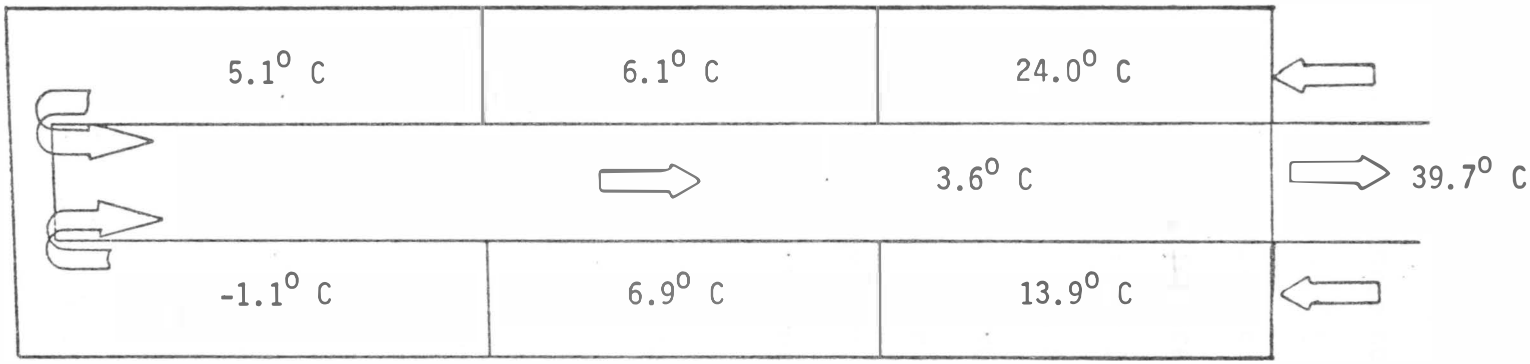


Figure 13. Temperature rise of each section of collector for 1200 h, March 25, 1979.

the temperature of the solar heated air, so high quality, dried corn could be expected by using the solar drying system.

The temperature rises of the three north collector sections from inlet to outlet were 24.0, 6.1 and 5.1^{o} C, respectively. There was a drastic decrease, 17.9^{o} C, in temperature rise from the first to second section, but only 1.0^{o} C difference between the second and third sections. The temperature rise of the three south collector sections from inlet to outlet were 13.9, 6.9 and -1.1^{o} C, respectively. The negative temperature rise of the third section indicated a net heat loss. Although the temperature rise for this section was not always negative, it was usually near zero. The temperature rise along the length of the collector should be approximately linear, because if it deviates considerably from linear overall efficiency of the system will be reduced. The temperature rise along the length of the collector deviates from linear due to the influence of heat transfer rates. The transfer of heat from the absorber plate to the air is dependent on the temperature difference between the two substances, so more heat transfer would be expected at the beginning as the air starts to be heated and less heat transfer when the air is warmer. Also, heat loss from the collector is higher as the temperature increases, so the largest heat loss would be after the air has been heated or as it nears the exhaust end of the absorber plate. The temperature rise along the length of the flow was not linear for this system. This may be corrected by increasing the air flow rate, which would increase the static pressure, or, preferably, by shorting the air flow length.

Measurements showed that the average temperature of the absorber plate was approximately 6^{o} C higher than the air temperature after passing over the absorber on the reflector side, while the south side was about 8^{o} C higher. This is due to the different air flow rates per unit area of the absorber surface. The collector air flow on the reflector side was 2.0 $m^3/min/m^2$ of absorber surface and on the south side was 1.5 $m^3/min/m^2$.

The temperature rise inside the collector, between the absorber plates, fluctuated greatly, but usually showed a positive temperature rise. Much of the fluctuation was due to the difficulty in measuring a representative temperature of the air mixed from the north and south side of the collector. The temperature rise of the inside would indicate energy flow through the back of the absorber plates is being picked up and is useful energy transfer. The inside temperature rise was normally larger in the late afternoon than it was in the early morning, indicating the retrieval of heat stored in the collector materials.

A highly significant relationship was developed to predict the amount of energy collected dependent on the amount of solar energy available, Figure 14. The corresponding equation is:

$$EC = -5.24 + 0.61\ SEA$$

EC = Energy collected (MJ/h)

SEA = Solar energy available (MJ/h)

The coefficient of determination was 0.84 indicating that the equation explains 84 percent of the variation in the energy collected and the standard error of estimate was 0.04. Therefore, if the amount of solar energy available to the system is known, then the amount of energy

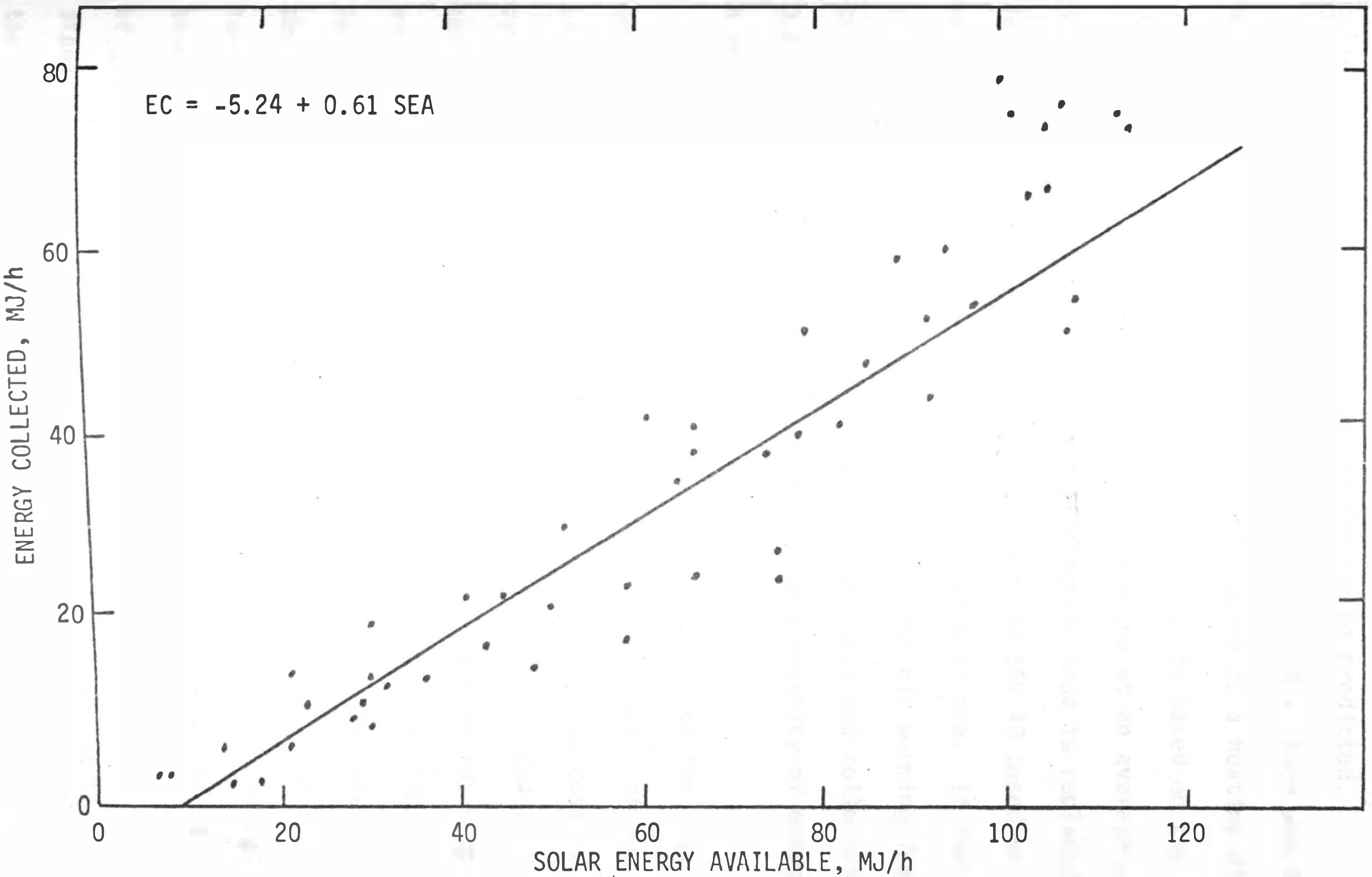


Figure 14. Energy collected as influenced by solar energy available.

collected from this solar energy system can be predicted.

The total energy collected during the 40.6 day study was 8.34 GJ, which is equivalent to 523.33 liters of propane at a heating efficiency of 65 percent. The monetary equivalent is $63.59 based on the current price of $0.12 per liter. Energy was collected at an average rate of 0.21 GJ per day or $1.57 per day. If electric heat is replaced instead of propane, the monetary equivalent is $69.48 based on a price of $0.03/kw-h and a coefficient of performance of one. If the system is in operation for corn drying and ventilation air warming from October through April, assuming current fuel cost and collecting 0.21 GJ of energy per day, it would provide a quantity of energy with a monetary equivalent of $329.70 per year.

The material costs for the various components of the solar energy intensifier-thermal energy storage system are exclusive of any fabrication or labor costs and are listed in Appendix B. The cost of the solar collector-thermal energy storage system was $997.17; $884.72 for the collector-thermal storage unit and $112.45 for the energy conveyance equipment. If the system was to be operated with just the south collector surface, the only change would be to remove the glass cover on the north side and replace it with insulation and a protective cover for the insulation. This would reduce the cost of the collector-thermal energy storage system to $957.13 by replacing the $126.12 worth of glass with $28.98 worth of insulation and $57.10 worth of sheet steel. The south collector surface area is 8.41 m^2, so the cost of the collector-thermal energy storage system would be $\$113.81/m^2$ of collector area. Instead of insulating the north side it may be used as a collector, as it was in this study. To do this involves a reflector, \$1516.77, reflector supports, \$491.32, tracking mechanism, \$496.47, and cover glass, \$126.12, on the north side rather than insulation, \$28.98, and the sheet steel, \$57.10. The investment of \$2544.60 gives 29.73 m^2 of area to receive solar radiation (the length of the collector, 9.75 m, and the height of the reflector, 3.05 m) at a unit cost of \$85.59/m^2. If the total length of the reflector, 12.19 m, which gives a reflector area of 37.16 m^2, is used, the \$2544.60 investment to collect energy on the north side is a unit cost of \$68.48/m^2 of reflector area. The total investment for the solar energy intensifier-thermal energy storage system is \$3501.73. Therefore, the unit cost is \$91.81/m^2 of collection area, with a collection area of 8.4/m^2 for the south side and 29.73 m^2 for the collector length of the reflector. If the total reflector area is used, the sum of the reflector area and the south collector area is 45.57 m^2, which gives a unit cost of \$76.84/m^2 based on total materials costs.

CONCLUSIONS

The following conclusions were reached as a result of this study:

1. The solar energy intensifier system collected 45.6 percent of the solar energy available perpendicular to the effective area of the system during the study from March 8 to April 18, 1979.
2. A total of 8.34 GJ of energy was collected with a daily average of 0.21 GJ.
3. The efficiency of the system was much higher on sunny days, than on overcast days or during periods of diffuse radiation.
4. The average peak efficiency, 54.6 percent, was at 1200 h while the average maximum energy collected, 35 MJ/h, and the average maximum solar energy available, 65 MJ/h, were at 1300 h.
5. The first sections of both the reflector side and the south side of the collector were by far the most efficient portions of the collector.
6. The temperatures produced were acceptable to produce high quality dried corn.
7. A highly significant, linear relationship accounted for 84 percent of the variation in the energy collected based on the radiation perpendicular to the solar energy intensifier-collector system.

SUMMARY

Agricultural systems have numerous applications for solar energy and this is of increasing importance with the uncertain ability and increasing costs of non-renewable energies. However, there is a need for improved designs to increase the efficiency of the collection of solar energy and to reduce the costs. A need also exists for documentation of the system performance. Therefore, a study was conducted to design and evaluate a solar energy intensifier system capable of being used for multiple applications.

The data collected were the temperatures at several points in the collector plus solar radiation and air velocity. Analysis of the system indicated that an average of 0.21 GJ of energy was collected each day from the collector-reflector area of 45.57 m^2. The efficiency of the solar energy intensifier system based on energy collected and solar energy available perpendicular to the effective collector-reflector area for the entire test period was 45.6 percent. Calculation of the average hourly efficiencies showed an average peak efficiency of 54.6 percent at 1200 h. The average maximum energy collected, 35 MJ/h, and the average maximum solar energy available, 65 MJ/h, were at 1300 h.

Statistical analysis was used to develop a highly significant relationship between energy collected and solar energy available. The relationship predicts 84 percent of the variability in the energy collected based on the solar energy available perpendicular to the effective collector-reflector area.

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APPENDIX A

MATERIAL COSTS FOR THE SOLAR ENERGY INTENSIFIER-THERMAL ENERGY STORAGE SYSTEM

Costs for Collector Materials

Quantity	Description	Unit Cost, $	Total Cost, $
16.67 m^2	Low iron tempered Glass	14.99	249.84
10	0.32 cm x 6.10 m Aluminum Frame	2.40	24.00
12	Tube of Caulking Compound	2.67	32.00
5	C7.62 cm x 1.86 kg x 6.1 m	20.71	103.53
2	2.65 mm x 1.22 x 3.05 m Sheet Steel	42.07	84.14
1	2.65 mm x 1.22 x 3.66 m Sheet Steel	64.89	64.89
3	2.65 mm x 0.36 x 3.05 m Sheet Steel	12.26	36.78
1	2.65 mm x 0.36 x 0.61 m Sheet Steel	2.40	2.40
6	1.52 mm x 1.22 x 3.05 m Sheet Steel	24.82	148.92
1	1.21 mm x 1.22 x 2.44 m Sheet Steel	18.03	18.03
2	1.52 mm x 1.22 x 0.61 m Sheet Steel	4.97	9.93
2	0.91 mm x 1.22 x 3.05 m Sheet Steel	18.03	36.06
1	0.91 mm x 1.22 x 3.66 m Sheet Steel	21.04	21.04
12	2.54 x 2.54 x 0.32 cm x 6.10 m Angles	3.90	46.85
1	0.95 x 2.54 cm x 6.10 m Flat	6.31	6.31
			884.72

Costs of Energy Conveyance Equipment

Quantity	Description	Unit Cost, $	Total Cost, $
1	0.91 mm x 1.22 x 3.05 m Sheet Steel	18.03	18.03
2	1.27 cm x 1.22 x 2.44 m Plywood	13.92	27.84
1	5.08 x 10.16 cm x 4.27 m Lumber	4.14	4.14
18 m^2	7.6 cm Fiberglass Batt Insulation	2.08	37.44
1	0.41 x 4.88 m Duct	25.00	25.00
			112.45

Costs for Reflector Materials

Quantity	Description	Unit Cost, $	Total Cost, $
2	5.08 cm x 6.4 m Extra Strong Pipe	38.61	77.21
1	7.62 cm x 0.61 m Extra Strong Pipe	10.12	10.12
4	20.32 x 5.08 x 0.32 cm x 6.10 m Structural Tubing	67.75	271.00
7	3.18 x 3.18 x 0.64 cm x 6.10 m Angle	11.51	80.57
2	3.18 x 3.18 x 0.48 cm x 6.10 m Angle	8.88	17.76
10	1.21 mm x 1.22 x 3.05 m Sheet Steel	22.86	228.60
37.16 m	0.30 mm Reflective Aluminum	22.06	819.76
3.79 l	White Paint	0.78	2.95
16	1.27 x 12.70 cm Bolt	0.27	4.24
8	6.35 cm Muffler Clamps	0.57	4.56
			1516.77

Costs for Reflector Support

Quantity	Description	Unit Cost, $	Total Cost, $
17	15.24 cm Posts	11.02	187.26
3.44 m^3	Concrete	46.11	158.65
4	5.08 x 25.40 cm x 6.10 m Lumber	17.73	70.92
4	5.08 x 20.32 cm x 5.49 m Lumber	11.04	44.16
3	Tubes of adhesive	3.89	11.67
18	1.27 x 27.94 cm Bolts	1.04	18.66
			491.32

Costs for Tracking Mechanism

Quantity	Description	Unit Cost, $	Total Cost, $
1	187 watt Split-phase Motor	53.15	53.15
4	Pillow Blocks	6.13	24.52
8	2 Bolt Flange Bearings	2.23	17.84
4	14 tooth Sprockets	5.55	22.19
4	84 tooth Sprockets	22.40	89.58
2	60.1 Gear Reducers	50.18	100.35
8 m	#40 Riveted Chain	9.45	75.60
14.63 m	2.54 cm Hot rolled shafting	2.20	32.19
7.32 m	5.40 x 0.08 cm Pipe	2.92	21.36
1.83 m	0.48 cm Threaded Rod	0.82	1.50
1	Time Clock	50.00	50.00
1.22 m	2.54 cm Black Pipe	2.00	2.44
0.81 m	C 7.6 cm x 2.3 kg	3.80	3.08
16	0.64 x 6.35 cm Lag Screw	0.09	1.44
4	1.27 x 12.70 cm Bolts	0.18	0.72
0.38 m	1.27 cm Black Pipe	1.35	0.51
			496.47

APPENDIX B

DATA FOR THE SOLAR CORN DRYING STUDY, MARCH 8 TO APRIL 18, 1979

Symbol	Description
MO	Month
DA	Day
YR	Year
HR	Hour
HRAD	Radiation of horizontal pyranometer, calories/cm^2-min
DECL	Declination, radians
STIME	Solar time, hours
AMB	Ambient temperature, ^oC
WB AMB	Weather bureau ambient temperature, ^oC
B AMB	Ambient temperature behind the reflector, ^oC
	Temperature at: (^oC)
NGlass	North collector glass surface
EXIT	Exit from the collector
DUCT	Inside the duct
Fan	Before the fan but after the air is mixed
S IN	South entrance
N IN	North entrance
E INS	Inside of collector, east
M INS	Inside of collector, middle
W INS	Inside of collector, west

Symbol	Temperature (^{o}C)
N1T	North or South side
N1B	End of specified section
N2T	Top or bottom
N2B	
N3T	
N3B	
S1T	
S1B	
S2T	
S2B	
S3T	
S3B	

TABLE 8 DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MC	CA	YR	HR	AMB	AMB	S IN	N IN	N2T	N2B	N3T	N3B	NGLASS	EINS	M INS	WINS	WB AMB	HRAD
3	8	79	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	16	-2.2	-1.1	3.3	2.5	6.9	6.4	6.9	6.9	7.5	5.8	5.8	6.1	0.0	0.490
3	8	79	17	-1.7	-1.7	0.0	0.0	3.6	3.9	3.9	3.9	4.4	4.4	4.4	4.2	-0.6	0.340
3	8	79	18	-3.3	-3.3	-3.3	-3.3	-1.9	-1.9	-1.9	-1.9	-2.2	-2.2	-2.2	-2.2	0.0	0.060
3	8	79	19	-2.2	-2.2	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	1.1	0.0
3	9	79	7	-14.4	-13.9	-13.9	-12.2	-11.7	-11.7	-11.7	-11.9	-9.4	-12.2	-12.2	-12.2	-12.8	0.020
3	9	79	8	-13.6	-13.6	-12.5	-11.4	-8.3	-8.9	-8.3	-8.1	-7.2	-5.6	-5.6	-6.7	-11.7	0.210
3	9	79	9	-13.1	-13.3	-12.5	-10.6	-9.2	-8.6	-8.9	-8.9	-8.9	-8.9	-8.6	-8.9	-12.8	0.300
3	9	79	10	-12.8	-12.8	-12.2	-10.6	-7.2	-7.8	-6.9	-6.9	-6.1	-6.4	-6.4	-6.7	-11.7	0.480
3	9	79	11	-13.3	-12.2	-11.1	-7.8	-1.7	-1.1	0.3	0.6	1.1	1.1	1.7	1.4	-11.7	0.400
3	9	79	12	-13.6	-13.3	-10.0	-7.2	9.4	24.7	14.2	23.1	1.1	14.7	15.0	17.8	-11.7	0.350
3	9	79	13	-12.2	-12.5	-10.0	-7.2	5.6	19.7	12.8	18.3	1.9	13.1	13.3	12.8	-11.1	1.000
3	9	79	14	-12.8	-11.9	-9.4	-5.8	11.7	29.4	20.3	26.9	-0.3	17.8	18.1	17.2	-11.1	0.980
3	9	79	15	-12.5	-12.2	-9.2	-6.9	5.6	20.6	11.7	20.6	-1.4	12.5	12.5	12.8	-11.7	1.000
3	9	79	16	-13.1	-12.2	-10.0	-9.2	-1.1	6.7	1.1	5.0	-3.9	2.8	2.8	1.7	-11.1	0.500
3	9	79	17	-13.6	-13.3	-11.4	-9.4	-2.8	-4.4	-4.4	-5.0	-8.3	-5.6	-5.6	-5.6	-13.9	0.310
3	9	79	18	-14.7	-14.4	-14.2	-13.3	-13.1	-12.5	-12.8	-12.8	-13.9	-12.8	-12.8	-12.8	-15.6	0.090
3	9	79	19	-16.4	-16.1	-16.1	-15.6	-15.3	-15.0	-15.3	-15.3	-16.4	-15.8	-15.8	-15.9	-15.6	0.0
3	10	79	7	-24.2	-24.2	-23.9	-22.5	-22.8	-22.2	-22.8	-22.2	-23.9	-23.3	-23.3	-22.8	-22.2	0.030
3	10	79	8	-23.6	-23.6	-23.1	-21.9	-18.3	-19.2	-17.5	-18.1	-19.4	-19.2	-18.9	-18.9	-21.7	0.260
3	10	79	9	-22.8	-22.5	-21.9	-19.4	-13.9	-6.1	-11.7	-2.2	-16.9	-8.9	-8.1	-8.1	-20.0	0.540
3	10	79	10	-21.1	-21.1	-18.9	-17.8	-8.3	6.7	-4.4	12.8	-12.8	1.7	1.7	0.0	-18.9	0.770
3	10	79	11	-20.3	-20.3	-17.8	-16.7	-1.7	18.1	4.4	22.2	-10.0	8.9	8.9	7.2	-18.3	0.950
3	10	79	12	-16.9	-17.5	-14.2	-11.1	5.8	32.8	9.4	30.8	-5.6	16.7	15.8	15.6	-16.7	1.060
3	10	79	13	-15.8	-15.6	-12.5	-8.3	7.2	30.6	18.3	29.4	-2.2	17.8	17.8	17.8	-14.4	1.070
3	10	79	14	-14.7	-14.2	-11.7	-9.4	4.4	22.8	11.1	21.9	-2.8	13.1	12.8	13.3	-13.9	1.000
3	10	79	15	-13.9	-13.3	-11.1	-9.2	-0.8	12.2	2.2	10.3	-5.0	4.4	4.4	3.3	-12.8	0.840
3	10	79	16	-14.2	-13.6	-11.7	-9.4	-2.2	-2.8	-3.9	-3.9	-8.1	-7.2	-4.4	-4.4	-12.2	0.610
3	10	79	17	-14.2	-13.9	-12.9	-13.1	-12.5	-12.2	-12.2	-12.5	-12.2	-11.9	-11.9	-11.9	-13.9	0.330
3	10	79	18	-14.4	-14.4	-15.0	-15.0	-15.0	-14.7	-14.7	-14.7	-15.3	-15.3	-15.0	-15.0	-14.4	0.090
3	10	79	19	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	0.0
3	11	79	7	-5.3	-5.3	-5.3	-3.9	-3.3	-3.1	-3.3	-3.3	-4.2	-4.2	-4.2	-4.2	-3.9	0.030
3	11	79	8	-3.9	-3.9	-3.9	-2.2	-1.1	-0.8	-1.1	-1.1	-0.6	-1.1	-1.1	-1.1	-3.3	0.190
3	11	79	9	-2.8	-2.8	-2.5	-0.6	3.6	4.4	5.0	5.8	6.1	5.3	5.6	5.6	-2.8	0.400
3	11	79	10	-0.8	-1.4	-0.8	1.7	6.7	6.9	5.6	10.0	10.0	9.4	9.4	8.9	-1.7	0.560
3	11	79	11	0.0	0.0	1.9	5.3	19.4	40.0	25.6	46.4	14.7	30.8	30.8	31.1	-0.6	0.900
3	11	79	12	4.4	2.2	3.6	10.3	26.7	52.2	35.8	52.8	18.9	37.2	37.2	38.9	1.1	0.980
3	11	79	13	1.9	3.9	3.9	9.2	26.1	46.1	35.0	47.2	17.2	35.0	35.0	37.5	1.1	0.990
3	11	79	14	3.3	3.3	3.9	7.5	20.3	40.6	26.9	41.9	17.5	30.3	30.0	30.6	1.1	0.920
3	11	79	15	2.2	2.8	3.9	6.1	20.0	27.2	17.5	23.3	12.8	20.0	20.0	19.4	1.1	0.760
3	11	79	16	2.8	3.9	3.1	3.9	10.6	11.1	10.3	10.3	7.8	10.3	10.3	10.0	1.7	0.540
3	11	79	17	0.0	0.0	0.0	-0.8	0.3	0.3	0.8	0.8	1.4	1.4	1.4	1.1	-0.6	0.290
3	11	79	18	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-2.2	0.070
3	11	79	19	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	0.0

TABLE 8 DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MC	DA	YR	HR	AMB	AMB	S IN	N IN	N2T	N2B	N3T	N3B	NGLASS	EINS	M INS	WINS	WB AMB	HRAD
3	12	79	7	-10.3	-10.3	-10.3	-10.3	-10.3	-10.3	-10.3	-10.3	-10.3	-10.3	-10.3	-10.3	-7.2	0.030
3	12	79	8	-5.8	-5.8	-5.8	-5.8	-4.4	-3.6	-3.6	-2.2	-5.0	-3.6	-3.3	-3.3	-6.7	0.290
3	12	79	9	-4.2	-4.2	-4.2	-3.6	1.4	7.8	3.6	13.3	0.6	6.9	6.9	6.7	-3.9	0.620
3	12	79	10	-2.2	-2.2	-1.7	-1.1	9.2	24.4	13.6	30.0	4.4	19.4	19.4	19.2	-2.8	0.740
3	12	79	11	-0.3	0.3	0.8	1.4	17.8	37.2	24.2	40.6	10.0	28.3	28.3	29.4	1.1	0.890
3	12	79	12	3.6	3.1	3.6	5.0	22.8	42.8	28.1	42.8	12.5	31.1	30.8	26.1	1.7	1.020
3	12	79	13	3.3	3.9	4.4	5.3	23.1	40.6	26.7	40.6	13.3	29.4	29.4	28.3	2.8	0.950
3	12	79	14	3.3	4.2	4.7	5.0	15.6	27.2	18.1	31.1	11.1	22.8	22.8	20.0	2.8	0.920
3	12	79	15	3.6	4.4	4.4	4.2	10.3	18.1	12.2	18.3	8.9	15.0	15.0	13.6	2.8	0.740
3	12	79	16	3.1	3.1	3.1	3.1	5.6	5.8	6.1	6.1	5.3	6.4	6.4	6.4	2.8	0.580
3	12	79	17	2.5	3.1	2.5	1.9	2.2	2.2	2.5	2.5	2.2	2.5	2.5	2.5	2.8	0.260
3	12	79	18	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.4	1.4	1.4	1.4	2.2	0.100
3	12	79	19	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	0.0
3	13	79	7	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9	1.9	1.9	1.9	1.1	0.030
3	13	79	8	-1.4	-1.4	-1.4	-1.4	-0.8	-0.8	-0.8	-0.8	-0.8	-0.6	-0.6	-0.6	-0.6	0.100
3	13	79	9	-3.3	-3.1	-3.1	-2.8	-2.2	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-2.8	0.130
3	13	79	10	-3.9	-3.3	-3.3	-3.1	-2.2	-2.2	-2.2	-2.2	-2.2	-1.9	-1.9	-1.9	-3.3	0.130
3	13	79	11	-5.6	-5.3	-4.7	-4.7	-3.6	-3.6	-3.1	-3.1	-3.6	-3.1	-3.1	-3.1	-5.0	0.240
3	13	79	12	-6.1	-6.1	-5.3	-5.3	-3.1	-3.1	-2.5	-2.5	-2.5	-1.7	-1.7	-1.7	-5.0	0.600
3	13	79	13	-6.1	-6.1	-5.0	-5.0	-1.7	-1.7	-0.8	-0.8	-1.1	0.3	0.3	0.3	-5.0	0.490
3	13	79	14	-5.6	-5.6	-4.4	-3.9	-1.1	-1.1	-0.6	-0.6	-1.1	0.3	0.3	0.0	-5.0	0.610
3	13	79	15	-5.0	-5.0	-3.9	-3.6	-0.3	0.6	0.6	1.1	-1.1	1.1	1.1	0.8	-5.0	0.450
3	13	79	16	-5.6	-5.3	-4.7	-4.2	-3.3	-3.3	-3.3	-3.1	-3.3	-3.1	-3.1	-3.1	-5.0	0.440
3	13	79	17	-5.6	-5.3	-5.0	-5.0	-4.7	-4.7	-4.7	-4.7	-5.3	-5.0	-5.0	-5.0	-5.0	0.200
3	13	79	18	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-6.9	-6.9	-6.9	-6.9	-5.6	0.070
3	13	79	19	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	0.0
3	14	79	7	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.9	-3.9	-3.9	-3.9	-2.8	0.020
3	14	79	8	-7.2	-7.2	-7.2	-7.2	-7.2	-6.7	-6.7	-6.7	-6.1	-6.1	-6.1	-6.1	-5.0	0.070
3	14	79	9	-7.8	-7.8	-7.8	-7.8	-7.2	-7.2	-7.2	-7.2	-6.7	-6.7	-6.7	-6.7	-10.6	0.180
3	14	79	10	-10.0	-10.0	-10.0	-10.0	-8.9	-7.8	-7.8	-7.8	-6.1	-6.1	-6.1	-6.1	-10.6	0.450
3	14	79	11	-10.6	-10.6	-7.8	-7.2	-5.0	-5.0	10.6	25.0	0.6	12.8	12.8	13.3	-10.6	0.940
3	14	79	12	-10.3	-10.0	-7.8	-6.7	11.1	25.6	15.6	31.7	2.8	17.5	18.1	17.2	-11.1	1.070
3	14	79	13	-8.9	-10.0	-7.8	-7.5	11.1	32.2	16.1	40.0	2.2	22.8	22.2	20.6	-11.1	1.100
3	14	79	14	-10.0	-8.6	-7.2	-4.7	9.4	30.6	13.3	36.7	1.1	20.0	20.0	18.3	-10.6	1.040
3	14	79	15	-9.4	-9.4	-8.3	-6.1	2.8	18.3	5.6	25.0	-0.8	13.3	13.3	10.6	-10.6	0.880
3	14	79	16	-11.1	-11.1	-8.1	-6.7	0.0	10.0	1.1	11.1	-3.9	5.3	5.3	4.2	-11.1	0.650
3	14	79	17	-9.7	-9.7	-9.2	-7.8	-5.0	-1.1	-4.4	-2.2	-6.4	-3.3	-3.3	-5.6	-11.7	0.370
3	14	79	18	-12.2	-12.2	-11.9	-11.4	-11.1	-11.1	-11.1	-10.6	-11.4	-10.6	-10.6	-10.8	-12.8	0.120
3	14	79	19	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	0.0
3	15	79	7	-21.4	-21.4	-21.4	-21.7	-21.7	-21.7	-21.7	-21.7	-21.9	-21.9	-21.9	-21.9	-18.3	0.060
3	15	79	8	-18.9	-18.9	-18.9	-18.9	-16.4	-16.4	-16.4	-15.0	-16.4	-16.4	-16.4	-16.4	-15.6	0.320
3	15	79	9	-16.9	-16.9	-16.9	-16.9	-12.2	-5.8	-9.4	-1.4	-11.9	-5.6	-5.6	-5.6	-13.9	0.540
3	15	79	10	-15.0	-15.0	-14.4	-13.6	-4.4	7.2	-0.8	11.4	-7.2	2.8	2.8	2.8	-11.1	0.830
3	15	79	11	-10.6	-10.6	-8.9	-7.8	7.2	24.4	11.1	31.1	-3.3	15.0	14.4	12.2	-8.9	0.940
3	15	79	12	-8.6	-8.6	-7.2	-5.6	11.1	33.3	15.0	38.3	1.7	21.4	21.4	19.4	-8.9	1.030
3	15	79	13	-5.0	-5.8	-5.6	-3.6	11.9	33.3	16.1	38.1	3.9	22.2	22.2	17.8	-6.1	1.050
3	15	79	14	-5.6	-5.0	-4.4	-3.1	10.0	28.3	13.3	36.1	9.4	20.8	20.0	18.3	-3.3	0.990
3	15	79	15	-5.3	-4.4	-3.3	-3.3	5.0	16.1	7.2	22.2	2.8	14.4	13.9	10.8	-3.9	0.830
3	15	79	16	-4.4	-2.5	-2.5	-2.8	2.5	10.8	4.4	12.8	0.6	8.9	8.6	6.7	-4.4	0.600
3	15	79	17	-3.3	-2.8	-2.2	-2.8	0.3	3.6	1.1	2.2	-0.8	2.2	2.2	1.7	-4.4	0.340
3	15	79	18	-3.1	-2.8	-3.1	-3.6	-3.3	-3.3	-3.3	-3.3	-3.6	-3.1	-3.1	-3.1	-3.3	0.100
3	15	79	19	-4.4	-4.4	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-5.3	-5.3	-5.3	-5.3	-3.9	0.0

TABLE 8 DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MO	DA	YR	HR	AMB	AMB	S IN	N IN	N2T	N2B	N3T	N3B	NGLASS	EINS	M INS	WINS	WB AMB	HRAD
3	16	79	7	-1.4	-1.1	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-2.2	-2.2	-2.2	-2.2	-1.7	0.030
3	16	79	8	-0.6	-0.6	-0.6	-0.6	0.8	2.5	2.2	4.4	1.4	0.0	0.0	0.0	-0.6	0.240
3	16	79	9	0.8	0.8	0.8	0.8	3.9	3.9	5.0	5.0	5.0	5.6	5.3	5.3	0.0	0.500
3	16	79	10	1.7	2.2	1.9	1.9	3.6	3.6	4.2	4.2	4.7	4.7	4.7	4.7	1.1	0.300
3	16	79	11	1.9	1.9	2.2	2.2	4.4	4.4	4.7	4.7	5.8	5.8	5.8	5.8	1.7	0.330
3	16	79	12	2.8	2.8	2.8	2.8	5.3	5.3	6.1	6.1	7.2	6.9	6.9	6.9	2.2	0.410
3	16	79	13	3.1	3.1	3.6	3.6	6.7	6.4	7.5	7.5	8.9	8.6	8.6	8.6	2.8	0.510
3	16	79	14	3.3	3.3	3.6	3.6	6.4	6.4	6.9	6.9	7.8	8.1	8.1	8.1	2.8	0.460
3	16	79	15	3.3	3.3	3.3	3.3	5.0	5.0	5.3	5.3	5.6	5.8	5.8	5.8	2.8	0.310
3	16	79	16	3.3	3.3	3.3	3.3	4.7	4.7	5.0	5.0	4.7	5.3	5.3	5.3	3.3	0.230
3	16	79	17	2.8	2.8	2.8	2.8	3.3	3.3	3.3	3.3	3.9	3.9	3.9	3.9	2.8	0.120
3	16	79	18	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.8	0.060
3	16	79	19	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.2	0.0
3	17	79	7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.1	0.030
3	17	79	8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.1	0.090
3	17	79	9	1.9	1.9	1.9	1.9	2.8	2.8	2.8	2.8	3.1	3.3	3.3	3.3	1.1	0.120
3	17	79	10	2.5	2.5	2.5	2.5	3.6	3.6	3.9	3.9	4.4	4.4	4.4	4.4	1.7	0.170
3	17	79	11	2.8	2.8	2.8	2.8	4.2	4.2	4.4	4.4	5.0	5.0	5.0	5.0	1.7	0.240
3	17	79	12	3.1	3.1	3.1	3.1	4.2	4.2	4.4	4.4	4.7	5.0	5.0	5.0	1.7	0.240
3	17	79	13	3.3	2.8	2.8	2.8	4.7	4.7	5.0	5.0	5.0	5.8	5.8	5.8	1.7	0.260
3	17	79	14	3.3	3.3	3.3	3.3	5.3	5.3	5.8	5.8	6.4	6.7	6.7	6.7	1.7	0.250
3	17	79	15	4.4	4.4	4.4	4.4	6.4	6.4	6.9	6.9	7.8	7.8	7.8	7.8	2.8	0.340
3	17	79	16	4.2	4.2	4.2	4.2	5.8	5.8	6.4	6.4	7.2	7.2	7.2	7.2	2.8	0.260
3	17	79	17	3.6	3.6	3.6	3.1	4.2	4.2	4.4	4.4	5.0	5.0	5.0	5.0	1.7	0.140
3	17	79	18	3.6	3.6	3.6	3.6	4.2	4.2	4.4	4.4	4.7	4.7	4.7	4.7	3.3	0.050
3	17	79	19	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	0.0
3	18	79	7	1.7	1.7	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.1	0.020
3	18	79	8	2.2	2.2	1.9	1.9	1.9	1.9	1.9	1.9	2.5	1.9	2.5	2.5	1.1	0.030
3	18	79	9	2.2	2.2	2.2	2.2	2.5	2.5	3.1	3.1	3.3	3.3	3.3	3.3	1.7	0.070
3	18	79	10	1.4	1.4	1.4	1.4	2.2	2.2	2.5	2.5	3.3	3.1	3.6	3.3	1.1	0.170
3	18	79	11	1.1	1.1	1.1	1.1	1.7	1.7	1.9	1.9	2.5	2.2	2.5	2.5	1.1	0.150
3	18	79	12	1.1	1.1	1.1	1.1	2.2	2.2	2.8	2.8	3.3	3.6	3.6	3.6	0.0	0.100
3	18	79	13	1.7	1.7	1.7	1.7	2.8	2.8	3.3	3.3	3.9	3.9	3.9	3.9	0.0	0.170
3	18	79	14	0.8	0.8	0.8	0.8	1.7	1.7	1.9	1.9	2.2	2.5	2.5	2.5	0.0	0.190
3	18	79	15	1.1	1.1	1.1	1.1	1.7	1.7	1.9	1.9	2.2	2.5	2.5	2.5	1.1	0.090
3	18	79	16	0.6	0.6	0.6	0.6	1.4	1.4	1.7	1.7	1.7	1.7	1.9	1.9	2.2	0.130
3	18	79	17	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.4	1.4	1.7	1.7	1.1	0.080
3	18	79	18	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.9	1.9	1.9	1.9	1.7	0.040
3	18	79	19	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.2	0.0
3	19	79	7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.030
3	19	79	8	0.3	0.3	0.3	0.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.070
3	19	79	9	0.3	0.3	0.3	0.3	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.090
3	19	79	10	0.8	0.8	0.8	0.8	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	1.1	0.170
3	19	79	11	0.8	0.8	0.8	0.8	1.9	1.9	1.9	1.9	2.5	2.5	2.5	2.5	1.1	0.140
3	19	79	12	1.7	1.7	1.7	1.9	3.9	3.9	4.4	4.4	5.0	5.0	5.0	5.0	1.1	0.190
3	19	79	13	0.6	0.6	0.8	1.4	2.2	2.2	2.5	2.5	0.0	0.0	0.0	0.0	1.1	0.380
3	19	79	14	0.3	0.3	0.3	0.6	1.4	1.4	1.4	1.4	1.4	1.4	1.7	1.7	0.0	0.210
3	19	79	15	-0.3	-0.3	-0.3	0.0	0.6	0.6	0.6	0.6	0.8	0.8	1.1	1.1	0.0	0.130
3	19	79	16	-0.6	-0.6	-0.6	0.3	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.110
3	19	79	17	-0.6	-0.6	-0.6	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.3	0.3	-0.6	0.060
3	19	79	18	-0.6	-0.6	-0.6	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	-1.1	0.040
3	19	79	19	-0.3	-0.3	-0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	-0.6	0.0

TABLE 8 DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MO	DA	YR	HR	AMB	AMB	S IN	N IN	N2T	N2B	N3T	N3B	NGLASS	EINS	M INS	WINS	WB AMB	HRAD
3	20	79	7	-0.3	-0.3	-0.3	0.8	0.8	0.8	0.8	0.8	0.3	0.3	0.3	0.3	0.0	0.030
3	20	79	8	0.0	0.0	0.0	0.6	1.1	1.1	1.1	1.1	0.8	0.8	0.8	0.8	0.0	0.070
3	20	79	9	0.3	0.3	0.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.0	0.130
3	20	79	10	0.6	0.6	0.6	1.4	2.2	2.2	2.8	2.8	3.1	3.1	3.1	3.1	1.1	0.200
3	20	79	11	0.6	0.6	0.6	1.9	3.1	3.1	3.1	3.1	3.3	3.3	3.3	3.3	1.1	0.220
3	20	79	12	2.2	1.9	2.2	2.5	4.4	4.4	5.0	5.0	6.1	5.8	5.8	5.8	1.7	0.420
3	20	79	13	2.8	2.5	2.8	3.6	5.0	5.0	5.6	5.6	6.4	6.1	6.1	6.1	2.8	0.360
3	20	79	14	3.1	3.1	3.1	4.7	5.8	5.8	6.7	6.7	7.5	7.2	7.2	7.2	2.8	0.360
3	20	79	15	3.3	3.3	3.3	4.4	5.6	5.3	5.6	5.6	6.7	6.1	6.1	6.1	2.8	0.340
3	20	79	16	3.3	3.3	3.3	3.9	4.7	4.7	5.3	5.3	5.3	5.0	5.0	5.0	3.9	0.200
3	20	79	17	3.1	2.8	2.8	3.9	4.2	4.2	4.2	4.2	4.2	4.2	3.6	3.3	4.4	0.150
3	20	79	18	2.8	2.8	2.8	3.1	3.3	3.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	0.040
3	20	79	19	2.2	2.2	2.2	3.6	3.6	3.6	3.3	3.3	2.8	2.8	3.1	3.1	2.2	0.0
3	21	79	7	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-0.6	0.030
3	21	79	8	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	0.6	0.060
3	21	79	9	0.0	0.0	0.0	0.0	0.8	0.8	1.1	1.1	1.7	1.1	1.1	1.1	0.0	0.170
3	21	79	10	1.4	1.4	1.4	1.4	1.9	1.9	2.5	2.5	3.3	3.1	3.1	3.1	1.1	0.180
3	21	79	11	1.7	1.7	1.7	1.7	3.1	3.1	3.6	3.6	4.7	4.2	4.2	4.2	1.7	0.220
3	21	79	12	3.6	3.6	3.6	3.9	6.1	5.8	6.4	6.4	7.5	7.5	7.5	7.2	3.9	0.470
3	21	79	13	4.7	4.7	4.7	4.4	6.4	6.4	6.9	6.9	8.3	8.1	8.1	7.8	5.6	0.360
3	21	79	14	4.7	4.7	4.7	4.7	6.1	6.1	6.7	6.7	8.1	8.1	8.1	7.5	5.0	0.340
3	21	79	15	4.7	4.7	4.7	4.7	5.6	5.6	6.1	6.1	6.9	6.7	6.4	6.4	5.0	0.200
3	21	79	16	4.2	4.2	4.2	4.2	4.4	4.4	4.4	4.4	5.0	5.0	5.0	5.0	4.4	0.120
3	21	79	17	3.1	3.1	3.1	3.1	3.3	3.3	3.3	3.3	3.6	3.6	3.6	3.6	4.4	0.080
3	21	79	18	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.8	0.030
3	21	79	19	1.9	1.9	1.9	1.9	1.9	1.9	1.7	1.7	1.7	1.7	1.7	1.7	2.2	0.0
3	22	79	7	-0.6	-0.6	-0.6	-0.6	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	0.0	0.020
3	22	79	8	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	-0.3	-0.3	-0.3	-0.3	1.1	0.030
3	22	79	9	-0.3	-0.3	-0.3	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.050
3	22	79	10	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.3	0.3	0.3	0.3	0.0	0.060
3	22	79	11	0.0	0.0	0.3	0.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.150
3	22	79	12	-0.3	-0.3	0.3	0.3	0.6	0.6	0.6	0.6	0.0	0.6	0.6	0.6	0.0	0.130
3	22	79	13	-0.6	-0.6	-0.6	-0.3	0.6	0.6	0.6	0.6	0.0	0.6	0.6	0.6	0.0	0.190
3	22	79	14	-0.6	-0.6	-0.3	-0.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.210
3	22	79	15	-0.3	-0.3	0.0	0.0	0.6	0.6	0.8	0.8	0.6	0.8	0.8	0.8	0.0	0.230
3	22	79	16	-0.3	-0.3	-0.3	-0.3	0.8	0.8	0.8	0.8	0.6	0.6	0.6	0.6	0.0	0.190
3	22	79	17	-0.3	-0.3	-0.3	-0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.090
3	22	79	18	-0.6	-0.6	-0.6	-0.6	0.0	0.0	0.0	0.0	-0.3	-0.3	-0.3	-0.3	0.3	0.040
3	22	79	19	-0.8	-0.8	-0.8	-0.8	-0.3	-0.3	-0.3	-0.3	-0.6	-0.6	-0.6	-0.6	0.0	0.0
3	23	79	7	-2.8	-2.8	-2.5	-2.2	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-2.8	0.060
3	23	79	8	-3.3	-3.3	-2.8	-2.8	-2.2	-2.2	-2.2	-2.2	-1.9	-1.9	-1.9	-1.9	-2.8	0.230
3	23	79	9	-4.7	-4.7	-3.6	-3.6	-2.8	-2.8	-2.5	-2.5	-1.7	-2.5	-2.5	-2.5	-3.9	0.420
3	23	79	10	-5.6	-5.6	-4.4	-4.4	-2.5	-2.2	-1.9	-1.7	-0.6	-1.9	-1.9	-1.9	-5.0	0.630
3	23	79	11	-5.0	-5.0	-3.3	-3.1	2.5	9.4	4.7	13.3	3.1	8.6	9.2	8.9	-5.0	0.940
3	23	79	12	-5.8	-5.8	-3.9	-3.9	2.5	7.2	4.7	10.8	3.9	7.8	8.3	7.2	-5.0	0.900
3	23	79	13	-5.6	-5.6	-3.3	-3.3	2.2	2.8	3.6	4.4	4.4	5.3	5.8	5.0	-6.1	0.900
3	23	79	14	-5.6	-5.6	-2.8	-2.5	4.2	8.1	6.4	11.1	5.0	9.4	9.7	8.9	-6.1	0.910
3	23	79	15	-6.1	-6.1	-3.6	-3.6	1.1	-0.3	0.3	5.0	4.7	5.3	6.1	5.0	-6.1	0.880
3	23	79	16	-5.6	-5.6	-3.6	-3.6	-0.3	0.3	0.3	1.9	0.3	2.2	2.8	1.9	-5.0	0.540
3	23	79	17	-5.3	-4.7	-3.3	-3.9	-1.9	-1.4	-1.4	-0.6	-0.8	0.3	0.3	0.3	-5.0	0.400
3	23	79	18	-5.8	-5.0	-5.3	-5.6	-5.3	-5.0	-5.0	-5.0	-5.3	-4.7	-4.7	-4.7	-6.1	0.150
3	23	79	19	-7.5	-7.5	-7.5	-6.7	-6.9	-6.9	-6.9	-6.9	-7.8	-7.5	-7.5	-7.5	-6.7	0.0

TABLE B DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MO	DA	YR	HR	AMB	AMB	S IN	N IN	N2T	N2B	N3T	N3B	NGLASS	EINS	M INS	WINS	WB AMB	HRAD
3	24	79	7	-10.8	-10.8	-10.8	-9.4	-10.3	-10.3	-10.3	-10.3	-10.6	-10.6	-10.6	-10.6	-10.6	0.090
3	24	79	8	-9.4	-9.4	-9.4	-8.1	-7.5	-7.2	-7.2	-6.1	-6.7	-5.6	-5.3	-5.6	-9.4	0.350
3	24	79	9	-8.1	-8.1	-7.8	-6.1	-3.6	-1.4	-1.9	2.2	-2.5	2.8	2.8	1.7	-8.9	0.610
3	24	79	10	-6.7	-6.7	-5.8	-5.0	0.8	10.0	3.9	15.8	1.7	14.2	14.2	11.4	-7.2	0.860
3	24	79	11	-5.3	-5.0	-2.8	-1.9	6.1	23.3	10.0	30.6	4.4	21.9	22.2	18.3	-6.1	1.040
3	24	79	12	-3.9	-3.9	-1.4	1.4	27.2	35.6	34.7	40.6	12.2	30.8	31.7	33.1	-5.0	1.130
3	24	79	13	-3.3	-3.3	-0.8	1.9	28.6	34.2	34.7	41.7	12.8	31.7	32.2	33.6	-5.0	1.150
3	24	79	14	-3.3	-3.1	-0.6	1.1	20.8	37.8	25.8	41.4	10.3	28.3	28.1	28.3	-5.0	1.090
3	24	79	15	-3.6	-2.8	-0.3	1.7	11.7	28.3	14.7	30.8	7.5	20.8	20.8	20.0	-3.9	0.910
3	24	79	16	-3.3	-2.5	-0.3	0.6	6.1	16.9	8.3	17.8	4.2	13.3	13.3	11.7	-3.3	0.690
3	24	79	17	-3.9	-3.3	-1.9	-1.9	0.0	3.1	0.8	2.8	-0.8	3.6	3.6	2.5	-3.9	0.410
3	24	79	18	-5.6	-4.4	-4.4	-4.4	-4.2	-3.9	-3.9	-3.9	-4.7	-3.9	-3.9	-3.9	-4.4	0.150
3	24	79	19	-7.2	-7.2	-7.2	-7.2	-6.9	-6.9	-6.9	-6.9	-7.8	-7.5	-7.5	-7.5	-5.6	0.0
3	25	79	7	-10.6	-10.6	-10.6	-10.6	-10.6	-10.6	-10.6	-10.6	-9.7	-10.0	-10.0	-10.0	-10.6	0.110
3	25	79	8	-8.1	-8.1	-8.1	-8.1	-7.2	-7.2	-7.2	-6.9	-6.7	-6.7	-6.7	-6.7	-8.9	0.170
3	25	79	9	-6.7	-6.7	-5.6	-5.6	-4.4	-4.4	-3.9	-3.9	-2.8	-3.1	-3.1	-3.1	-7.2	0.340
3	25	79	10	-4.4	-3.9	-3.3	-3.9	0.3	0.3	1.9	1.9	4.2	4.2	4.2	3.3	-6.1	0.640
3	25	79	11	-3.3	-3.1	1.9	-1.7	24.4	33.1	31.4	37.8	10.0	29.2	29.4	32.8	-3.9	0.800
3	25	79	12	-1.9	-1.9	2.2	0.0	26.7	33.6	32.2	38.3	16.7	32.2	33.3	33.9	-2.8	1.080
3	25	79	13	-0.6	-0.6	-0.6	3.3	28.1	36.7	33.6	39.2	16.7	32.8	32.2	32.8	-1.7	1.120
3	25	79	14	-1.7	-1.7	0.6	1.1	21.7	37.8	26.7	43.3	15.6	30.0	30.0	30.0	-0.6	1.070
3	25	79	15	-1.1	-0.8	0.6	-0.3	10.0	18.9	13.6	23.3	13.1	18.1	18.3	16.4	-0.6	0.920
3	25	79	16	0.6	1.1	1.9	0.3	6.7	14.2	9.4	15.6	8.6	14.2	14.2	12.8	1.1	0.710
3	25	79	17	-2.2	-1.9	-1.9	-1.9	0.8	1.1	1.7	1.7	2.5	3.1	3.1	2.5	-1.7	0.470
3	25	79	18	-2.8	-2.8	-2.8	-2.5	-2.2	-2.2	-2.2	-2.2	-1.9	-1.9	-1.9	-1.9	-1.1	0.120
3	25	79	19	-2.5	-2.8	-2.8	-2.5	-2.2	-2.2	-2.5	-2.5	-2.8	-2.8	-2.8	-2.8	-2.2	0.0
3	26	79	7	-11.4	-11.4	-11.1	-9.7	-10.0	-10.0	-10.0	-10.0	-10.8	-10.3	-10.3	-10.3	-9.4	0.080
3	26	79	8	-10.8	-10.8	-10.3	-10.0	-8.3	-8.1	-7.8	-6.7	-8.3	-6.1	-6.1	-6.4	-11.1	0.320
3	26	79	9	-10.6	-10.6	-5.4	-8.9	-4.7	0.6	-2.5	4.4	-5.3	1.7	1.7	0.6	-11.1	0.470
3	26	79	10	-9.4	-9.4	-7.8	-7.8	2.5	11.1	6.7	14.7	-1.7	9.7	9.7	8.6	-8.9	0.980
3	26	79	11	-8.6	-8.6	-6.1	-5.6	13.3	23.1	17.8	26.9	3.9	18.3	18.6	18.6	-8.3	1.020
3	26	79	12	-7.8	-7.8	-5.8	-4.7	8.1	11.9	12.2	16.7	6.1	16.1	16.7	16.4	-8.9	1.000
3	26	79	13	-6.7	-6.7	-3.9	-3.3	13.6	23.9	17.5	24.4	7.2	20.3	20.2	20.0	-7.2	1.000
3	26	79	14	-6.4	-6.4	-3.9	-3.6	5.0	6.9	7.2	11.1	5.6	10.8	11.7	12.2	-6.1	1.040
3	26	79	15	-6.4	-6.1	-4.7	-4.2	2.2	3.6	3.6	4.4	2.5	4.7	4.7	3.6	-6.1	0.480
3	26	79	16	-6.1	-6.1	-5.6	-4.7	-1.7	-0.8	-0.6	-0.3	-0.6	0.3	0.3	0.0	-5.6	0.400
3	26	79	17	-6.1	-5.8	-4.2	-4.2	-2.2	-1.7	-1.7	-1.1	-2.2	-1.7	-1.7	-1.7	-7.2	0.230
3	26	79	18	-6.4	-6.4	-6.7	-6.1	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-7.2	0.090
3	26	79	19	-7.2	-7.2	-7.2	-6.1	-6.1	-6.1	-6.1	-6.4	-6.7	-6.7	-6.7	-6.7	-6.7	0.0
3	27	79	7	-9.2	-9.2	-9.2	-9.2	-8.9	-8.9	-8.9	-8.9	-8.6	-8.6	-8.6	-8.6	-9.4	0.090
3	27	79	8	-8.1	-8.1	-8.1	-8.1	-6.7	-6.7	-6.1	-6.1	-6.1	-5.6	-5.6	-5.6	-8.9	0.460
3	27	79	9	-6.4	-6.4	-6.4	-6.4	-3.3	-3.1	-2.2	-2.2	-2.8	-1.1	-1.1	-1.7	-7.2	0.500
3	27	79	10	-5.6	-5.6	-5.0	-5.3	-1.9	-1.9	-1.1	-1.1	0.3	0.3	0.3	0.3	-5.0	0.540
3	27	79	11	-3.1	-2.8	-1.9	-2.2	5.0	5.0	6.1	6.7	6.4	8.9	8.9	8.6	-3.3	0.700
3	27	79	12	-2.2	-2.2	-1.4	-1.7	3.9	3.9	5.3	5.3	4.2	7.8	7.8	6.7	-2.8	0.830
3	27	79	13	-1.9	-1.9	-0.8	-1.4	2.5	2.5	3.6	3.6	3.6	5.0	5.0	4.4	-0.6	0.670
3	27	79	14	-1.1	-1.1	-0.3	-0.6	2.5	2.5	3.3	3.3	3.1	4.7	4.7	4.4	-0.6	0.530
3	27	79	15	0.0	0.0	1.1	0.6	4.4	4.2	5.3	5.3	6.9	7.5	7.8	7.2	0.0	0.590
3	27	79	16	0.3	0.3	0.8	0.6	3.1	3.1	3.6	3.6	3.6	5.0	5.0	4.4	1.1	0.480
3	27	79	17	1.1	1.1	1.7	1.1	2.2	2.2	2.5	2.5	2.2	3.3	3.3	3.1	1.1	0.280
3	27	79	18	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.1	0.100
3	27	79	19	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.1	0.0

TABLE B DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MO	DA	YR	HR	AMB	AMB	S IN	N IN	N2T	N2B	N3T	N3B	NGLASS	EINS	W INS	WINS	WB AMB	HRAD
3	28	79	7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8	0.030
3	28	79	8	2.2	2.2	2.2	2.2	3.1	3.1	3.3	3.3	3.6	3.6	3.6	3.6	3.9	0.090
3	28	79	9	4.2	4.2	4.2	4.4	7.5	7.5	8.6	8.6	9.4	9.4	9.4	9.4	4.4	0.500
3	28	79	10	5.0	5.0	5.0	5.0	7.2	7.2	8.1	8.1	9.4	8.9	8.9	8.9	5.0	0.440
3	28	79	11	4.2	4.2	4.2	4.7	6.7	6.7	6.9	6.9	7.2	7.2	7.2	7.2	4.4	0.430
3	28	79	12	3.3	3.3	4.4	4.4	12.2	13.9	13.9	15.0	12.5	14.2	14.2	14.2	4.4	0.650
3	28	79	13	1.7	1.7	1.7	2.2	3.3	3.3	3.6	3.6	3.9	4.2	4.2	4.2	2.8	0.280
3	28	79	14	0.3	1.8	0.8	0.8	2.8	2.8	3.3	3.3	3.3	3.9	3.9	3.9	1.1	0.320
3	28	79	15	-0.6	-0.6	0.3	0.6	2.5	2.5	2.8	2.8	2.8	3.1	3.3	3.1	0.0	0.410
3	28	79	16	-0.8	-0.8	-0.8	-0.3	1.1	1.1	1.7	1.7	1.7	1.7	1.7	1.7	0.0	0.250
3	28	79	17	-1.7	-1.7	-1.4	-0.8	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	-0.6	0.190
3	28	79	18	-1.9	-1.9	-1.9	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.7	0.060
3	28	79	19	-2.5	-2.5	-2.5	-0.3	-1.4	-1.4	-1.4	-1.4	-1.9	-1.9	-1.9	-1.9	-2.2	0.020
3	29	79	7	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-2.8	0.040
3	29	79	8	-2.2	-2.2	-2.2	-2.2	-1.7	-1.7	-1.7	-1.7	-1.7	-1.4	-1.4	-1.4	-1.1	0.120
3	29	79	9	-0.8	-0.8	-0.8	-0.8	1.4	1.4	1.7	1.7	1.7	2.5	2.5	2.5	-0.6	0.280
3	29	79	10	0.8	0.8	0.8	0.8	5.0	5.0	6.1	6.1	4.7	7.2	7.2	6.7	0.0	0.480
3	29	79	11	0.0	0.0	0.0	0.0	0.8	0.8	1.1	1.1	0.8	1.4	1.4	1.4	1.1	0.150
3	29	79	12	-0.6	-0.6	-0.6	-0.6	-0.3	-0.3	-0.3	-0.3	-0.3	0.0	0.0	0.0	0.0	0.070
3	29	79	13	1.1	1.1	1.1	0.8	3.3	3.3	3.9	3.9	3.9	4.4	4.4	4.4	1.1	0.180
3	29	79	14	0.0	0.0	0.3	0.0	1.1	1.1	1.4	1.4	1.4	1.9	1.9	1.9	1.1	0.180
3	29	79	15	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.1	0.060
3	29	79	16	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.1	0.060
3	29	79	17	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.1	0.040
3	29	79	18	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.1	0.030
3	29	79	19	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.1	0.020
3	30	79	7	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-17.8	-0.6	-0.6	-0.6	0.050
3	30	79	8	-0.8	-0.8	-0.8	-0.3	-0.3	-0.3	-0.3	-0.3	-0.8	-17.8	0.0	0.0	0.0	0.090
3	30	79	9	-0.6	-0.6	-0.6	-0.3	0.0	0.3	0.3	0.3	-0.6	-17.8	0.3	0.3	0.0	0.140
3	30	79	10	-0.6	-0.3	-0.3	0.0	1.1	1.1	1.1	1.1	1.4	-17.8	1.4	1.4	0.0	0.240
3	30	79	11	0.6	0.6	1.1	0.8	4.7	4.7	5.6	5.6	6.4	-17.8	6.4	6.4	0.0	0.460
3	30	79	12	0.6	0.6	1.7	2.2	8.3	10.6	9.7	11.4	8.1	10.6	10.0	9.4	1.1	0.640
3	30	79	13	0.8	0.8	1.7	2.2	7.8	8.6	8.6	9.4	7.8	9.2	9.2	8.3	1.1	0.600
3	30	79	14	0.3	0.3	1.1	1.4	5.0	5.0	5.8	5.8	5.0	6.1	6.1	5.8	0.0	0.460
3	30	79	15	-0.3	-0.3	0.3	0.8	2.5	2.8	2.8	2.8	3.9	3.9	3.6	3.6	0.0	0.360
3	30	79	16	-0.8	-0.8	0.0	0.3	1.9	2.2	2.5	2.5	2.8	2.8	2.8	2.8	0.0	0.340
3	30	79	17	-1.1	-1.1	-0.6	-0.6	1.1	1.1	1.1	1.1	1.4	1.4	1.4	1.4	-1.7	0.190
3	30	79	18	-1.9	-1.4	-1.4	-1.4	-1.1	-1.1	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-1.7	0.100
3	30	79	19	-2.8	-2.8	-2.8	-2.8	-2.5	-2.5	-2.5	-2.5	-3.3	-3.1	-3.1	-3.1	-2.2	0.020
3	31	79	7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.4	-3.6	-4.4	-4.4	-5.0	0.040
3	31	79	8	-3.3	-3.3	-3.3	-3.3	-2.8	-2.8	-2.8	-2.8	-2.8	-1.7	-2.5	-3.5	-3.9	0.130
3	31	79	9	-2.2	-2.2	-2.2	-1.9	1.4	2.2	2.5	5.3	2.8	5.3	4.2	-1.9	-2.8	0.180
3	31	79	10	-0.8	-0.8	-0.6	-0.6	4.7	6.9	6.9	9.2	5.3	10.0	9.2	8.1	-1.7	0.900
3	31	79	11	-0.3	-0.3	-0.3	-0.3	4.2	4.2	5.3	5.3	6.1	9.2	6.9	6.4	-0.6	0.800
3	31	79	12	0.6	0.6	1.7	1.1	6.9	7.2	9.4	12.5	10.3	14.4	12.2	12.2	-0.6	0.740
3	31	79	13	0.8	0.6	1.7	1.4	7.5	8.1	9.4	9.4	10.0	13.1	10.8	10.0	0.0	0.660
3	31	79	14	0.8	0.8	3.6	1.9	11.1	21.1	16.1	21.7	13.9	19.2	19.4	20.0	0.6	0.900
3	31	79	15	1.1	1.1	1.4	0.8	4.4	4.4	5.6	5.6	6.4	6.4	6.4	5.8	1.1	0.500
3	31	79	16	1.7	1.7	1.4	1.4	3.6	3.6	4.4	4.4	5.3	5.3	5.3	5.0	1.7	0.440
3	31	79	17	1.1	1.1	1.1	1.1	1.9	1.9	2.2	2.2	2.5	2.8	2.8	2.5	1.1	0.200
3	31	79	18	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8	1.1	1.1	1.1	1.1	1.1	0.080
3	31	79	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.020

TABLE B DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MC	DA	YR	HR	AMB	AMB	S IN	N IN	N2T	N2B	N3T	N3B	NGLASS	EINS	M INS	WINS	WB AMB	HRAD
4	1	79	7	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-1.9	-1.9	-2.2	-2.2	-2.8	0.050
4	1	79	8	-1.1	-1.1	-1.1	-1.4	-1.4	-1.1	-1.1	-1.1	-0.6	0.3	-0.6	-0.6	-1.7	0.140
4	1	79	9	-0.6	-0.8	-0.6	-1.1	-0.6	-0.6	-0.3	-0.3	2.2	1.9	0.3	0.3	-0.6	0.240
4	1	79	10	1.4	1.4	1.4	0.0	1.9	1.9	3.9	3.3	7.8	5.3	5.0	4.7	-0.6	0.450
4	1	79	11	0.3	0.3	0.8	0.8	4.4	4.2	5.6	5.0	7.2	6.4	6.4	5.6	-0.6	0.430
4	1	79	12	0.3	0.3	1.4	1.1	4.4	4.4	5.6	5.6	7.5	6.9	6.9	6.4	-0.6	0.370
4	1	79	13	0.6	0.6	1.4	1.4	5.0	5.0	6.1	5.8	8.3	7.2	7.2	6.7	-0.6	0.340
4	1	79	14	0.3	0.3	0.8	0.8	3.1	3.1	3.9	3.9	5.0	5.0	5.0	4.4	-0.6	0.330
4	1	79	15	0.0	0.6	0.6	0.6	2.5	2.5	3.1	3.1	3.6	3.6	3.6	3.3	-0.6	0.290
4	1	79	16	0.0	0.0	0.0	0.6	1.4	1.4	1.7	1.7	2.2	1.9	1.9	1.9	-0.6	0.200
4	1	79	17	-0.3	-0.3	-0.3	0.8	0.8	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0.0	0.030
4	1	79	18	-0.3	-0.6	-0.6	0.0	0.0	0.0	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-1.1	0.030
4	1	79	19	-0.8	-1.1	-1.1	-0.8	-0.6	-0.6	-0.6	-0.6	-0.8	-0.8	-0.8	-0.8	-1.1	0.020
4	2	79	7	-7.5	-7.8	-7.5	-7.2	-6.7	-6.7	-6.7	-6.7	-6.4	-6.4	-6.4	-6.4	-7.2	0.100
4	2	79	8	-7.5	-7.8	-6.9	-5.6	-4.7	-4.7	-4.4	-4.2	-4.2	-3.9	-3.9	-3.9	-7.2	0.320
4	2	79	9	-5.8	-5.6	-4.4	-3.9	1.4	5.3	3.6	7.8	1.9	3.6	3.9	3.1	-7.2	0.650
4	2	79	10	-5.8	-6.1	-4.7	-3.6	3.1	4.4	5.6	5.6	3.1	3.1	3.1	3.1	-6.1	0.690
4	2	79	11	-5.8	-5.0	-3.3	-0.8	12.2	11.9	16.4	13.3	9.2	13.6	14.2	13.9	-5.0	0.780
4	2	79	12	-3.3	-3.6	-1.1	-0.8	17.8	15.8	21.9	17.5	13.6	18.6	19.2	16.9	-3.9	0.860
4	2	79	13	-2.2	-2.2	1.9	1.9	30.6	26.1	37.8	29.4	18.3	28.3	29.4	31.4	-1.7	1.250
4	2	79	14	-1.7	-1.7	1.9	1.7	26.1	30.6	32.8	32.5	13.1	28.6	28.6	31.1	-1.7	1.100
4	2	79	15	-1.1	-0.6	2.2	0.3	12.2	22.2	16.1	23.6	10.6	19.4	19.2	17.5	-0.6	1.000
4	2	79	16	-1.1	-0.6	1.9	0.3	7.5	15.3	9.2	15.6	6.4	13.1	12.5	10.8	0.0	0.780
4	2	79	17	-1.9	-1.9	-1.1	0.0	2.5	2.8	2.8	3.1	2.8	4.2	4.2	3.6	-1.7	0.360
4	2	79	18	-2.2	-2.2	-2.2	-2.2	-1.7	-1.7	-1.7	-1.7	-1.9	-1.7	-1.7	-1.7	-2.8	0.160
4	2	79	19	-2.8	-2.8	-2.8	-2.2	-2.2	-2.2	-2.2	-2.2	-3.1	-2.5	-2.5	-2.5	-2.8	0.020
4	3	79	7	-6.1	-6.1	-6.1	-6.1	-6.1	-6.1	-6.1	-5.8	-5.3	-5.8	-5.8	-5.8	-6.1	0.100
4	3	79	8	-5.3	-5.3	-5.3	-4.7	-3.3	-3.3	-2.5	-2.2	-1.4	-1.7	-1.4	-1.4	-3.9	0.460
4	3	79	9	-3.3	-3.9	-1.9	-2.5	2.8	9.2	5.8	14.2	3.9	11.1	11.4	11.1	-2.8	0.660
4	3	79	10	-2.2	-2.2	0.3	0.0	15.0	24.7	23.6	28.6	11.7	23.6	24.2	26.1	-0.6	0.870
4	3	79	11	0.3	-0.3	1.7	3.6	26.9	27.5	33.6	28.6	20.6	26.9	26.9	26.4	0.0	1.090
4	3	79	12	1.1	1.7	5.3	6.9	35.8	32.5	41.9	33.1	23.1	30.6	30.8	29.2	1.1	0.430
4	3	79	13	4.2	2.8	5.8	8.6	40.3	36.7	49.7	40.3	27.8	39.7	41.1	41.9	2.8	1.190
4	3	79	14	2.8	3.3	5.8	6.1	28.9	32.5	36.4	35.8	19.4	33.3	33.6	35.6	2.8	1.190
4	3	79	15	1.7	2.2	3.1	2.8	8.3	9.4	10.0	10.8	9.2	11.9	12.2	12.2	2.8	0.900
4	3	79	16	3.1	3.9	5.8	5.3	10.3	17.5	12.5	18.6	10.3	16.7	16.7	15.6	2.8	0.600
4	3	79	17	3.3	4.4	4.2	3.6	6.4	7.8	7.5	8.3	6.9	10.0	10.0	9.4	2.8	0.530
4	3	79	18	1.1	1.1	1.1	1.1	1.7	1.7	1.7	1.9	1.7	2.2	2.2	2.2	1.1	0.090
4	3	79	19	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	0.0	0.020
4	4	79	7	-3.3	-3.3	-3.3	-3.3	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.3	0.0
4	4	79	8	-2.2	-2.5	-2.5	-2.5	-1.9	-1.9	-1.9	-1.9	-1.1	-1.7	-1.7	-1.7	-2.2	0.140
4	4	79	9	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-0.6	0.130
4	4	79	10	0.6	0.6	0.6	0.6	3.1	3.1	3.6	3.6	5.0	4.4	4.4	4.4	0.0	0.290
4	4	79	11	1.1	1.1	1.1	1.1	3.6	3.6	4.2	4.2	5.3	4.7	4.7	4.7	1.1	0.480
4	4	79	12	4.4	3.6	4.2	5.0	24.7	25.6	29.2	26.7	18.9	24.7	24.7	25.0	0.0	0.360
4	4	79	13	4.2	4.2	5.6	6.4	17.8	18.3	20.8	19.4	16.4	19.2	18.9	18.6	4.4	1.100
4	4	79	14	5.6	6.1	8.9	8.3	20.0	30.0	23.3	29.4	15.8	23.9	24.4	23.9	6.1	1.000
4	4	79	15	5.6	5.8	8.1	8.1	14.4	22.5	16.9	24.4	13.1	21.9	22.2	20.3	6.1	1.000
4	4	79	16	6.1	6.1	7.5	7.2	9.7	11.1	10.6	11.9	9.7	12.5	12.5	11.7	6.1	0.720
4	4	79	17	5.0	5.0	5.3	5.3	6.4	6.4	6.4	6.4	6.7	6.7	6.7	6.7	6.1	0.450
4	4	79	18	3.1	3.1	3.1	3.1	3.3	3.3	3.3	3.3	2.2	2.8	2.8	2.8	5.0	0.140
4	4	79	19	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	3.3	0.020

TABLE 8 DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MC	DA	YR	HR	AMB	AMB	S IN	N IN	N2T	N2B	N3T	N3B	NGLASS	EINS	M INS	WINS	WB AMB	HRAD
4	5	79	7	-3.1	-3.1	-3.1	-2.2	-2.2	-2.2	-2.5	-2.5	-2.8	-2.8	-2.8	-2.8	-2.2	0.030
4	5	79	8	-2.8	-2.8	-2.5	-1.9	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-2.8	0.230
4	5	79	9	-8.6	-8.6	-8.1	-8.1	-6.1	-5.8	-5.6	-5.6	-5.8	-5.0	-5.0	-5.3	-2.8	0.380
4	5	79	10	-11.4	-11.4	-10.3	-10.6	-6.9	-6.9	-5.8	-5.8	-7.2	-5.6	-5.6	-6.1	-8.6	0.600
4	5	79	11	-11.9	-11.9	-10.8	-10.8	-5.8	-5.6	-4.2	-3.9	-5.6	-2.5	-2.2	-1.9	-11.4	0.780
4	5	79	12	-12.2	-12.2	-9.7	-9.7	3.3	7.2	7.2	9.4	-4.4	6.1	6.1	5.6	-12.2	0.800
4	5	79	13	-11.4	-11.9	-9.2	-9.2	8.9	13.0	13.3	14.4	-3.3	10.8	10.3	10.6	-11.7	1.100
4	5	79	14	-11.1	-10.3	-8.6	-9.2	3.9	6.9	6.1	6.9	-3.1	5.0	5.0	5.6	-10.6	0.900
4	5	79	15	-10.6	-10.0	-7.5	-8.6	-1.1	7.5	1.9	9.4	-3.6	-3.6	2.5	0.6	-8.9	0.800
4	5	79	16	-9.4	-8.9	-6.9	-8.1	-3.3	0.0	-2.2	0.6	-4.2	0.3	0.3	-0.8	-8.9	0.660
4	5	79	17	-8.9	-7.8	-6.9	-7.5	-5.6	-4.7	-4.7	-4.2	-5.8	-3.9	-3.9	-3.9	-9.4	0.440
4	5	79	18	-9.2	-8.6	-8.3	-8.9	-7.8	-7.8	-7.8	-7.8	-8.1	-7.5	-7.5	-7.5	-10.0	0.210
4	5	79	19	-10.0	-10.0	-9.7	-8.6	-9.2	-9.2	-9.2	-9.2	-10.0	-9.7	-9.7	-9.7	-10.0	0.030
4	6	79	7	-12.2	-12.2	-12.2	-11.9	-11.9	-11.7	-11.7	-11.7	-11.4	-12.2	-11.9	-11.9	-9.4	0.180
4	6	79	8	-11.1	-11.1	-11.1	-11.1	-9.7	-9.7	-9.2	-9.2	-8.3	-8.9	-8.6	-8.6	-11.7	0.180
4	6	79	9	-9.4	-9.4	-9.4	-9.4	-6.7	-6.7	-6.1	-6.1	-5.0	-5.0	-5.0	-5.0	-6.1	0.400
4	6	79	10	-8.1	-8.1	-7.8	-7.8	-4.2	-4.2	-3.1	-3.1	-1.1	-2.2	-1.9	-2.2	-3.9	0.540
4	6	79	11	-5.8	-5.8	-4.7	-4.7	1.4	1.1	3.1	2.8	4.4	4.7	5.3	5.0	-2.8	0.740
4	6	79	12	-3.6	-3.6	-3.3	-1.7	10.0	10.3	13.9	13.1	10.3	14.4	14.2	13.6	-5.0	0.800
4	6	79	13	-3.1	-3.5	-1.1	-1.1	8.9	9.7	11.9	11.4	10.0	11.9	11.4	11.4	-0.6	1.000
4	6	79	14	-2.8	-2.8	-0.6	-0.3	20.3	30.8	26.7	32.8	6.1	25.0	25.0	22.5	0.0	1.150
4	6	79	15	0.0	0.0	0.8	0.3	9.2	22.5	13.1	24.7	4.7	18.6	17.8	14.7	0.0	0.960
4	6	79	16	1.4	1.4	2.5	1.1	5.8	11.1	7.2	13.1	3.9	11.4	11.4	10.0	0.6	0.710
4	6	79	17	0.3	1.9	1.9	0.8	2.5	3.3	3.3	3.9	2.5	5.3	5.3	4.7	0.0	0.450
4	6	79	18	0.3	0.3	0.8	0.3	0.8	0.8	0.8	0.8	0.8	1.1	1.1	1.1	1.1	0.190
4	6	79	19	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.9	-1.7	-1.7	-1.7	0.0	0.030
4	7	79	7	-2.2	-2.2	-2.2	-2.2	-1.9	-1.9	-1.9	-1.9	-1.7	-1.7	-1.7	-1.7	-2.8	0.120
4	7	79	8	-0.6	-0.6	-0.3	-0.3	1.1	1.1	1.4	1.9	0.6	2.2	2.2	2.2	-1.7	0.220
4	7	79	9	1.1	1.1	1.9	1.9	5.6	8.9	6.9	13.1	3.9	11.7	11.7	11.1	0.0	0.630
4	7	79	10	2.8	2.5	4.2	3.9	12.2	20.8	16.4	25.0	7.2	21.1	21.4	21.4	1.7	0.840
4	7	79	11	4.4	4.4	6.4	6.9	25.0	34.4	33.6	35.8	12.8	30.3	31.1	28.6	2.8	1.000
4	7	79	12	6.7	6.4	8.1	8.6	31.4	40.3	37.8	40.3	16.4	36.4	35.6	37.5	6.1	1.080
4	7	79	13	9.4	8.6	10.8	12.2	33.6	40.6	43.3	44.2	20.0	39.2	38.6	40.0	7.8	1.100
4	7	79	14	10.0	10.0	11.9	12.2	29.2	40.8	33.6	43.1	18.3	35.3	35.3	35.0	8.9	1.030
4	7	79	15	11.1	11.1	13.1	12.2	21.4	31.9	24.2	35.8	18.6	30.3	29.7	28.6	10.6	0.890
4	7	79	16	12.5	12.5	13.9	12.8	16.9	19.4	18.3	20.8	17.2	22.2	22.2	20.8	12.8	0.670
4	7	79	17	12.2	12.2	12.8	12.2	13.9	13.9	14.4	14.4	14.4	15.8	15.8	15.3	12.2	0.430
4	7	79	18	10.3	10.3	10.0	10.3	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	11.1	0.090
4	7	79	19	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.9	0.030
4	8	79	7	-1.9	-1.9	-1.9	-1.4	-1.4	-1.1	-1.1	-1.1	-1.4	-1.4	-1.4	-1.4	-1.7	0.030
4	8	79	8	-1.7	-1.7	-1.1	-0.8	-0.8	-0.6	-0.6	-0.6	-0.8	-0.8	-0.6	-0.6	-1.7	0.060
4	8	79	9	-1.4	-1.4	-0.8	0.6	1.1	1.1	0.8	0.8	0.3	0.6	0.6	0.6	-1.7	0.130
4	8	79	10	-1.7	-1.4	-1.4	-0.6	0.0	0.3	0.3	0.3	-0.3	0.0	0.0	0.0	-1.7	0.160
4	8	79	11	-0.8	-1.1	-0.8	1.1	0.8	1.1	1.1	1.1	1.4	1.4	1.1	1.1	-1.7	0.140
4	8	79	12	-1.1	-1.1	-0.8	0.6	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7	-1.7	0.330
4	8	79	13	-0.6	-0.6	-0.3	0.0	1.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-0.6	0.210
4	8	79	14	0.0	0.0	0.0	1.9	3.1	2.5	3.1	3.1	2.8	2.8	2.8	2.8	-0.6	0.300
4	8	79	15	-0.8	-0.8	-0.6	0.0	1.4	1.4	1.7	1.7	1.7	1.9	1.9	1.9	-0.6	0.300
4	8	79	16	-1.1	-1.1	-0.6	0.0	1.1	1.1	1.4	1.4	1.1	1.4	1.4	1.4	-1.1	0.230
4	8	79	17	-1.7	-1.7	-1.1	-0.6	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	-1.7	0.120
4	8	79	18	-1.9	-1.9	-1.7	-0.8	-0.6	-0.6	-0.6	-0.3	-1.1	-1.1	-0.8	-0.8	-1.7	0.050
4	8	79	19	-1.9	-1.9	-1.9	-1.9	-1.7	-1.4	-1.4	-1.1	-1.4	-1.4	-1.4	-1.4	-1.7	0.020

TABLE B DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MC	DA	YR	HR	AMB	AMB	S IN	N IN	N2T	N2B	N3T	N3B	NGLASS	EINS	M INS	WINS	WB AMB	MRAD
4	9	79	7	-4.7	-5.0	-5.0	-5.0	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-5.0	0.040
4	9	79	8	-4.4	-3.9	-4.4	-4.4	-3.9	-3.9	-3.6	-3.6	-3.1	-3.3	-3.3	-3.3	-3.9	0.120
4	9	79	9	-4.2	-4.2	-4.2	-4.2	-3.1	-3.1	-2.5	-2.5	-1.1	-1.9	-1.9	-1.9	-3.9	0.170
4	9	79	10	-3.3	-3.3	-2.8	-3.3	-1.4	-1.4	-0.8	-0.8	0.8	0.3	0.3	0.0	-3.3	0.270
4	9	79	11	-1.9	-1.9	-1.9	-1.9	0.3	0.3	0.8	0.8	0.8	1.7	1.7	1.4	-2.8	0.370
4	9	79	12	-0.8	-0.8	-0.8	-0.8	3.1	3.1	4.2	4.2	5.0	5.3	5.6	4.7	-2.2	0.620
4	9	79	13	2.8	2.8	4.4	5.0	23.3	33.9	32.5	35.8	15.0	31.4	31.9	34.2	1.7	0.900
4	9	79	14	3.9	3.9	6.1	6.7	23.9	38.6	31.1	42.8	13.9	33.3	33.9	32.0	2.8	1.060
4	9	79	15	3.3	3.3	5.0	5.0	13.6	22.5	16.4	27.8	12.8	24.4	24.4	23.9	2.8	0.940
4	9	79	16	4.7	4.7	5.8	5.0	9.4	12.5	11.1	15.0	8.9	16.1	16.1	16.9	3.3	0.700
4	9	79	17	2.8	2.8	3.3	2.8	5.0	5.3	5.8	5.8	4.7	7.8	7.8	6.9	1.7	0.460
4	9	79	18	0.6	0.6	0.6	0.6	1.1	1.1	1.4	1.4	1.1	1.9	1.9	1.9	1.1	0.140
4	9	79	19	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-1.1	-0.8	-0.8	-0.8	0.0	0.020
4	10	79	7	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-1.7	0.080
4	10	79	8	0.0	0.0	0.0	0.0	1.7	1.7	2.2	2.2	1.9	3.1	3.1	3.1	0.0	0.300
4	10	79	9	1.7	1.7	1.9	1.9	5.3	6.4	6.4	8.1	5.6	8.6	8.6	8.1	1.7	0.530
4	10	79	10	3.3	3.1	3.9	3.9	10.0	12.8	12.5	15.0	8.9	14.7	14.7	13.6	2.8	0.560
4	10	79	11	4.4	4.4	4.7	4.4	11.7	12.2	13.1	14.2	11.4	14.7	14.7	13.9	2.8	0.720
4	10	79	12	3.6	3.6	3.6	3.6	6.7	6.4	7.5	7.5	7.5	8.9	8.9	8.6	2.8	0.[illegible]20
4	10	79	13	3.3	3.3	3.3	3.3	7.5	7.5	8.6	8.6	7.8	10.0	10.0	9.7	3.9	0.520
4	10	79	14	4.4	4.4	4.4	4.4	8.3	8.3	9.4	9.4	7.5	10.8	10.8	10.0	3.9	0.600
4	10	79	15	3.6	3.6	3.9	3.9	6.1	6.1	6.7	6.7	6.4	7.8	7.8	7.8	2.8	0.360
4	10	79	16	3.1	3.1	3.1	3.1	4.2	4.2	4.4	4.4	3.9	5.0	5.0	5.0	2.8	0.180
4	10	79	17	1.9	1.9	1.9	1.9	2.8	2.8	2.8	2.8	2.5	3.3	3.3	3.3	1.7	0.130
4	10	79	18	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.7	1.4	1.7	1.7	1.7	1.1	0.070
4	10	79	19	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.1	0.030
4	11	79	7	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	0.0	0.020
4	11	79	8	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.040
4	11	79	9	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8	1.1	0.100
4	11	79	10	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0.8	1.1	1.1	1.1	1.1	0.080
4	11	79	11	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.4	1.4	1.4	1.1	0.080
4	11	79	12	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.9	1.9	1.9	1.7	0.080
4	11	79	13	1.7	1.7	1.7	1.7	1.9	1.9	1.9	1.9	1.9	1.9	2.2	2.2	2.8	0.060
4	11	79	14	1.7	1.7	1.7	1.7	2.2	2.2	2.2	2.2	1.9	2.5	2.8	2.8	2.8	0.080
4	11	79	15	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	2.5	2.8	3.1	3.1	2.8	0.100
4	11	79	16	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.8	2.8	2.8	0.060
4	11	79	17	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	2.5	2.5	2.8	2.8	2.8	0.030
4	11	79	18	2.5	2.8	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.8	0.020
4	11	79	19	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.8	0.020
4	12	79	7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8	0.020
4	12	79	8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.6	3.3	3.3	3.3	3.3	0.070
4	12	79	9	4.7	4.7	4.7	4.7	6.7	6.7	7.2	7.2	7.8	7.2	7.2	7.2	4.4	0.240
4	12	79	10	2.5	2.5	2.5	2.5	3.3	3.3	3.3	3.3	3.6	3.6	3.6	3.6	2.8	0.120
4	12	79	11	1.9	1.7	1.9	1.9	3.3	3.3	3.6	3.6	4.2	3.9	3.9	3.9	1.7	0.240
4	12	79	12	1.1	1.1	1.1	1.1	1.9	1.9	2.2	2.2	2.2	2.2	2.2	2.2	1.7	0.260
4	12	79	13	1.7	1.7	1.7	1.7	3.3	3.3	3.6	3.6	3.3	3.6	3.6	3.6	1.7	0.280
4	12	79	14	1.9	1.9	1.9	1.9	2.8	2.8	2.8	2.8	3.1	3.1	3.1	3.1	1.7	0.220
4	12	79	15	1.9	1.9	1.9	1.9	2.5	2.5	2.5	2.5	2.8	2.5	2.5	2.5	1.7	0.120
4	12	79	16	1.7	1.7	1.7	1.7	1.7	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.7	0.070
4	12	79	17	1.7	1.7	1.7	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.7	0.070
4	12	79	18	1.4	1.4	1.4	1.4	1.1	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.040
4	12	79	19	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.1	0.020

TABLE B DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MC	DA	YR	HR	AMB	AMB	S IN	N IN	N2T	N2B	N3T	N3B	NGLASS	EINS	M INS	WINS	WB AMB	HRAD
4	13	79	7	0.3	0.3	0.3	0.3	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8	1.1	0.070
4	13	79	8	0.8	0.8	0.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.1	0.140
4	13	79	9	1.7	1.7	1.7	1.7	3.6	3.6	3.9	3.9	4.2	4.2	3.9	3.9	1.1	0.280
4	13	79	10	0.6	0.6	0.8	0.8	2.5	2.5	2.8	2.8	4.7	3.9	3.9	4.2	1.1	0.170
4	13	79	11	1.1	1.1	1.4	1.4	2.5	2.5	3.1	3.1	3.3	3.3	3.3	3.3	1.1	0.300
4	13	79	12	1.1	1.4	1.4	1.4	1.9	1.9	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0.140
4	13	79	13	1.4	1.4	1.7	1.7	2.8	2.8	3.1	3.1	3.1	3.3	3.3	3.3	1.7	0.200
4	13	79	14	1.9	1.9	2.2	2.8	3.9	3.9	3.9	4.2	4.2	4.4	4.4	4.4	1.7	0.300
4	13	79	15	2.5	2.5	2.8	3.3	5.3	5.3	5.8	5.8	5.8	5.8	6.1	6.1	2.8	0.400
4	13	79	16	3.1	3.1	3.6	3.9	5.0	5.0	5.3	5.3	6.1	5.8	5.8	5.8	2.8	0.270
4	13	79	17	2.5	2.5	2.8	2.8	3.9	3.9	3.9	3.9	4.2	4.2	4.2	4.2	2.8	0.150
4	13	79	18	1.9	1.9	1.9	2.8	2.8	3.1	3.1	3.1	2.5	2.5	2.5	2.5	1.7	0.050
4	13	79	19	1.7	1.7	1.7	1.7	1.9	1.9	1.9	1.9	1.7	1.7	1.7	1.7	1.7	0.020
4	14	79	7	0.0	0.0	0.0	0.6	0.6	0.6	0.8	0.8	1.1	0.8	0.8	0.8	-0.6	0.200
4	14	79	8	0.3	0.3	0.6	1.4	2.5	2.5	3.1	3.1	3.1	3.9	3.9	3.9	0.0	0.320
4	14	79	9	1.4	1.4	1.7	2.5	4.4	4.4	4.7	4.7	5.3	5.3	5.3	5.3	1.1	0.400
4	14	79	10	1.7	1.7	2.2	2.8	4.7	4.7	5.3	5.3	5.6	5.6	5.6	5.6	1.1	0.380
4	14	79	11	3.1	2.8	5.0	4.4	12.8	21.1	16.9	26.1	10.3	20.6	20.0	19.2	2.8	0.560
4	14	79	12	4.7	5.0	7.8	6.7	20.0	31.7	25.0	35.6	15.3	29.4	29.2	27.5	4.4	1.000
4	14	79	13	6.4	6.4	8.1	8.1	20.8	32.2	26.7	36.7	15.8	30.3	30.3	26.7	6.1	1.060
4	14	79	14	6.9	7.2	8.9	9.7	17.5	22.5	19.7	23.3	14.7	21.1	20.6	18.9	6.1	0.740
4	14	79	15	8.1	9.2	10.6	9.2	15.6	22.2	17.8	26.7	14.4	23.9	23.9	21.4	7.2	0.760
4	14	79	16	7.2	7.2	8.6	7.8	10.6	11.1	11.4	12.5	11.4	14.4	14.4	13.9	7.2	0.640
4	14	79	17	7.2	8.1	9.2	8.1	10.0	10.0	10.3	10.3	10.3	11.9	11.9	11.7	7.2	0.470
4	14	79	18	6.9	7.2	7.2	6.7	7.5	7.5	7.5	7.5	7.8	7.8	7.8	7.8	6.1	0.220
4	14	79	19	3.9	4.2	4.2	4.2	4.2	4.4	4.4	4.4	3.6	4.2	4.2	4.2	3.9	0.040
4	15	79	7	-1.1	-1.1	-1.1	-0.6	-0.6	-0.6	-0.6	-0.6	0.3	-0.3	-0.6	-0.6	-0.6	0.250
4	15	79	8	2.2	2.2	2.2	3.3	3.6	3.6	4.2	4.4	4.7	5.3	5.3	5.3	1.7	0.460
4	15	79	9	3.5	3.5	4.7	5.3	8.6	10.0	10.0	13.9	10.8	14.7	14.7	13.3	4.4	0.690
4	15	79	10	5.8	6.1	8.3	8.3	15.8	25.3	20.0	32.2	16.7	24.4	24.7	23.6	7.2	0.900
4	15	79	11	9.7	9.7	13.3	10.3	24.4	37.8	30.6	45.6	21.7	36.4	36.4	36.7	7.8	1.050
4	15	79	12	11.9	14.2	15.3	14.2	30.0	44.7	37.8	50.3	24.4	42.2	42.2	42.5	10.6	1.140
4	15	79	13	13.3	13.3	16.4	13.3	27.8	36.7	34.4	41.4	29.4	37.8	37.5	36.7	11.7	1.000
4	15	79	14	12.8	13.3	15.6	14.2	23.1	29.2	26.9	33.3	24.2	30.8	30.8	30.3	12.2	0.840
4	15	79	15	14.2	15.3	16.1	14.2	23.1	29.4	25.8	32.5	21.4	30.8	30.8	27.8	12.2	0.930
4	15	79	16	13.6	13.9	13.9	13.3	16.4	16.4	17.2	17.2	17.5	18.6	18.6	18.1	11.7	0.440
4	15	79	17	12.2	12.2	12.2	12.2	13.3	13.3	13.9	13.9	14.2	14.4	14.4	14.4	10.6	0.260
4	15	79	18	10.8	10.8	10.8	10.8	11.4	11.4	11.4	11.4	11.4	11.7	11.7	11.7	10.6	0.130
4	15	79	19	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.3	8.6	8.6	8.6	8.9	0.040
4	16	79	7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.8	5.8	5.8	5.8	6.1	0.070
4	16	79	8	5.8	5.8	5.8	5.8	6.1	6.1	6.4	6.4	6.4	6.4	6.4	6.4	6.1	0.110
4	16	79	9	6.1	6.1	6.1	6.1	6.4	6.4	6.7	6.7	7.2	7.2	7.2	7.2	6.1	0.120
4	16	79	10	7.5	7.5	7.5	7.8	10.0	10.0	10.6	10.6	11.1	11.1	11.4	11.1	7.8	0.310
4	16	79	11	9.4	9.7	9.7	9.4	13.9	13.9	15.6	15.6	16.1	16.7	16.9	16.1	8.9	0.600
4	16	79	12	11.7	12.2	13.6	12.5	20.6	20.8	23.1	23.1	22.8	25.6	25.8	25.0	8.9	0.800
4	16	79	13	12.8	14.7	16.7	14.7	28.1	39.2	34.2	43.6	25.3	38.6	38.6	39.7	12.2	1.040
4	16	79	14	15.0	15.6	16.9	16.1	28.1	40.6	33.6	45.3	23.3	40.3	40.0	40.3	13.3	1.030
4	16	79	15	13.9	15.0	17.5	15.3	22.5	28.1	25.0	32.5	20.8	32.8	32.2	31.9	13.3	0.860
4	16	79	16	14.2	14.7	16.4	13.9	18.3	19.7	19.7	21.1	18.3	24.2	24.2	23.3	13.9	0.680
4	16	79	17	13.3	13.9	14.4	13.3	15.6	15.6	15.8	16.1	15.6	17.8	17.8	17.2	12.2	0.440
4	16	79	18	11.9	11.9	12.2	11.9	12.8	12.8	12.8	12.8	12.8	13.3	13.3	13.3	11.7	0.220
4	16	79	19	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	8.9	9.2	9.2	9.2	10.0	0.040

TABLE B DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MO	DA	YR	HR	AMB	AMB	S IN	N IN	N2T	N2B	N3T	N3B	NGLASS	EINS	M INS	WINS	WB AMB	HRAD
4	17	79	7	6.9	6.9	6.9	6.9	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	0.080
4	17	79	8	8.6	8.6	8.6	8.6	10.0	10.0	10.3	10.3	10.3	10.8	10.8	10.8	7.8	0.210
4	17	79	9	10.8	11.7	11.9	5.8	15.6	15.6	16.4	16.7	15.0	18.3	18.3	17.5	10.6	0.640
4	17	79	10	12.2	12.8	13.6	13.1	16.4	16.4	17.2	17.2	[illegible]	18.1	18.3	18.1	11.7	0.510
4	17	79	11	13.9	14.2	16.9	15.6	25.6	28.3	27.8	31.1	24.2	32.2	32.5	31.1	13.3	0.660
4	17	79	12	14.2	14.7	16.1	15.3	21.1	21.1	22.2	22.2	20.0	24.2	24.2	23.3	13.3	0.700
4	17	79	13	16.7	17.2	22.5	18.6	32.5	45.6	38.9	49.4	25.0	44.7	44.7	43.1	15.0	1.070
4	17	79	14	16.9	17.2	19.7	18.9	30.8	42.8	35.3	48.1	24.2	43.1	39.4	39.4	15.6	1.010
4	17	79	15	16.9	17.5	21.9	18.3	26.1	33.1	28.1	37.5	21.9	36.7	35.6	34.2	15.6	0.860
4	17	79	16	16.4	17.2	20.8	17.2	21.4	23.1	22.5	24.7	19.4	27.2	27.2	25.6	16.7	0.680
4	17	79	17	15.8	17.8	18.3	16.7	18.9	18.9	19.2	19.2	18.3	21.4	21.4	20.6	15.6	0.460
4	17	79	18	15.6	15.6	15.6	15.6	16.4	16.4	16.4	16.4	16.4	16.7	16.7	16.7	15.6	0.220
4	17	79	19	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.1	13.3	13.3	13.3	13.3	0.040
4	18	79	7	10.3	10.3	10.3	10.6	11.1	11.1	11.4	11.4	11.7	11.7	11.7	11.7	10.6	0.100
4	18	79	8	10.8	11.1	11.1	11.1	12.2	12.2	12.5	12.5	12.5	12.8	12.8	13.3	10.6	0.180
4	18	79	9	11.9	12.8	12.5	12.5	14.4	14.4	15.0	15.0	14.7	15.6	15.6	15.6	12.2	0.330
4	18	79	10	13.9	14.4	15.6	15.6	20.8	23.1	22.5	25.6	20.0	25.0	25.0	24.4	15.0	0.800
4	18	79	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE B DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MC	DA	YR	HR	S2B	EXIT	DUCT	B AMB	FAN	S3T	S3B	S2T	S1B	S1T	N1T	N1B	DECL	STIME
3	8	79	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8	79	16	4.7	7.2	7.5	-17.8	-17.8	4.4	3.9	4.4	3.1	6.7	6.1	5.6	-0.091	15.36
3	8	79	17	3.6	5.6	5.6	-17.8	-17.8	3.6	2.5	3.3	2.8	5.6	6.9	3.6	-0.091	16.36
3	8	79	18	-1.1	-0.8	-0.8	-17.8	-17.8	-1.1	-1.1	-1.1	-1.1	-1.1	-0.3	-0.3	-0.091	17.36
3	8	79	19	-1.1	-0.8	-0.8	-17.8	-17.8	-1.1	-1.1	-1.1	-1.1	-1.1	0.0	0.0	-0.091	18.36
3	9	79	7	-11.4	-11.1	-11.1	-17.8	-17.8	-11.7	-11.7	-11.7	-11.7	-11.7	-10.6	-10.6	-0.084	6.37
3	9	79	8	-6.4	-4.7	-4.7	-17.8	-17.8	-6.9	-7.5	-7.2	-8.1	-6.7	-7.2	-7.8	-0.084	7.37
3	9	79	9	-8.9	-8.1	-8.1	-17.8	-17.8	-9.2	-9.4	-9.2	-9.7	-8.1	-9.4	-9.4	-0.084	8.37
3	9	79	10	-6.9	-5.8	-5.8	-17.8	-17.8	-7.2	-7.8	-7.2	-8.3	-6.1	-7.5	-8.1	-0.084	9.37
3	9	79	11	0.3	4.2	4.4	-17.8	-17.8	0.0	-1.1	0.6	-2.2	1.7	-0.6	0.6	-0.084	10.37
3	9	79	12	10.0	23.3	22.2	-17.8	-17.8	8.6	6.4	9.2	4.4	5.6	7.8	6.9	-0.084	11.37
3	9	79	13	4.4	13.9	13.9	-17.8	-17.8	4.4	3.6	5.8	1.7	5.0	5.8	10.8	-0.084	12.37
3	9	79	14	8.1	21.1	20.0	-17.8	-17.8	6.9	5.8	8.3	3.6	3.6	5.0	15.8	-0.084	13.37
3	9	79	15	5.6	15.3	14.7	-17.8	-17.8	4.4	3.3	5.6	1.7	2.2	1.9	11.9	-0.084	14.37
3	9	79	16	-0.6	4.4	4.4	-17.8	-17.8	-1.7	-2.5	-1.7	-3.3	-2.8	-3.3	1.1	-0.084	15.37
3	9	79	17	-6.1	-4.2	-4.2	-17.8	-17.8	-7.2	-7.5	-6.7	-7.8	-7.8	-3.9	-5.0	-0.084	16.37
3	9	79	18	-13.1	-12.5	-12.5	-17.8	-17.8	-13.3	-13.3	-13.3	-13.6	-13.3	-13.1	-13.1	-0.084	17.37
3	9	79	19	-15.6	-15.3	-15.3	-17.8	-17.8	-15.8	-15.8	-15.8	-15.8	-15.8	-14.7	-14.7	-0.084	18.37
3	10	79	7	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-0.077	6.37
3	10	79	8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-0.077	7.37
3	10	79	9	-12.5	-8.3	-8.3	-17.8	-17.8	-13.3	-13.9	-13.1	-14.7	-13.3	-15.3	-10.3	-0.077	8.37
3	10	79	10	-5.0	3.6	3.1	-17.8	-17.8	-6.1	-7.2	-5.3	-8.3	-7.2	-10.6	-1.7	-0.077	9.37
3	10	79	11	0.3	11.9	10.8	-17.8	-17.8	-1.7	-2.8	-0.3	-4.2	-3.6	-3.3	6.4	-0.077	10.37
3	10	79	12	3.9	18.1	16.7	-17.8	-17.8	2.2	0.8	3.6	-1.4	-0.3	-0.8	12.2	-0.077	11.37
3	10	79	13	5.8	20.8	19.7	-17.8	-17.8	4.4	3.3	5.6	0.6	1.7	1.7	13.9	-0.077	12.37
3	10	79	14	6.7	20.8	20.3	-17.8	-17.8	5.0	4.2	6.1	1.7	2.2	4.2	14.2	-0.077	13.37
3	10	79	15	4.7	16.9	16.1	-17.8	-17.8	3.3	2.8	4.2	0.3	0.6	1.7	10.8	-0.077	14.37
3	10	79	16	0.0	7.5	7.2	-17.8	-17.8	-1.1	-1.7	-0.6	-3.1	-3.1	-3.9	5.0	-0.077	15.37
3	10	79	17	-5.6	-2.5	-2.5	-17.8	-17.8	-6.7	-7.2	-6.1	-7.2	-7.2	-3.3	-3.1	-0.077	16.37
3	10	79	18	-11.7	-10.6	-10.6	-17.8	-17.8	-12.2	-12.2	-11.9	-12.2	-11.1	-11.9	-12.2	-0.077	17.37
3	10	79	19	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-0.077	18.37
3	11	79	7	-4.7	-3.9	-3.9	-17.8	-17.8	-5.0	-5.3	-5.0	-5.0	-4.4	-3.3	-3.3	-0.070	6.38
3	11	79	8	-3.1	-2.2	-2.2	-17.8	-17.8	-3.3	-3.3	-3.3	-3.3	-2.5	-1.1	-1.1	-0.070	7.38
3	11	79	9	3.1	5.0	5.0	-17.8	-17.8	2.8	2.2	2.8	1.7	4.7	3.3	2.8	-0.070	8.38
3	11	79	10	5.8	9.2	9.2	-17.8	-17.8	8.6	7.8	8.6	4.4	8.9	5.6	5.0	-0.070	9.38
3	11	79	11	19.7	32.5	31.9	-17.8	-17.8	19.2	17.8	19.4	15.0	18.1	16.4	27.8	-0.070	10.38
3	11	79	12	22.5	38.1	36.9	-17.8	-17.8	21.7	20.8	22.8	17.8	19.4	21.7	32.2	-0.070	11.38
3	11	79	13	23.9	40.3	39.4	-17.8	-17.8	23.1	21.9	23.6	18.3	21.4	22.5	33.9	-0.070	12.38
3	11	79	14	22.5	37.8	36.9	-17.8	-17.8	21.7	20.6	22.2	17.5	20.0	22.8	31.9	-0.070	13.38
3	11	79	15	20.3	33.3	32.5	-17.8	-17.8	20.0	18.3	20.0	16.1	17.5	16.7	26.1	-0.070	14.38
3	11	79	16	14.4	22.8	22.5	-17.8	-17.8	13.9	13.1	14.2	11.7	12.8	11.9	19.7	-0.070	15.38
3	11	79	17	8.9	12.2	12.2	-17.8	-17.8	8.1	7.5	8.6	7.5	7.5	10.0	11.1	-0.070	16.38
3	11	79	18	1.1	1.7	1.7	-17.8	-17.8	0.6	0.6	0.6	0.6	0.6	1.7	0.8	-0.070	17.38
3	11	79	19	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-0.070	18.38

TABLE B   DATA FOR SOLAR CORN DRYING STUDY   MARCH 8,1979-APRIL 18,1979

MC	DA	YR	HR	S2B	EXIT	DUCT	B AMB	FAN	S3T	S3B	S2T	S1B	S1T	N1T	N1B	DECL	STIME
3	12	79	7	-10.0	-10.0	-10.0	-17.8	-17.8	-10.6	-10.6	-10.6	-10.3	-10.6	-10.0	-10.0	-0.063	6.38
3	12	79	8	-4.4	-4.4	-4.4	-17.8	-17.8	-4.4	-4.4	-4.4	-4.4	-5.3	-5.3	-5.3	-0.063	7.38
3	12	79	9	2.5	5.6	5.6	-17.8	-17.8	2.2	1.1	2.8	1.9	1.4	-0.3	2.5	-0.063	8.38
3	12	79	10	11.1	18.9	18.3	-17.8	-17.8	10.8	9.7	12.5	8.3	7.2	6.9	15.3	-0.063	9.38
3	12	79	11	16.9	29.7	28.9	-17.8	-17.8	16.9	15.6	17.8	13.9	13.3	17.8	23.9	-0.063	10.38
3	12	79	12	16.9	28.1	27.8	2.5	6.9	16.7	15.6	18.1	14.4	14.2	16.7	23.9	-0.063	11.38
3	12	79	13	20.0	33.1	32.2	3.1	10.0	19.7	17.8	20.0	15.6	15.6	20.8	26.7	-0.063	12.38
3	12	79	14	19.2	30.6	30.6	3.9	8.9	18.9	17.8	20.3	15.6	15.6	21.9	24.2	-0.063	13.38
3	12	79	15	16.9	25.6	25.3	4.2	9.7	15.8	15.0	16.4	13.3	12.8	14.2	19.4	-0.063	14.38
3	12	79	16	12.5	17.2	17.2	3.3	6.9	11.7	11.1	12.2	10.6	10.0	8.9	12.2	-0.063	15.38
3	12	79	17	7.2	8.9	8.9	3.1	3.9	6.4	6.1	6.1	5.8	5.8	5.8	5.8	-0.063	16.38
3	12	79	18	3.1	3.1	3.1	2.5	2.5	2.5	2.5	2.8	2.8	2.8	2.2	2.2	-0.063	17.38
3	12	79	19	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-0.063	18.38
3	13	79	7	1.7	1.7	1.7	4.4	2.2	1.9	1.7	1.7	1.7	1.7	2.2	2.2	-0.056	6.39
3	13	79	8	-0.8	-0.6	-0.6	0.0	-1.1	-1.1	-0.8	-0.8	-0.6	-0.6	-0.6	-0.6	-0.056	7.39
3	13	79	9	-1.9	-1.9	-1.7	-1.4	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-0.056	8.39
3	13	79	10	-2.2	-1.7	-1.7	-2.5	-2.8	-2.2	-2.2	-2.2	-2.2	-2.2	-2.5	-2.5	-0.056	9.39
3	13	79	11	-2.8	-2.5	-2.5	-3.1	-3.9	-3.3	-3.3	-3.3	-3.3	-2.8	-3.3	-3.6	-0.056	10.39
3	13	79	12	-1.1	-0.6	-0.6	-1.9	-3.9	-1.7	-1.7	-1.4	-2.2	-0.6	-2.8	-3.3	-0.056	11.39
3	13	79	13	-2.2	-1.4	-1.4	-1.7	-4.2	-2.5	-2.5	-1.9	-2.8	-1.1	-3.1	-3.6	-0.056	12.39
3	13	79	14	0.0	0.8	0.8	-1.9	-3.3	-0.6	-0.6	0.0	-1.1	1.1	-1.4	-2.5	-0.056	13.39
3	13	79	15	0.6	1.4	1.4	-2.8	-2.8	0.0	0.0	0.6	-0.3	1.1	-0.6	-1.1	-0.056	14.39
3	13	79	16	-0.8	0.3	0.3	-3.1	-3.1	-1.4	-1.4	-0.8	-1.7	-0.6	-2.2	-2.2	-0.056	15.39
3	13	79	17	-2.8	-2.5	-2.5	-3.3	-3.9	-3.3	-3.3	-3.1	-3.3	-3.3	-3.3	-3.3	-0.056	16.39
3	13	79	18	-4.4	-4.4	-4.4	-4.4	-4.7	-4.7	-4.7	-4.7	-4.4	-4.4	-4.4	-4.4	-0.056	17.39
3	13	79	19	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-0.056	18.39
3	14	79	7	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.8	-2.8	-1.7	-1.7	-0.050	6.39
3	14	79	8	-5.6	-4.4	-4.4	-3.6	-6.7	-5.8	-5.6	-5.6	-6.1	-5.6	-5.6	-5.8	-0.050	7.39
3	14	79	9	-6.7	-6.7	-6.7	-3.1	-8.3	-7.5	-7.2	-7.2	-7.2	-6.9	-7.5	-7.5	-0.050	8.39
3	14	79	10	-5.3	-4.4	-4.4	-7.2	-8.9	-5.6	-5.6	-5.6	-5.8	-4.7	-6.4	-7.5	-0.050	9.39
3	14	79	11	8.3	19.4	18.9	-7.5	-4.2	6.7	5.6	7.2	3.9	4.7	5.3	10.0	-0.050	10.39
3	14	79	12	10.8	24.7	23.9	-6.9	-2.5	8.9	7.8	10.0	5.8	6.1	7.8	17.2	-0.050	11.39
3	14	79	13	12.2	26.1	25.6	-6.7	-0.8	10.0	8.9	11.4	6.7	6.7	8.9	16.4	-0.050	12.39
3	14	79	14	9.7	22.2	21.7	-3.3	-1.7	7.8	6.7	9.2	5.6	5.6	6.7	14.2	-0.050	13.39
3	14	79	15	6.7	15.8	15.8	-7.2	-5.6	5.0	4.4	6.4	2.8	2.2	0.0	8.3	-0.050	14.39
3	14	79	16	1.7	7.5	7.5	-6.7	-6.7	0.3	0.0	1.1	-0.8	-0.6	0.0	2.2	-0.050	15.39
3	14	79	17	-4.7	-2.8	-2.8	-8.1	-10.0	-6.1	-6.1	-5.0	-5.8	-6.1	-6.7	-5.0	-0.050	16.39
3	14	79	18	-10.6	-10.3	-10.3	-10.8	-12.2	-11.7	-11.7	-11.1	-11.7	-11.7	-11.7	-11.1	-0.050	17.39
3	14	79	19	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-0.050	18.39
3	15	79	7	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-0.043	6.39
3	15	79	8	-13.6	-13.1	-13.1	-16.1	-16.1	-13.9	-13.9	-13.3	-13.9	-13.1	-15.0	-15.0	-0.043	7.39
3	15	79	9	-7.5	-3.1	-3.1	-14.4	-11.1	-8.1	-8.3	-7.2	-8.6	-6.9	-10.8	-7.5	-0.043	8.39
3	15	79	10	0.3	8.3	8.1	-11.4	-8.3	-0.6	-1.1	0.0	-2.5	-0.6	-3.3	4.7	-0.043	9.39
3	15	79	11	5.8	17.2	16.4	-9.7	-1.1	5.0	3.9	6.1	2.2	3.9	4.2	10.8	-0.043	10.39
3	15	79	12	10.3	24.2	23.6	-7.5	0.8	9.4	8.6	10.6	5.6	6.1	8.1	18.9	-0.043	11.39
3	15	79	13	11.7	25.6	24.4	-6.1	0.8	10.8	9.7	12.2	7.8	7.8	8.9	16.7	-0.043	12.39
3	15	79	14	11.7	23.3	23.3	-17.8	-17.8	10.6	10.0	11.1	7.2	7.8	7.8	15.6	-0.043	13.39
3	15	79	15	8.1	16.1	16.1	-17.8	-17.8	7.2	6.4	7.8	5.0	5.6	3.3	8.9	-0.043	14.39
3	15	79	16	5.3	10.6	10.6	-17.8	-17.8	4.7	4.2	5.6	3.9	3.1	1.7	5.3	-0.043	15.39
3	15	79	17	1.7	3.1	3.1	-17.8	-17.8	1.1	0.6	1.9	1.1	0.3	0.0	0.8	-0.043	16.39
3	15	79	18	-2.8	-2.8	-2.8	-17.8	-17.8	-3.3	-3.3	-3.1	-3.1	-3.1	-3.1	-3.1	-0.043	17.39
3	15	79	19	-4.4	-4.4	-4.4	-17.8	-17.8	-5.0	-5.0	-5.0	-4.7	-5.0	-4.7	-4.7	-0.043	18.39

TABLE 8 DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MO	DA	YR	HR	S2B	EXIT	DUCT	B AMB	FAN	S3T	S3B	S2T	S1B	S1T	N1T	N1B	DECL	STIME
3	16	79	7	-1.7	-1.7	-1.7	-17.8	-17.8	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-0.036	6.40
3	16	79	8	2.2	2.8	1.7	-17.8	-17.8	2.2	1.9	2.8	2.2	2.2	0.8	0.8	-0.036	7.40
3	16	79	9	5.0	6.4	6.4	-17.8	-17.8	5.0	4.4	4.7	3.9	5.0	3.3	2.5	-0.036	8.40
3	16	79	10	3.9	4.7	4.7	-17.8	-17.8	4.4	4.2	4.2	3.9	5.3	3.3	3.1	-0.036	9.40
3	16	79	11	5.0	5.8	5.8	2.2	2.8	5.0	5.0	5.0	4.7	6.1	4.2	3.6	-0.036	10.40
3	16	79	12	5.8	6.7	6.9	2.8	3.1	5.8	5.8	6.1	5.0	7.5	4.7	4.4	-0.036	11.40
3	16	79	13	7.8	8.6	8.9	3.3	4.7	7.5	7.5	7.8	6.9	9.2	6.4	5.6	-0.036	12.40
3	16	79	14	7.2	8.1	8.3	3.3	4.4	6.9	6.9	7.2	6.7	8.3	5.8	5.3	-0.036	13.40
3	16	79	15	6.1	6.1	6.4	3.1	3.3	5.6	5.6	5.8	5.3	5.8	4.4	4.2	-0.036	14.40
3	16	79	16	5.3	5.6	5.6	3.3	3.3	5.0	5.0	6.1	5.6	5.6	5.6	5.3	-0.036	15.40
3	16	79	17	3.9	3.9	3.9	3.3	3.3	3.6	3.6	3.9	3.6	3.9	3.6	3.3	-0.036	16.40
3	16	79	18	3.6	3.6	3.6	3.3	3.3	3.3	3.3	3.3	3.1	3.3	3.3	3.3	-0.036	17.40
3	16	79	19	2.5	2.5	2.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-0.036	18.40
3	17	79	7	2.2	2.2	2.2	2.2	1.9	1.9	1.9	1.9	1.9	1.9	1.7	1.7	-0.029	6.40
3	17	79	8	1.9	1.9	1.9	1.9	1.7	1.9	1.9	1.9	1.9	1.9	1.7	1.7	-0.029	7.40
3	17	79	9	3.1	3.3	3.3	1.9	1.7	2.8	2.8	3.1	3.1	3.1	2.8	2.5	-0.029	8.40
3	17	79	10	4.2	4.2	4.2	2.2	2.8	3.9	3.9	3.9	3.9	4.4	3.3	3.3	-0.029	9.40
3	17	79	11	5.0	5.0	5.0	2.5	3.1	4.4	4.4	4.7	4.4	5.0	3.9	3.9	-0.029	10.40
3	17	79	12	4.7	5.3	5.3	3.1	3.1	4.7	4.7	5.0	4.4	4.7	3.9	3.9	-0.029	11.40
3	17	79	13	5.6	5.8	5.8	3.1	3.1	5.3	5.3	5.6	5.3	5.3	4.2	4.2	-0.029	12.40
3	17	79	14	5.8	6.4	6.4	3.1	3.3	5.8	5.8	5.8	5.0	6.7	4.7	4.2	-0.029	13.40
3	17	79	15	7.2	7.8	7.8	4.2	4.7	6.9	6.9	6.9	6.4	7.5	5.8	5.3	-0.029	14.40
3	17	79	16	6.4	7.2	7.2	4.2	4.7	6.4	6.4	6.4	6.4	7.2	5.6	5.3	-0.029	15.40
3	17	79	17	5.0	5.3	5.3	3.3	3.3	4.4	4.4	4.4	4.4	4.7	4.2	3.9	-0.029	16.40
3	17	79	18	4.7	4.7	4.7	4.2	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.6	-0.029	17.40
3	17	79	19	3.1	3.1	3.1	3.6	3.6	3.3	3.3	3.3	3.3	3.3	3.9	3.9	-0.029	18.40
3	18	79	7	0.8	1.1	1.1	2.2	1.1	1.1	1.1	1.1	0.8	0.8	0.8	0.8	-0.022	6.41
3	18	79	8	2.2	2.2	2.2	3.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	-0.022	7.41
3	18	79	9	3.1	3.1	3.1	4.7	2.2	2.5	2.5	3.1	2.5	3.1	2.5	2.5	-0.022	8.41
3	18	79	10	3.1	3.1	3.1	4.2	1.4	2.8	2.8	2.8	2.2	2.2	1.7	1.7	-0.022	9.41
3	18	79	11	1.9	1.9	1.9	3.9	1.1	1.9	1.9	1.9	1.7	1.7	1.4	1.4	-0.022	10.41
3	18	79	12	3.1	3.1	3.1	4.2	1.4	2.5	2.5	2.8	2.5	2.5	2.5	2.5	-0.022	11.41
3	18	79	13	3.1	3.3	3.6	4.2	1.4	3.1	3.1	3.1	2.8	2.8	2.5	2.5	-0.022	12.41
3	18	79	14	1.9	2.2	2.2	3.6	1.1	1.9	1.9	1.9	1.7	1.7	1.7	1.7	-0.022	13.41
3	18	79	15	2.2	2.2	2.2	3.6	0.8	1.9	1.9	1.9	1.9	1.9	1.7	1.4	-0.022	14.41
3	18	79	16	1.4	1.4	1.4	3.3	0.8	1.4	1.4	1.4	1.4	1.4	0.8	0.8	-0.022	15.41
3	18	79	17	1.1	1.1	1.1	3.6	0.8	0.8	0.8	0.8	1.1	1.1	0.6	0.6	-0.022	16.41
3	18	79	18	1.9	1.9	1.9	4.4	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-0.022	17.41
3	18	79	19	2.2	2.2	2.2	5.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-0.022	18.41
3	19	79	7	0.3	0.3	0.3	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.3	0.3	-0.015	6.41
3	19	79	8	0.6	0.6	0.8	0.3	0.3	0.8	0.6	0.6	0.8	0.8	0.8	0.8	-0.015	7.41
3	19	79	9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.1	1.1	1.1	0.8	-0.015	8.41
3	19	79	10	2.2	2.5	2.5	1.4	1.4	1.9	1.9	2.2	2.2	3.1	1.7	1.7	-0.015	9.41
3	19	79	11	2.2	2.2	2.2	1.1	1.1	1.7	1.7	1.7	1.7	2.5	1.7	1.4	-0.015	10.41
3	19	79	12	2.2	2.5	2.5	1.4	1.4	2.2	2.2	2.2	2.2	3.3	1.9	1.9	-0.015	11.41
3	19	79	13	4.2	5.0	5.0	1.9	1.9	4.2	4.2	4.2	3.6	5.6	3.6	3.1	-0.015	12.41
3	19	79	14	2.2	2.5	2.8	1.1	1.1	2.2	2.2	2.2	2.2	3.3	2.2	1.9	-0.015	13.41
3	19	79	15	0.6	1.4	1.4	0.6	0.6	0.8	0.8	0.8	0.8	1.7	1.1	1.1	-0.015	14.41
3	19	79	16	0.8	0.8	0.8	0.3	0.3	0.3	0.6	0.6	0.3	0.8	0.6	0.6	-0.015	15.41
3	19	79	17	0.3	0.3	0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	0.0	0.6	0.6	-0.015	16.41
3	19	79	18	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3	0.3	0.3	-0.015	17.41
3	19	79	19	0.0	0.0	0.0	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	0.6	0.6	-0.015	18.41

TABLE B DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MO	DA	YR	HR	S2B	EXIT	DUCT	B AMB	FAN	S3T	S3B	S2T	S1B	S1T	N1T	N1B	DECL	STIME
3	20	79	7	0.3	0.3	0.3	0.6	0.3	0.3	0.3	0.3	0.0	0.3	0.8	0.8	-0.008	6.42
3	20	79	8	0.8	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.8	0.8	1.4	1.1	-0.008	7.42
3	20	79	9	1.4	1.7	1.7	1.1	0.6	1.1	1.1	1.1	1.1	1.7	1.7	1.7	-0.008	8.42
3	20	79	10	1.7	2.8	2.8	1.1	1.1	1.9	1.9	1.9	1.9	3.3	2.5	2.5	-0.008	9.42
3	20	79	11	2.5	3.1	3.1	1.7	1.1	2.2	2.2	2.2	2.2	3.3	2.5	2.5	-0.008	10.42
3	20	79	12	4.4	5.0	5.0	2.5	2.2	4.2	4.2	4.4	3.6	6.1	4.4	3.6	-0.008	11.42
3	20	79	13	5.3	6.1	6.1	3.3	2.8	5.3	5.3	5.3	4.7	8.1	5.0	4.4	-0.008	12.42
3	20	79	14	5.6	6.4	6.4	3.6	3.3	5.3	5.3	5.6	5.3	7.8	5.3	4.7	-0.008	13.42
3	20	79	15	6.1	6.9	7.2	4.4	3.9	5.8	5.8	5.8	5.6	8.1	6.1	5.3	-0.008	14.42
3	20	79	16	5.0	5.6	5.6	3.9	3.6	4.7	4.7	4.7	4.7	6.9	4.4	4.4	-0.008	15.42
3	20	79	17	3.9	4.7	4.7	5.0	3.6	3.9	3.9	4.2	4.2	5.0	4.7	4.7	-0.008	16.42
3	20	79	18	2.8	2.8	2.8	3.1	2.5	2.5	2.5	2.5	2.5	2.5	3.1	3.1	-0.008	17.42
3	20	79	19	1.9	1.9	1.9	3.6	2.2	2.2	2.2	2.2	2.2	2.2	3.1	3.1	-0.008	18.42
3	21	79	7	-1.1	-1.1	-1.1	0.6	-0.8	-0.8	-0.8	-0.8	-1.1	-1.1	-1.1	-1.1	-0.001	6.42
3	21	79	8	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.6	-0.6	-0.001	7.42
3	21	79	9	0.8	0.8	0.8	1.1	0.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-0.001	8.42
3	21	79	10	3.1	3.1	3.1	5.6	1.4	2.5	2.5	2.5	2.2	2.8	2.2	1.9	-0.001	9.42
3	21	79	11	4.7	5.0	5.3	3.9	2.5	5.0	5.0	5.0	4.4	5.3	4.4	3.6	-0.001	10.42
3	21	79	12	7.5	8.6	8.9	7.5	4.4	7.8	7.5	7.8	6.7	7.5	6.1	5.3	-0.001	11.42
3	21	79	13	7.2	8.1	8.1	6.9	4.2	7.2	7.2	7.2	6.7	7.5	6.1	5.8	-0.001	12.42
3	21	79	14	6.4	7.2	7.2	7.8	5.0	6.4	6.4	6.4	6.4	6.7	6.1	5.6	-0.001	13.42
3	21	79	15	6.1	6.4	6.4	8.1	4.4	5.6	5.6	5.6	5.0	5.8	5.3	5.0	-0.001	14.42
3	21	79	16	4.4	4.4	4.7	8.6	3.9	4.4	4.4	4.4	4.7	4.7	4.4	4.4	-0.001	15.42
3	21	79	17	3.3	3.6	3.6	8.3	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	-0.001	16.42
3	21	79	18	2.5	2.5	2.5	3.3	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-0.001	17.42
3	21	79	19	1.9	1.9	1.9	3.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	-0.001	18.42
3	22	79	7	0.3	0.3	0.3	0.8	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.006	6.42
3	22	79	8	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.3	0.006	7.42
3	22	79	9	0.3	0.3	0.3	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.006	8.42
3	22	79	10	0.3	0.3	0.3	2.5	0.0	0.3	0.3	0.3	0.8	0.3	0.6	0.6	0.006	9.42
3	22	79	11	1.1	1.1	1.1	2.8	0.6	0.8	0.8	0.8	1.4	0.3	0.8	0.8	0.006	10.42
3	22	79	12	0.6	0.8	0.8	3.1	0.6	0.6	0.6	0.6	0.6	0.0	0.6	0.6	0.006	11.42
3	22	79	13	0.6	0.6	0.6	3.1	0.3	0.3	0.6	0.6	0.6	0.3	0.6	0.6	0.006	12.42
3	22	79	14	0.6	0.8	0.8	2.5	0.3	0.6	0.6	0.8	1.4	0.6	0.6	0.6	0.006	13.42
3	22	79	15	0.6	0.8	0.8	0.8	0.3	0.8	0.6	0.8	0.8	0.3	0.6	0.6	0.006	14.42
3	22	79	16	0.8	0.8	0.8	1.1	0.0	0.8	0.6	0.8	0.8	0.6	0.6	0.6	0.006	15.42
3	22	79	17	0.0	0.3	0.3	0.6	0.0	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.006	16.42
3	22	79	18	-0.3	-0.3	-0.3	0.0	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	0.006	17.42
3	22	79	19	-0.3	-0.3	-0.3	0.0	-0.6	-0.6	-0.6	-0.3	-0.3	-0.3	-0.6	-0.6	0.006	18.42
3	23	79	7	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	0.012	6.43
3	23	79	8	-2.2	-1.9	-1.9	-1.9	-2.5	-2.5	-2.5	-2.5	-2.8	-2.2	-2.2	-2.2	0.012	7.43
3	23	79	9	-3.1	-2.5	-2.5	-3.1	-3.6	-3.3	-3.3	-3.3	-3.6	-3.1	-3.3	-3.3	0.012	8.43
3	23	79	10	-3.6	-2.2	-1.9	-3.1	-4.2	-3.1	-3.1	-3.1	-3.6	-2.5	-2.8	-3.1	0.012	9.43
3	23	79	11	5.6	9.7	9.7	-0.6	-1.1	5.8	4.2	6.7	3.6	0.6	1.1	4.2	0.012	10.43
3	23	79	12	4.4	8.3	8.6	-2.5	-2.8	4.4	2.8	5.6	2.8	1.4	0.8	1.9	0.012	11.43
3	23	79	13	3.1	5.3	5.3	-2.8	-2.5	2.5	1.4	3.1	1.1	2.8	0.0	-0.8	0.012	12.43
3	23	79	14	5.6	9.4	9.4	-2.8	-1.7	5.8	3.9	6.7	3.6	4.4	1.9	3.3	0.012	13.43
3	23	79	15	4.4	6.9	6.9	-2.8	-2.2	4.2	2.5	5.3	2.8	2.8	1.7	1.7	0.012	14.43
3	23	79	16	1.1	2.8	2.8	-3.1	-2.5	1.1	0.0	1.9	0.3	0.3	-1.1	-1.1	0.012	15.43
3	23	79	17	0.0	0.3	0.3	-2.8	-3.3	-0.6	-1.1	0.6	-0.6	-0.8	-1.9	-1.9	0.012	16.43
3	23	79	18	-4.7	-4.7	-4.7	-4.7	-5.3	-5.3	-5.3	-5.0	-5.0	-5.0	-5.0	-5.0	0.012	17.43
3	23	79	19	-7.8	-7.5	-7.5	-6.4	-6.9	-7.8	-7.8	-7.8	-7.8	-7.8	-6.7	-6.7	0.012	18.43

TABLE 8 DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MO DA YR HR	S2B	EXIT	CUCT	B AMB	FAN	S3T	S3B	S2T	S1B	S1T	N1T	N1B	DECL	STIME
3 24 79 7	-9.7	-9.7	-9.7	-9.4	-10.0	-10.0	-10.0	-10.0	-10.0	-10.6	-10.0	-10.0	0.019	6.44
3 24 79 8	-4.7	-4.7	-4.2	-7.5	-8.1	-5.0	-5.6	-4.4	-4.7	-7.2	-7.2	-7.2	0.019	7.44
3 24 79 9	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	0.019	8.44
3 24 79 10	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	0.019	9.44
3 24 79 11	14.2	23.3	22.8	-1.9	1.1	13.3	11.9	14.7	10.0	5.0	4.4	12.8	0.019	10.44
3 24 79 12	18.6	32.8	31.9	-0.3	-0.3	17.5	16.1	18.9	13.6	12.5	21.4	22.2	0.019	11.44
3 24 79 13	20.3	34.4	33.9	0.8	3.6	18.9	17.5	20.0	15.0	13.9	23.6	21.7	0.019	12.44
3 24 79 14	19.2	31.9	31.4	0.8	0.8	17.5	16.4	18.9	13.9	13.6	18.6	21.9	0.019	13.44
3 24 79 15	16.7	26.7	25.8	2.5	4.2	15.0	14.4	16.1	12.2	12.2	11.9	19.7	0.019	14.44
3 24 79 16	10.6	16.4	16.4	1.4	0.3	9.2	8.6	10.0	7.8	7.8	5.0	9.4	0.019	15.44
3 24 79 17	5.3	6.9	6.9	0.3	-0.3	3.6	3.6	5.0	3.6	3.3	0.8	3.6	0.019	16.44
3 24 79 18	-1.4	-1.4	-1.4	-1.9	-3.3	-2.8	-2.8	-2.2	-2.5	-1.9	-2.8	-2.8	0.019	17.44
3 24 79 19	-5.8	-5.8	-5.8	-4.7	-5.8	-6.4	-6.4	-6.4	-5.8	-6.4	-4.7	-4.7	0.019	18.44
3 25 79 7	-9.4	-9.4	-9.4	-3.9	-9.2	-9.2	-9.2	-9.2	-9.2	-9.2	-9.2	-9.2	0.026	6.44
3 25 79 8	-5.3	-5.3	-5.3	-2.8	-7.5	-6.1	-6.1	-6.1	-6.4	-6.4	-6.7	-6.7	0.026	7.44
3 25 79 9	-3.6	-3.3	-3.3	-4.4	-5.8	-3.9	-3.9	-3.6	-3.6	-3.6	-4.2	-4.4	0.026	8.44
3 25 79 10	2.8	3.9	3.9	0.3	-3.1	1.9	1.9	2.5	1.1	1.1	-0.6	-1.7	0.026	9.44
3 25 79 11	17.5	28.3	27.5	2.5	3.9	16.7	15.6	18.6	13.1	9.4	15.3	19.4	0.026	10.44
3 25 79 12	22.8	37.8	37.2	6.4	8.3	22.8	21.1	23.3	18.3	13.9	23.6	24.4	0.026	11.44
3 25 79 13	21.4	37.2	33.6	0.8	1.1	21.1	20.0	21.7	16.1	21.1	25.8	24.7	0.026	12.44
3 25 79 14	19.2	32.8	32.2	3.6	3.1	18.6	17.8	18.6	19.2	21.1	18.6	22.8	0.026	13.44
3 25 79 15	12.8	20.0	20.0	3.6	0.0	11.7	11.4	12.2	9.2	15.8	8.6	11.7	0.026	14.44
3 25 79 16	10.8	16.7	16.7	5.3	-0.6	10.6	10.0	11.1	8.6	8.6	5.6	8.6	0.026	15.44
3 25 79 17	5.8	8.3	8.3	1.9	0.6	5.3	5.0	6.4	5.6	3.1	1.9	3.1	0.026	16.44
3 25 79 18	-1.1	-0.6	-0.6	-1.4	-1.9	-1.4	-1.4	-1.4	-1.4	-0.8	-1.4	-1.4	0.026	17.44
3 25 79 19	-1.9	-1.9	-1.9	-0.8	-1.9	-2.2	-2.2	-2.2	-2.2	-2.2	-1.7	-1.7	0.026	18.44
3 26 79 7	-9.7	-9.7	-9.7	-9.7	-9.7	-10.0	-10.0	-10.0	-9.7	-9.7	-9.2	-9.2	0.033	6.45
3 26 79 8	-6.4	-6.4	-5.8	-8.9	-8.9	-6.9	-6.9	-6.4	-6.7	-6.4	-7.8	-7.8	0.033	7.45
3 26 79 9	-1.4	0.3	0.3	-8.3	-7.8	-2.2	-2.2	-1.7	-2.8	-1.9	-5.8	-5.3	0.033	8.45
3 26 79 10	5.8	11.9	11.4	-5.6	-5.6	5.0	4.4	6.1	2.8	4.2	0.0	3.6	0.033	9.45
3 26 79 11	10.6	20.0	18.9	-4.7	-0.6	8.9	8.3	10.6	6.4	8.9	7.2	11.9	0.033	10.45
3 26 79 12	10.6	18.6	18.6	-4.2	-0.8	9.4	8.9	10.6	6.7	11.1	7.8	6.1	0.033	11.45
3 26 79 13	12.2	19.7	16.1	-2.5	-1.4	10.3	9.4	11.1	7.5	12.2	9.7	10.0	0.033	12.45
3 26 79 14	4.2	6.9	7.8	-1.9	-1.7	5.0	4.4	5.6	3.3	8.3	3.6	4.7	0.033	13.45
3 26 79 15	2.2	5.3	5.3	-6.1	-5.0	0.6	0.3	0.8	-1.4	1.7	-2.2	-3.3	0.033	14.45
3 26 79 16	-0.6	0.8	1.1	-2.8	-4.7	-1.1	-1.1	-1.1	-1.9	0.8	-1.7	-2.2	0.033	15.45
3 26 79 17	-2.5	-1.7	-1.7	-3.6	-4.7	-3.1	-3.1	-2.5	-2.5	-1.4	-2.5	-2.2	0.033	16.45
3 26 79 18	-5.8	-5.3	-5.3	-1.1	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	0.033	17.45
3 26 79 19	-6.7	-6.4	-6.4	-5.8	-6.4	-6.7	-6.7	-6.7	-6.7	-6.7	-6.1	-6.1	0.033	18.45
3 27 79 7	-8.3	-8.3	-8.3	-8.6	-8.9	-8.9	-8.9	-8.9	-8.6	-8.6	-8.6	-8.6	0.040	6.45
3 27 79 8	-5.8	-5.6	-5.3	-6.7	-7.2	-6.1	-6.1	-5.8	-6.1	-6.1	-6.7	-6.9	0.040	7.45
3 27 79 9	-1.1	-0.3	-0.3	-5.6	-5.3	-1.9	-1.9	-1.7	-2.5	-2.8	-3.9	-4.4	0.040	8.45
3 27 79 10	-0.3	0.3	0.3	-5.3	-4.4	-0.6	-0.8	-0.6	-1.4	-0.3	-2.2	-3.1	0.040	9.45
3 27 79 11	7.2	9.2	9.4	-2.5	-2.2	8.1	6.1	8.3	5.8	5.8	3.9	2.8	0.040	10.45
3 27 79 12	6.7	8.6	9.2	-0.8	0.0	6.9	5.8	6.9	5.6	5.6	2.5	1.4	0.040	11.45
3 27 79 13	4.2	5.3	5.6	-1.7	-[illegible].6	4.2	3.9	4.7	3.1	3.3	1.7	0.0	0.040	12.45
3 27 79 14	4.4	4.7	4.7	-0.3	0.3	3.9	3.6	3.9	3.6	3.6	1.9	1.1	0.040	13.45
3 27 79 15	8.1	8.9	9.2	0.3	1.4	8.1	7.8	9.4	7.8	6.9	5.3	7.2	0.040	14.45
3 27 79 16	4.2	4.7	4.7	0.3	1.1	3.1	3.1	3.6	2.8	2.8	1.9	1.7	0.040	15.45
3 27 79 17	4.4	4.2	4.2	1.7	1.1	3.3	3.1	4.4	3.9	2.8	2.2	1.9	0.040	16.45
3 27 79 18	0.8	0.8	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.040	17.45
3 27 79 19	0.3	0.3	0.3	1.4	0.8	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.040	18.45

TABLE B DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MO	DA	YR	HR	S2B	EXIT	DUCT	B AMB	FAN	S3T	S3B	S2T	S1B	S1T	N1T	N1B	DECL	STIME
3	28	79	7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.047	6.46
3	28	79	8	3.1	3.1	3.1	2.5	2.2	3.1	3.1	3.1	3.1	3.6	3.1	3.1	0.047	7.46
3	28	79	9	9.2	10.3	10.3	4.2	3.6	8.6	8.6	8.6	7.8	10.8	6.9	6.1	0.047	8.46
3	28	79	10	7.5	8.6	8.6	5.0	5.0	7.5	7.5	7.5	7.2	10.3	6.9	5.8	0.047	9.46
3	28	79	11	6.4	7.2	7.5	4.7	4.4	6.4	6.4	6.4	6.1	7.8	6.1	5.8	0.047	10.46
3	28	79	12	11.7	14.7	14.7	4.4	5.3	11.7	11.4	12.2	10.3	13.1	10.3	9.4	0.047	11.46
3	28	79	13	3.6	4.2	4.2	2.2	2.2	3.1	3.1	3.3	3.3	4.2	3.3	3.1	0.047	12.46
3	28	79	14	3.1	3.9	3.9	1.1	1.1	2.8	2.8	2.8	2.5	4.2	3.1	2.5	0.047	13.46
3	28	79	15	2.5	3.1	3.1	0.3	0.3	1.9	1.9	2.2	1.7	3.3	1.9	1.4	0.047	14.46
3	28	79	16	1.4	1.9	1.9	0.3	0.3	1.1	1.1	1.4	1.1	2.2	1.1	1.1	0.047	15.46
3	28	79	17	-0.3	0.3	0.3	-0.6	-1.1	-0.6	-0.6	-0.6	-0.8	0.0	0.0	0.0	0.047	16.46
3	28	79	18	-1.4	-1.4	-1.4	-1.4	-1.7	-1.7	-1.7	-1.7	-1.9	-1.7	-0.8	-0.8	0.047	17.46
3	28	79	19	-1.9	-1.9	-1.9	-1.9	-1.9	-2.2	-2.2	-2.2	-2.5	-2.5	-1.4	-1.1	0.047	18.46
3	29	79	7	-3.6	-3.6	-3.6	-2.2	-3.3	-3.3	-3.3	-3.3	-3.6	-3.6	-3.6	-3.6	0.054	6.46
3	29	79	8	-1.4	-1.4	-1.4	-1.1	-1.7	-1.7	-1.7	-1.4	-1.4	-1.4	-1.7	-1.7	0.054	7.46
3	29	79	9	1.4	1.4	1.4	-0.3	-1.1	1.1	1.1	1.4	1.4	1.1	0.3	0.0	0.054	8.46
3	29	79	10	6.9	7.5	7.5	1.1	0.8	6.7	6.4	7.2	6.1	5.6	3.6	3.1	0.054	9.46
3	29	79	11	1.1	1.1	1.1	0.8	0.0	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.054	10.46
3	29	79	12	-0.3	-0.3	-0.3	1.4	-0.6	-0.3	-0.3	-0.3	0.0	-0.3	-0.3	-0.3	0.054	11.46
3	29	79	13	4.2	4.2	4.2	1.4	1.1	3.9	3.9	4.4	3.9	3.6	2.8	2.2	0.054	12.46
3	29	79	14	1.9	1.9	1.9	1.1	0.0	1.4	1.4	1.7	1.7	1.1	1.1	0.8	0.054	13.46
3	29	79	15	0.3	0.3	0.3	1.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.054	14.46
3	29	79	16	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.054	15.46
3	29	79	17	0.3	0.3	0.3	1.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.054	16.46
3	29	79	18	0.3	0.3	0.3	2.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.054	17.46
3	29	79	19	-0.3	-0.3	-0.3	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.054	18.46
3	30	79	7	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	0.060	6.47
3	30	79	8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.6	-0.6	-0.3	-0.3	0.060	7.47
3	30	79	9	-0.8	-0.8	-0.8	-1.1	-1.1	-1.1	-1.1	-0.8	-0.8	-1.1	-0.8	-0.8	0.060	8.47
3	30	79	10	0.3	0.8	0.8	0.0	-0.3	0.3	0.3	0.3	0.0	0.0	0.3	0.3	0.060	9.47
3	30	79	11	4.2	5.3	5.3	1.4	1.4	4.2	4.2	4.7	3.9	4.2	3.6	3.1	0.060	10.47
3	30	79	12	6.9	8.6	8.6	1.1	1.1	6.1	5.8	6.1	5.3	7.8	5.3	4.7	0.060	11.47
3	30	79	13	6.9	8.1	8.1	1.7	1.1	6.1	6.1	6.4	5.3	7.8	4.4	3.9	0.060	12.47
3	30	79	14	5.8	7.5	7.5	1.9	0.8	5.3	5.0	5.0	4.2	6.4	4.2	3.3	0.060	13.47
3	30	79	15	2.8	3.6	3.6	0.8	0.6	2.5	2.5	2.5	1.9	3.9	2.8	2.2	0.060	14.47
3	30	79	16	1.9	2.5	2.5	0.6	0.3	1.7	1.7	1.9	1.7	2.8	1.1	1.1	0.060	15.47
3	30	79	17	0.6	1.1	1.1	-0.3	-0.3	0.3	0.3	0.3	0.3	1.1	0.3	0.3	0.060	16.47
3	30	79	18	-1.4	-1.1	-1.1	-1.1	-1.7	-1.7	-1.7	-1.7	-1.7	-1.4	-1.4	-1.4	0.060	17.47
3	30	79	19	-2.8	-2.8	-2.8	-2.5	-2.5	-3.6	-3.6	-3.3	-3.1	-3.3	-2.2	-2.2	0.060	18.47
3	31	79	7	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	0.067	6.47
3	31	79	8	-3.1	-3.1	-3.1	-3.1	-3.3	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	0.067	7.47
3	31	79	9	1.1	1.7	1.7	-2.2	-1.7	1.1	1.1	2.2	2.5	2.5	0.6	0.3	0.067	8.47
3	31	79	10	7.2	9.2	9.2	1.1	0.3	6.4	5.8	6.9	5.3	4.7	3.1	2.5	0.067	9.47
3	31	79	11	5.8	7.8	7.8	0.0	0.8	5.0	5.0	5.6	4.4	4.4	3.1	2.2	0.067	10.47
3	31	79	12	6.9	12.8	12.8	2.8	3.6	9.4	9.2	10.6	8.9	9.2	7.8	10.8	0.067	11.47
3	31	79	13	7.8	10.3	10.3	0.8	2.5	7.8	7.2	8.1	6.7	8.6	5.6	4.7	0.067	12.47
3	31	79	14	12.8	18.6	18.9	1.7	5.0	12.8	11.9	13.6	11.1	13.6	11.4	15.0	0.067	13.47
3	31	79	15	4.7	6.1	6.1	1.9	1.9	4.2	4.2	4.2	3.9	4.2	3.1	2.5	0.067	14.47
3	31	79	16	3.6	5.3	5.3	2.8	1.7	3.9	3.9	4.2	3.6	3.6	3.1	2.8	0.067	15.47
3	31	79	17	2.5	2.5	2.5	1.9	1.4	1.7	1.7	1.7	1.7	1.7	1.1	1.1	0.067	16.47
3	31	79	18	0.6	0.8	0.8	4.4	0.3	0.3	0.6	0.6	0.6	0.6	0.8	0.8	0.067	17.47
3	31	79	19	-0.3	0.3	0.3	3.3	0.0	-0.3	-0.3	-0.3	-0.3	-0.3	0.0	0.0	0.067	18.47

TABLE 8 DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MO	DA	YR	HR	S2B	EXIT	DUCT	B AMB	FAN	S3T	S3B	S2T	S1B	S1T	N1T	N1B	DECL	STIME
4	1	79	7	-2.5	-2.5	-2.5	-0.3	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	0.074	6.48
4	1	79	8	-1.4	-1.4	-1.4	1.1	-1.7	-1.4	-1.1	-1.1	-1.4	-1.1	-1.1	-1.1	0.074	7.48
4	1	79	9	-0.6	-0.3	-0.3	2.5	-1.1	-0.3	-0.3	-0.3	-0.6	-0.6	-0.8	-0.8	0.074	8.48
4	1	79	10	1.9	3.9	3.9	2.8	-0.3	5.3	1.7	5.6	4.2	1.7	1.7	0.8	0.074	9.48
4	1	79	11	5.3	7.5	7.5	3.6	-0.3	5.3	5.0	5.0	4.2	5.3	3.1	2.5	0.074	10.48
4	1	79	12	5.3	6.7	6.7	3.6	-0.3	5.6	5.3	5.6	4.7	5.6	3.6	3.3	0.074	11.48
4	1	79	13	5.3	6.9	6.9	5.0	1.1	5.6	5.3	5.6	4.4	5.8	3.9	3.1	0.074	12.48
4	1	79	14	4.4	5.0	5.0	3.1	0.8	3.9	3.9	3.9	3.1	3.6	2.5	2.2	0.074	13.48
4	1	79	15	2.2	3.3	3.3	2.8	0.6	2.2	2.2	2.2	1.9	2.5	2.2	1.9	0.074	14.48
4	1	79	16	0.8	1.4	1.7	1.9	0.3	0.8	0.8	0.8	1.1	1.1	0.8	0.8	0.074	15.48
4	1	79	17	0.0	0.3	0.3	1.7	0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.3	0.074	16.48
4	1	79	18	-0.3	-0.3	-0.3	1.4	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	0.0	0.0	0.074	17.48
4	1	79	19	-0.8	-0.8	-0.8	0.6	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	0.074	18.48
4	2	79	7	-6.4	-6.4	-6.4	-6.9	-6.9	-6.9	-6.9	-6.9	-6.4	-6.4	-6.4	-6.4	0.081	6.48
4	2	79	8	-3.9	-3.9	-3.6	-6.1	-6.4	-4.4	-4.4	-4.2	-3.9	-3.9	-5.0	-5.3	0.081	7.48
4	2	79	9	4.2	6.4	6.4	-4.2	-3.1	3.1	3.1	3.6	2.5	4.4	0.0	0.6	0.081	8.48
4	2	79	10	3.1	6.4	6.4	-3.6	-3.1	2.5	2.5	3.1	1.7	4.4	1.4	1.4	0.081	9.48
4	2	79	11	8.6	14.4	14.4	-0.8	-0.8	7.8	7.5	8.1	6.1	10.3	9.7	6.7	0.081	10.48
4	2	79	12	13.6	21.1	20.8	0.6	1.9	11.9	11.7	12.8	9.2	13.9	13.3	7.8	0.081	11.48
4	2	79	13	18.6	30.6	30.6	2.2	4.2	17.8	17.2	18.6	14.2	18.9	25.0	18.3	0.081	12.48
4	2	79	14	18.9	30.8	30.6	2.5	7.8	17.5	17.5	18.3	13.9	17.2	19.2	20.6	0.081	13.48
4	2	79	15	14.7	21.1	20.8	4.4	4.7	13.9	13.1	13.9	10.8	11.4	8.3	8.9	0.081	14.48
4	2	79	16	10.8	14.4	14.4	4.4	3.3	9.7	9.4	10.3	8.6	9.7	4.7	8.3	0.081	15.48
4	2	79	17	3.6	4.2	4.4	1.1	0.3	2.8	2.8	2.8	2.5	3.3	1.4	0.8	0.091	16.48
4	2	79	18	-1.4	-1.4	-1.4	-1.4	-1.9	-1.9	-1.9	-1.9	-1.4	-1.4	-1.7	-1.7	0.081	17.48
4	2	79	19	-2.5	-2.5	-2.5	-2.2	-2.2	-2.8	-2.8	-2.8	-2.5	-2.8	-1.7	-1.7	0.081	18.48
4	3	79	7	-5.8	-5.8	-5.8	-1.7	-5.8	-5.8	-5.8	-5.8	-5.3	-5.3	-5.3	-5.3	0.088	6.49
4	3	79	8	-2.5	-1.9	-1.7	-1.4	-4.7	-2.8	-2.8	-2.2	-2.2	-1.7	-3.3	-3.6	0.088	7.49
4	3	79	9	6.9	10.6	10.6	1.9	-2.2	7.2	6.7	7.8	6.1	5.8	0.8	4.2	0.088	8.49
4	3	79	10	14.7	24.4	24.2	6.1	0.8	15.3	14.2	15.6	12.2	11.9	12.2	16.7	0.088	9.49
4	3	79	11	19.7	31.9	30.8	5.0	1.4	19.4	16.9	18.1	13.6	11.9	16.7	14.7	0.088	10.49
4	3	79	12	22.8	36.7	36.4	7.5	5.8	22.8	20.8	22.5	17.5	17.2	28.6	23.3	0.088	11.49
4	3	79	13	26.7	41.9	41.1	10.8	10.3	26.1	24.2	26.7	21.4	20.0	30.0	24.4	0.088	12.49
4	3	79	14	22.8	33.6	33.3	4.7	10.0	21.9	20.8	23.1	19.2	16.9	22.5	24.2	0.088	13.49
4	3	79	15	10.0	13.6	13.6	3.9	4.7	8.9	8.9	9.2	8.3	7.8	6.9	7.2	0.088	14.49
4	3	79	16	14.7	17.5	17.5	4.7	8.1	13.6	13.3	13.9	11.9	10.8	8.6	10.8	0.088	15.49
4	3	79	17	9.7	10.3	10.3	5.8	3.6	8.6	8.6	9.7	8.9	7.8	5.8	5.3	0.088	16.49
4	3	79	18	2.2	2.8	2.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.088	17.49
4	3	79	19	-0.8	-0.8	-0.8	-0.3	-0.8	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	0.088	18.49
4	4	79	7	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.3	-3.3	-3.1	-3.1	0.095	6.49
4	4	79	8	-1.4	-1.4	-1.4	-2.5	-2.5	-1.9	-1.9	-1.7	-1.4	-1.4	-1.4	-1.7	0.095	7.49
4	4	79	9	-1.7	-1.4	-1.4	-1.9	-1.9	-1.7	-1.7	-1.7	-1.1	-1.1	-1.4	-1.4	0.095	8.49
4	4	79	10	0.8	0.8	0.8	-0.8	-0.6	0.0	0.0	0.3	0.3	1.4	0.6	0.3	0.095	9.49
4	4	79	11	3.6	4.4	4.4	0.3	1.4	3.3	3.3	3.3	0.3	5.6	2.8	2.2	0.095	10.49
4	4	79	12	3.3	4.2	4.2	1.1	1.1	3.3	3.3	3.3	3.1	5.8	3.1	2.5	0.095	11.49
4	4	79	13	17.6	25.6	25.0	3.1	[illegible].3	16.4	15.8	16.9	13.6	19.4	18.1	16.1	0.095	12.49
4	4	79	14	14.2	18.9	19.4	6.9	8.3	14.7	14.4	14.7	12.8	18.3	13.3	11.9	0.095	13.49
4	4	79	15	18.6	25.6	25.6	9.7	8.9	18.6	18.3	19.4	16.7	19.7	16.1	19.2	0.095	14.49
4	4	79	16	18.1	22.5	22.5	9.7	8.6	16.9	16.7	17.2	15.6	17.8	12.5	15.3	0.095	15.49
4	4	79	17	11.7	12.2	12.2	9.2	6.9	10.8	10.6	11.4	10.8	12.2	8.3	8.3	0.095	16.49
4	4	79	18	5.8	6.4	6.4	6.7	5.0	5.0	5.0	5.3	5.6	5.6	5.8	5.8	0.095	17.49
4	4	79	19	2.8	2.8	2.8	3.9	2.8	1.9	1.9	2.2	2.5	1.9	2.5	2.5	0.095	18.49

TABLE B DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MC	DA	YR	HR	S2B	EXIT	DUCT	B AMB	FAN	S3T	S3B	S2T	S1B	S1T	N1T	N1B	DECL	STIME
4	5	79	7	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.8	-2.8	-2.8	-2.8	-2.8	-2.5	0.102	6.50
4	5	79	8	-1.1	-1.1	-1.1	-2.8	-2.5	-1.7	-1.7	-1.7	-1.7	-1.7	-1.9	-1.9	0.102	7.50
4	5	79	9	-6.1	-5.8	-5.8	-8.9	-8.1	-6.9	-6.9	-6.7	-6.9	-6.4	-7.8	-7.8	0.102	8.50
4	5	79	10	-5.6	-5.3	-5.0	-10.6	-9.7	-6.7	-6.7	-5.8	-6.9	-6.1	-8.1	-8.6	0.102	9.50
4	5	79	11	-4.2	-2.2	-2.2	-10.8	-8.6	-3.9	-3.9	-2.8	-4.7	-3.1	-5.3	-5.3	0.102	10.50
4	5	79	12	2.5	8.3	7.5	-11.1	-6.1	0.0	-0.3	1.9	-1.4	0.0	0.0	-0.3	0.102	11.50
4	5	79	13	4.7	13.6	13.1	-10.3	-3.9	2.8	2.5	3.9	0.3	1.4	3.3	3.6	0.102	12.50
4	5	79	14	1.1	6.1	6.7	-8.3	-6.1	0.3	0.3	1.9	-0.8	0.3	-1.1	-1.9	0.102	13.50
4	5	79	15	1.9	6.1	6.1	-8.1	-5.6	0.8	0.6	1.9	-0.8	0.3	-2.8	0.8	0.102	14.50
4	5	79	16	-0.8	1.1	1.7	-7.8	-6.1	-1.9	-1.9	-1.4	-2.8	-1.9	-5.0	-4.4	0.102	15.50
4	5	79	17	-5.3	-4.7	-4.7	-8.6	-8.1	-6.4	-6.4	-6.1	-6.1	-5.8	-7.2	-7.2	0.102	16.50
4	5	79	18	-7.8	-7.8	-7.8	-8.6	-8.6	-8.3	-8.3	-8.1	-8.1	-8.1	-8.3	-8.3	0.102	17.50
4	5	79	19	-9.7	-9.7	-9.7	-9.7	-9.7	-10.0	-10.0	-10.0	-10.3	-10.3	-9.4	-9.4	0.102	18.50
4	6	79	7	-11.4	-11.4	-11.4	-8.6	-11.9	-11.9	-11.9	-11.7	-11.7	-11.7	-11.4	-11.4	0.108	6.50
4	6	79	8	-9.7	-9.2	-8.9	-9.2	-10.3	-9.4	-9.4	-9.4	-9.7	-9.4	-9.4	-9.7	0.108	7.50
4	6	79	9	-6.4	-5.6	-5.6	-5.8	-8.3	-6.1	-6.1	-6.1	-6.4	-6.1	-7.2	-7.8	0.108	8.50
4	6	79	10	-3.3	-2.5	-2.5	-6.9	-7.2	-3.6	-3.6	-3.1	-3.9	-3.1	-4.7	-5.6	0.108	9.50
4	6	79	11	2.5	5.8	5.8	-5.8	-3.1	3.6	3.1	5.0	3.3	3.3	2.2	1.1	0.108	10.50
4	6	79	12	8.3	13.9	13.9	-3.9	0.3	9.2	7.8	9.2	5.8	6.9	5.8	4.2	0.108	11.50
4	6	79	13	11.1	16.4	16.4	-0.8	0.8	11.4	10.6	13.1	11.1	8.3	12.2	10.0	0.108	12.50
4	6	79	14	15.3	26.7	26.1	0.0	4.4	15.8	13.6	16.9	13.3	9.7	15.6	18.3	0.108	13.50
4	6	79	15	12.5	19.4	19.4	1.1	3.9	12.5	11.9	14.2	10.0	8.1	6.7	11.9	0.108	14.50
4	6	79	16	9.4	12.2	12.2	1.1	1.7	9.2	8.9	10.0	8.9	6.4	3.6	5.3	0.108	15.50
4	6	79	17	5.3	5.3	5.6	0.8	1.4	4.2	4.2	5.0	4.4	3.9	1.9	1.9	0.108	16.50
4	6	79	18	0.8	1.4	1.4	0.6	0.3	0.6	0.6	0.8	1.1	0.8	0.6	0.6	0.108	17.50
4	6	79	19	-1.4	-1.4	-1.4	-1.1	-1.1	-1.7	-1.7	-1.4	-1.4	-1.4	-1.4	-1.4	0.108	18.50
4	7	79	7	-1.7	-1.7	-1.7	-1.9	-1.9	-1.9	-1.9	-1.7	-1.7	-1.7	-1.9	-1.9	0.114	6.51
4	7	79	8	1.9	1.9	1.9	-0.3	-0.3	1.7	1.7	2.2	2.5	1.9	0.3	0.3	0.114	7.51
4	7	79	9	10.6	11.1	11.1	1.9	4.2	9.4	8.9	10.8	9.2	8.1	4.2	4.7	0.114	8.51
4	7	79	10	17.2	21.4	21.4	2.5	5.6	14.7	15.0	17.2	13.9	11.1	10.0	15.3	0.114	9.51
4	7	79	11	21.4	30.6	30.3	4.2	8.6	19.2	18.6	21.1	16.9	16.7	19.7	22.8	0.114	10.51
4	7	79	12	26.7	37.8	36.7	7.8	11.9	25.8	23.3	25.8	23.1	18.9	24.7	25.8	0.114	11.51
4	7	79	13	30.0	41.4	40.6	10.3	13.1	27.5	26.7	30.0	25.0	21.9	29.7	28.9	0.114	12.51
4	7	79	14	25.8	36.7	35.8	10.0	15.3	25.8	25.0	26.1	22.5	21.9	25.3	27.5	0.114	13.51
4	7	79	15	26.1	33.3	32.8	11.4	15.8	25.8	25.0	26.4	23.3	21.9	19.7	23.3	0.114	14.51
4	7	79	16	20.6	22.5	23.1	12.5	15.3	19.7	19.7	20.6	19.2	19.7	15.8	16.4	0.114	15.51
4	7	79	17	16.4	16.7	16.9	12.5	12.8	15.8	15.6	16.1	15.6	15.6	13.9	13.3	0.114	16.51
4	7	79	18	10.9	11.1	11.1	11.4	10.3	10.3	10.6	10.6	10.8	10.8	10.3	10.3	0.114	17.51
4	7	79	19	8.1	8.1	8.1	11.7	8.1	8.1	7.8	7.8	7.8	7.8	8.1	8.1	0.114	18.51
4	8	79	7	-1.4	-1.4	-1.4	-1.9	-1.7	-1.7	-1.7	-1.7	-1.4	-1.4	-1.4	-1.4	0.121	6.51
4	8	79	8	-1.4	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-0.6	-0.6	0.121	7.51
4	8	79	9	-0.6	0.0	0.0	-0.3	-0.6	-0.6	-0.3	-0.3	-0.3	-0.3	0.6	0.3	0.121	8.51
4	8	79	10	0.0	0.3	0.3	-1.1	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	0.121	9.51
4	8	79	11	0.0	0.3	0.3	-0.8	-0.8	-0.6	-0.6	-0.6	-0.3	0.0	-0.6	-0.6	0.121	10.51
4	8	79	12	1.4	2.2	2.2	-0.3	-0.3	0.8	0.8	1.1	0.8	1.7	0.8	0.8	0.121	11.51
4	8	79	13	1.1	1.7	0.0	0.0	0.6	0.6	0.6	0.8	0.6	1.4	0.8	0.3	0.121	12.51
4	8	79	14	1.7	2.2	2.2	0.0	0.0	1.1	1.1	1.4	1.4	2.2	1.4	1.1	0.121	13.51
4	8	79	15	2.2	2.8	2.8	0.3	0.3	1.4	1.4	1.7	1.1	2.2	1.1	0.8	0.121	14.51
4	8	79	16	1.7	1.9	1.9	0.0	0.0	0.8	0.8	0.8	0.8	1.7	0.6	0.6	0.121	15.51
4	8	79	17	0.0	0.0	0.0	-0.6	-0.8	-0.8	-0.6	-0.6	-0.6	-0.3	-0.6	-0.6	0.121	16.51
4	8	79	18	-1.1	-1.1	-1.1	-1.4	-1.4	-1.4	-1.1	-1.4	-1.1	-1.1	-1.1	-1.1	0.121	17.51
4	8	79	19	-1.4	-1.4	-1.1	-1.4	-1.4	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	0.121	18.51

TABLE B DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MO	DA	YR	HR	S2B	EXIT	CUCT	B AMB	FAN	S3T	S3B	S2T	S1B	S1T	N1T	N1B	DECL	STIME
4	9	79	7	-4.2	-4.2	-4.2	-3.9	-5.0	-5.0	-5.0	-4.7	-4.7	-4.7	-4.4	-4.4	0.127	6.52
4	9	79	8	-3.9	-3.6	-3.6	-2.5	-4.4	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	0.127	7.52
4	9	79	9	-2.8	-2.2	-2.2	-1.9	-3.9	-2.8	-2.8	-2.8	-3.3	-2.8	-3.3	-3.6	0.127	8.52
4	9	79	10	-0.8	-0.3	-0.3	-0.8	-3.3	-1.1	-1.1	-1.1	-1.7	-0.6	-1.9	-2.2	0.127	9.52
4	9	79	11	0.3	1.1	1.1	0.0	-2.2	0.3	0.3	0.6	0.6	0.8	0.0	-0.8	0.127	10.52
4	9	79	12	3.1	3.9	4.2	1.1	0.3	3.1	3.1	3.3	2.2	3.6	1.9	1.7	0.127	11.52
4	9	79	13	18.3	27.5	26.7	5.3	5.3	17.5	16.9	19.4	15.6	13.3	15.6	18.3	0.127	12.52
4	9	79	14	24.4	36.4	35.6	8.3	10.8	22.5	22.5	25.0	20.0	17.2	20.3	25.6	0.127	13.52
4	9	79	15	18.9	25.0	24.7	10.0	7.8	17.8	17.5	20.0	17.8	13.9	12.2	15.6	0.127	14.52
4	9	79	16	15.3	17.2	17.2	6.4	6.4	13.9	13.9	15.6	13.6	10.8	8.3	8.6	0.127	15.52
4	9	79	17	9.2	9.4	9.4	5.0	4.4	8.3	8.3	9.4	8.9	7.2	5.6	5.3	0.127	16.52
4	9	79	18	2.5	2.5	2.8	3.6	1.1	1.7	1.7	1.9	1.7	1.7	1.1	1.1	0.127	17.52
4	9	79	19	-0.6	-0.6	-0.6	0.6	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-0.6	-0.8	0.127	18.52
4	10	79	7	-0.8	-0.8	-0.8	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-0.8	-1.1	0.134	6.52
4	10	79	8	3.1	3.1	3.3	0.3	0.6	2.8	2.8	3.1	2.8	2.8	1.1	1.1	0.134	7.52
4	10	79	9	7.2	8.3	8.6	2.2	3.1	6.9	6.9	7.8	6.9	6.7	4.4	4.4	0.134	8.52
4	10	79	10	11.9	14.2	14.2	3.3	5.6	10.6	10.6	12.2	11.4	9.7	8.9	9.2	0.134	9.52
4	10	79	11	12.8	15.6	15.8	4.7	6.7	11.7	11.1	12.8	11.4	10.6	9.4	9.4	0.134	10.52
4	10	79	12	7.2	7.8	7.8	3.3	4.4	6.7	6.7	7.5	6.9	6.9	6.1	5.3	0.134	11.52
4	10	79	13	9.4	10.6	10.6	4.7	5.3	8.3	8.3	9.4	8.6	8.3	6.9	6.1	0.134	12.52
4	10	79	14	10.6	11.7	11.7	5.6	4.4	9.7	9.4	10.3	10.0	8.6	7.5	9.2	0.134	13.52
4	10	79	15	7.5	8.1	8.1	5.0	3.9	6.7	6.7	7.5	6.9	6.4	5.6	5.0	0.134	14.52
4	10	79	16	4.7	5.0	5.0	4.4	2.8	4.4	4.4	4.7	4.7	4.4	3.9	3.9	0.134	15.52
4	10	79	17	2.8	3.1	3.3	2.5	2.2	2.8	2.8	3.1	2.8	2.8	2.8	2.5	0.134	16.52
4	10	79	18	1.9	1.9	1.9	2.2	1.4	1.4	1.7	1.7	1.4	1.4	1.4	1.4	0.134	17.52
4	10	79	19	0.6	0.6	0.6	2.2	0.6	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.134	18.52
4	11	79	7	-0.3	-0.3	-0.3	1.1	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	0.0	0.0	0.140	6.53
4	11	79	8	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.140	7.53
4	11	79	9	0.8	0.8	1.1	0.8	0.6	0.6	0.6	0.8	0.6	0.6	0.3	0.6	0.140	8.53
4	11	79	10	1.1	1.1	1.1	1.9	0.8	0.8	0.8	0.8	1.1	1.1	0.6	0.6	0.140	9.53
4	11	79	11	1.7	1.7	1.7	2.2	1.1	1.1	1.1	1.1	1.1	1.1	0.8	1.1	0.140	10.53
4	11	79	12	1.7	1.7	1.7	2.2	1.7	1.7	1.7	1.7	2.2	1.7	1.7	1.7	0.140	11.53
4	11	79	13	1.7	1.7	1.7	2.5	1.7	1.7	1.7	1.7	2.2	1.9	2.2	1.9	0.140	12.53
4	11	79	14	2.8	2.8	2.8	3.1	1.9	2.2	2.2	2.2	2.5	2.5	2.2	2.2	0.140	13.53
4	11	79	15	2.8	2.8	2.8	3.9	1.9	2.5	2.5	2.8	2.8	2.5	2.2	2.2	0.140	14.53
4	11	79	16	2.8	2.8	2.8	3.6	2.5	2.5	2.5	2.5	2.8	2.8	2.8	2.8	0.140	15.53
4	11	79	17	2.2	2.2	2.2	2.5	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	0.140	16.53
4	11	79	18	2.2	2.2	2.2	2.8	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.5	0.140	17.53
4	11	79	19	1.9	1.9	1.9	4.4	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0.140	18.53
4	12	79	7	1.7	1.7	1.7	4.7	1.9	1.9	1.9	1.9	1.7	1.7	1.9	1.9	0.147	6.53
4	12	79	8	2.8	2.8	2.8	4.4	2.8	2.8	2.8	2.8	3.1	3.1	2.8	2.8	0.147	7.53
4	12	79	9	7.2	7.2	7.2	5.6	4.7	6.9	6.9	7.2	7.2	7.2	6.7	6.1	0.147	8.53
4	12	79	10	3.9	3.9	3.9	2.8	2.8	3.1	3.3	3.3	3.1	3.6	2.8	2.8	0.147	9.53
4	12	79	11	3.1	3.9	3.9	2.2	2.2	3.1	3.1	3.1	2.8	3.9	3.1	2.8	0.147	10.53
4	12	79	12	2.2	2.2	2.2	1.4	1.4	1.7	1.7	1.7	1.7	2.2	1.7	1.7	0.147	11.53
4	12	79	13	3.6	3.6	3.6	1.7	2.2	2.8	2.8	3.3	3.1	3.6	3.1	2.8	0.147	12.53
4	12	79	14	3.3	3.3	3.3	2.2	2.2	2.8	2.8	2.8	2.5	3.1	2.8	2.5	0.147	13.53
4	12	79	15	2.2	2.8	2.8	2.2	2.2	2.2	2.2	2.2	2.2	2.8	2.2	2.2	0.147	14.53
4	12	79	16	1.9	1.9	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.9	1.9	0.147	15.53
4	12	79	17	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.9	1.9	1.9	1.9	0.147	16.53
4	12	79	18	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.7	1.7	0.147	17.53
4	12	79	19	0.6	0.6	0.8	0.8	0.6	0.6	0.6	0.6	0.3	0.3	0.6	0.6	0.147	18.53

TABLE B DATA FOR SOLAR CORN DRYING STUDY MARCH 8,1979-APRIL 18,1979

MC	CA	YR	HR	S2B	EXIT	CUCT	B AMB	FAN	S3T	S3B	S2T	S1B	S1T	N1T	N1B	DECL	STIME
4	13	79	7	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.153	6.54
4	13	79	8	1.1	1.1	1.1	0.8	0.8	0.8	0.8	0.8	0.8	1.1	1.1	1.1	0.153	7.54
4	13	79	9	2.5	2.8	2.8	1.4	1.4	2.2	2.2	2.8	2.5	3.3	2.8	-0.3	0.153	8.54
4	13	79	10	2.2	2.8	2.8	1.1	1.1	1.9	1.9	1.9	1.7	2.2	1.9	1.7	0.153	9.54
4	13	79	11	3.1	3.3	3.3	1.4	1.7	2.2	2.2	2.8	2.2	3.1	2.2	2.2	0.153	10.54
4	13	79	12	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.4	1.7	1.7	1.7	1.7	0.153	11.54
4	13	79	13	3.1	3.1	3.1	2.2	1.9	2.2	2.2	2.8	2.8	2.8	2.2	2.2	0.153	12.54
4	13	79	14	3.3	3.6	3.6	2.2	2.2	3.1	3.3	3.6	3.3	4.2	4.2	3.9	0.153	13.54
4	13	79	15	6.1	6.4	6.4	2.8	2.8	5.6	5.6	5.6	5.0	5.6	5.0	4.4	0.153	14.54
4	13	79	16	3.9	4.2	4.2	3.3	3.1	3.6	3.6	3.9	3.9	4.2	4.2	3.9	0.153	15.54
4	13	79	17	3.3	3.9	3.9	3.3	3.1	3.3	3.3	3.3	3.3	3.6	3.6	3.3	0.153	16.54
4	13	79	18	2.5	2.5	2.5	2.8	2.2	2.2	2.2	2.2	2.2	2.2	2.8	2.8	0.153	17.54
4	13	79	19	1.7	1.7	1.9	2.2	1.9	1.7	1.7	1.7	1.7	1.7	2.8	2.5	0.153	18.54
4	14	79	7	0.6	0.6	0.6	0.6	0.3	0.0	0.0	0.0	1.1	1.1	1.1	1.1	0.159	6.54
4	14	79	8	3.3	3.3	3.3	1.1	1.1	2.5	2.5	3.1	3.3	3.6	1.9	1.9	0.159	7.54
4	14	79	9	5.0	5.6	5.6	2.2	2.5	4.4	4.4	4.7	4.2	5.6	4.2	3.9	0.159	8.54
4	14	79	10	4.4	5.0	5.0	2.2	2.5	4.2	4.2	4.4	4.2	5.6	3.9	3.3	0.159	9.54
4	14	79	11	10.0	11.4	11.7	4.2	5.0	9.2	9.4	10.6	9.7	13.1	8.3	11.7	0.159	10.54
4	14	79	12	20.6	28.3	27.8	6.7	9.4	19.7	19.7	21.7	17.8	20.8	16.4	22.8	0.159	11.54
4	14	79	13	25.0	34.7	33.9	8.9	12.8	22.8	22.8	24.4	20.3	22.2	18.9	23.6	0.159	12.54
4	14	79	14	21.1	27.8	27.8	10.0	13.9	20.3	20.3	21.1	17.8	19.7	15.6	17.2	0.159	13.54
4	14	79	15	20.6	23.9	23.9	10.0	12.2	18.9	18.9	20.0	18.3	19.2	13.9	16.1	0.159	14.54
4	14	79	16	13.9	15.0	15.0	8.9	9.4	13.1	13.1	13.3	12.2	12.2	10.0	10.0	0.159	15.54
4	14	79	17	12.8	12.8	12.8	8.9	8.9	11.7	11.7	12.8	11.7	11.7	9.4	9.4	0.159	16.54
4	14	79	18	7.8	8.1	8.1	7.2	7.2	7.2	7.2	7.2	7.8	7.8	7.8	7.8	0.159	17.54
4	14	79	19	4.4	4.4	4.4	6.4	4.4	3.9	3.9	3.9	4.4	3.9	4.4	4.4	0.159	18.54
4	15	79	7	-1.4	-1.1	-1.1	1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-0.6	-0.6	0.165	6.54
4	15	79	8	4.4	4.2	4.7	2.2	1.7	3.3	3.3	4.4	4.4	4.4	2.8	2.8	0.165	7.54
4	15	79	9	12.2	13.3	13.3	5.3	5.0	11.4	11.4	11.7	10.8	15.6	7.2	7.2	0.165	8.54
4	15	79	10	20.0	26.1	26.1	11.7	7.8	20.0	19.7	21.1	18.3	20.3	12.8	17.2	0.165	9.54
4	15	79	11	23.3	36.9	36.1	13.3	10.6	26.9	25.6	26.7	22.5	24.2	20.0	27.8	0.165	10.54
4	15	79	12	31.7	43.9	42.8	15.3	15.6	31.4	30.6	32.2	28.3	26.7	25.6	31.7	0.165	11.54
4	15	79	13	30.8	38.9	37.8	16.1	14.7	28.9	28.1	29.4	25.6	25.6	23.6	23.3	0.165	12.54
4	15	79	14	25.6	30.0	30.0	16.1	15.0	24.2	23.9	25.6	23.3	22.2	20.6	22.8	0.165	13.54
4	15	79	15	30.0	35.6	35.6	16.1	16.7	29.4	28.9	30.6	26.9	23.3	20.3	22.2	0.165	14.54
4	15	79	16	17.2	18.9	18.9	14.2	13.3	16.7	16.7	17.2	16.1	16.1	15.6	15.0	0.165	15.54
4	15	79	17	13.6	14.4	14.4	12.8	11.9	13.3	13.3	13.6	13.6	13.6	12.8	12.8	0.165	16.54
4	15	79	18	11.7	11.9	11.9	13.3	10.8	11.1	11.1	11.4	11.1	11.1	11.1	11.1	0.165	17.54
4	15	79	19	9.2	9.2	9.2	10.3	9.2	14.2	14.2	14.2	14.4	14.2	14.4	14.4	0.165	18.54
4	16	79	7	5.8	5.8	5.8	8.6	5.3	5.3	5.3	5.3	5.3	5.6	5.8	5.6	0.172	6.55
4	16	79	8	6.1	6.4	6.4	9.4	5.8	6.1	6.1	6.1	6.1	6.1	5.8	5.8	0.172	7.55
4	16	79	9	6.4	6.4	6.4	6.7	5.8	6.1	6.1	6.4	6.7	6.7	6.4	6.4	0.172	8.55
4	16	79	10	10.6	10.6	10.6	10.0	5.3	10.0	10.0	10.0	10.0	10.0	8.9	8.9	0.172	9.55
4	16	79	11	15.6	16.4	16.4	10.3	9.4	15.3	15.0	16.4	15.0	15.0	12.8	11.9	0.172	10.55
4	16	79	12	23.1	25.0	25.0	13.1	12.8	22.8	21.7	23.9	21.1	21.1	18.3	17.2	0.172	11.55
4	16	79	13	31.4	37.8	37.8	15.3	[illegible]	31.1	30.0	31.7	28.9	26.4	24.4	31.4	0.172	12.55
4	16	79	14	33.9	41.1	40.3	15.6	18.6	32.5	31.7	35.3	31.1	26.1	24.2	29.2	0.172	13.55
4	16	79	15	30.0	34.2	34.2	15.0	16.9	29.7	31.4	30.8	31.1	23.6	20.3	22.2	0.172	14.55
4	16	79	16	24.4	25.0	25.3	15.6	15.3	23.3	22.8	25.0	23.9	20.0	17.5	16.9	0.172	15.55
4	16	79	17	18.3	18.3	18.3	15.6	14.2	17.2	17.2	18.6	18.3	16.1	15.3	14.7	0.172	16.55
4	16	79	18	12.8	13.3	13.3	12.8	11.9	12.5	12.5	12.8	13.1	12.8	12.2	12.2	0.172	17.55
4	16	79	19	9.4	9.4	9.4	11.7	9.4	8.9	8.9	8.9	9.4	8.9	9.2	9.2	0.172	18.55

TABLE B   DATA FOR SOLAR CORN DRYING STUDY   MARCH 8,1979-APRIL 18,1979

MO	DA	YR	HR	S2B	EXIT	DUCT	B AMB	FAN	S3T	S3B	S2T	S1B	S1T	N1T	N1B	DECL	STIME
4	17	79	7	6.7	6.7	6.7	8.6	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	0.178	6.55
4	17	79	8	10.0	10.0	10.0	8.9	8.3	9.7	9.7	10.3	10.3	10.0	9.4	9.2	0.178	7.55
4	17	79	9	19.4	19.7	19.7	11.4	11.7	18.6	17.2	18.9	18.1	16.1	14.4	13.6	0.178	8.55
4	17	79	10	17.2	17.5	17.8	12.8	13.3	16.4	16.4	17.2	16.7	16.4	15.0	14.4	0.178	9.55
4	17	79	11	28.1	31.4	31.1	15.6	15.8	28.1	27.5	30.3	28.6	25.0	22.2	24.2	0.178	10.55
4	17	79	12	24.7	27.2	27.2	14.7	16.7	24.7	23.3	23.6	21.9	21.1	17.5	19.2	0.178	11.55
4	17	79	13	36.9	45.0	43.9	18.6	19.2	36.7	34.4	39.4	35.8	28.6	28.1	33.3	0.178	12.55
4	17	79	14	36.7	43.3	42.8	18.3	23.9	33.9	33.6	36.9	34.2	27.8	27.8	33.1	0.178	13.55
4	17	79	15	33.6	37.5	36.7	18.3	19.7	31.4	31.1	33.9	31.4	25.8	24.2	26.1	0.178	14.55
4	17	79	16	27.8	27.8	27.8	18.3	17.8	26.7	25.8	28.1	27.5	22.8	20.6	20.6	0.178	15.55
4	17	79	17	23.1	22.2	22.2	17.3	16.7	21.1	21.1	22.8	22.2	19.4	18.3	17.8	0.178	16.55
4	17	79	18	16.1	16.7	16.7	15.8	15.3	15.6	15.6	16.1	16.4	15.8	15.6	15.6	0.178	17.55
4	17	79	19	14.7	14.7	14.7	14.4	13.6	13.1	13.1	13.1	13.3	13.1	13.3	13.3	0.178	18.55
4	18	79	7	10.8	10.8	10.8	10.3	10.3	10.6	10.6	10.8	11.1	11.1	10.6	10.6	0.184	6.56
4	18	79	8	12.2	12.2	12.2	11.1	11.1	11.7	11.7	12.2	11.7	11.7	11.7	11.7	0.184	7.56
4	18	79	9	14.2	14.2	14.4	12.2	12.2	13.6	13.6	13.9	13.6	13.9	13.3	13.1	0.184	8.56
4	18	79	10	23.9	25.3	25.3	14.4	17.8	23.3	23.1	24.7	22.5	22.2	19.4	19.7	0.184	9.56
4	18	79	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	18	79	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0