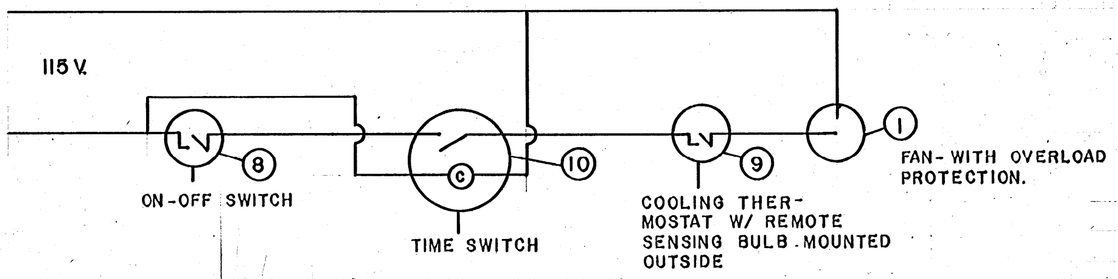
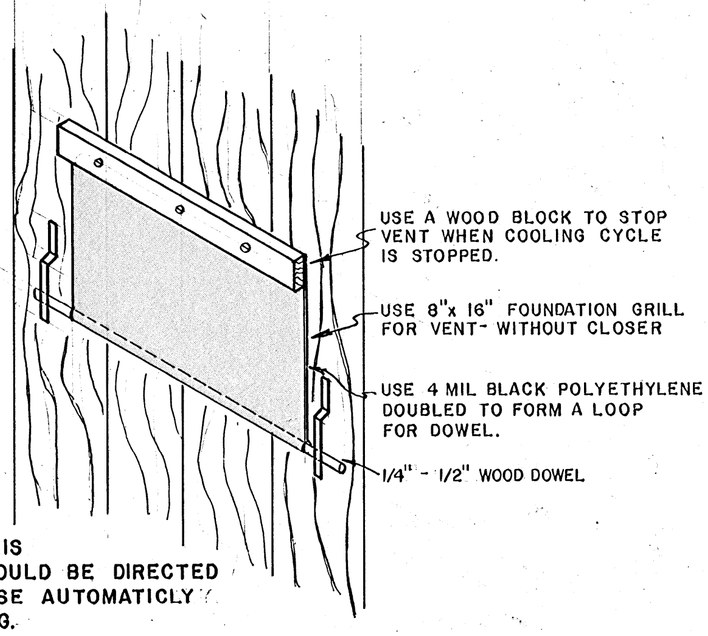
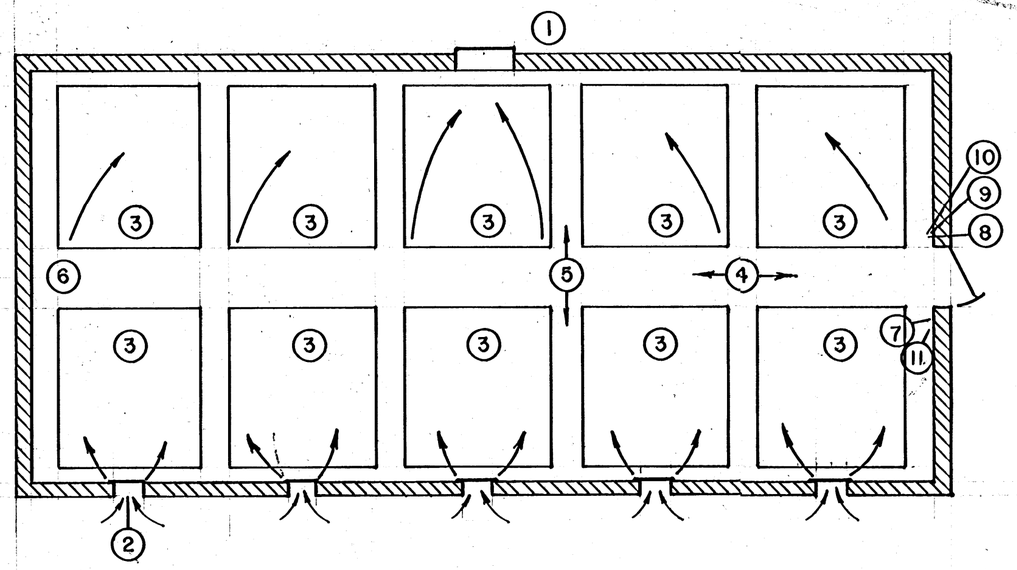


SCHEMATIC WIRING OF CONTROLS



SUGGESTION DETAIL OF VENT THAT CAN BE MADE ON SITE.
IF A MANUFACTURED VENT IS USED, THE INCOMING AIR SHOULD BE DIRECTED OVER THE STACKS AND CLOSE AUTOMATICLY WHEN FAN IS NOT OPERATING.



LAYOUT PLAN- SWEET POTATO STORAGE

NOT TO SCALE

OPERATION PROCEDURE DURING SWEET POTATO CURING AND STORAGE

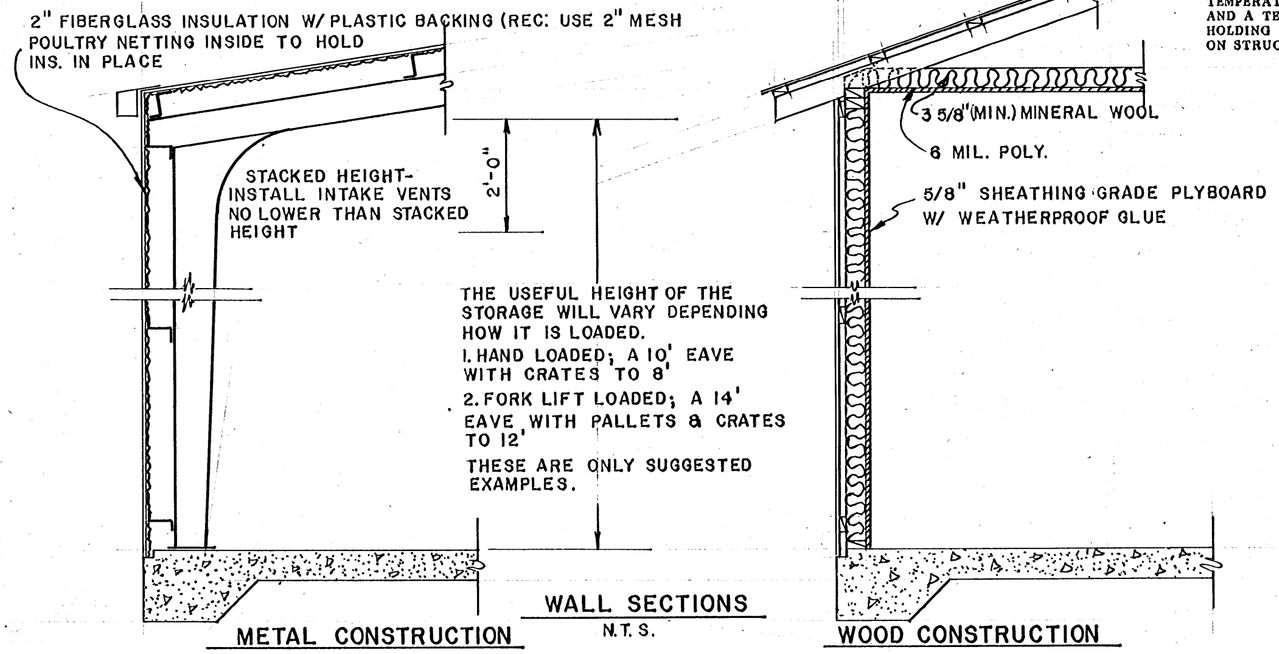
(Refer to Drawing)

1. PLACE SWEET POTATOES IN STORAGE IN CRATES TO A PREDETERMINED HEIGHT, LEAVING MINIMUM 2' SPACE BETWEEN STACKS AND CEILING.
2. SET THERMOSTAT (7) FOR CEILING MOUNTED HEATER (8) TO 85°F FOR TWO (2) WEEKS. DURING THIS PERIOD THE POTATOES WILL HEAL THE INJURIES THAT OCCURED DURING HARVESTING AND HANDLING. AT THIS TIME THE VENTILATING-COOLING FAN SHOULD BE SET TO OPERATE ABOVE 90°F. RESPIRATION HEAT MAY CAUSE THE ELEVATED TEMPERATURE. AT THIS TEMPERATURE THE QUALITY WILL DETERIORATE.
3. AT THE END OF THE TWO (2) WEEK CURING PERIOD, SET COOLING THERMOSTAT (9) AT 55°F. (FAN SHOULD NOT RUN BELOW 55°F.)
4. SET TIME SWITCH (10) TO OPERATE FAN VENTILATION SYSTEM BETWEEN 10:00 P.M. and 6:00 A.M. IT WILL TAKE THREE (3) DAYS TO A WEEK TO COOL THE MASS OF POTATOES TO APPROXIMATELY 55°F.
5. SET CEILING MOUNTED HEATER THERMOSTAT (7) TO OPERATE HEATERS AT 55°F. (HEATERS SHOULD NOT OPERATE ABOVE 55°F.)
6. NOTE: SET HEATING AND COOLING THERMOSTATS TO NOT WORK AGAINST EACH OTHER - THAT IS ADJUST SO THAT A STORAGE TEMPERATURE OF 85°F - 90°F IS MAINTAINED DURING CURING - AND A TEMPERATURE OF 55°F - 60°F IS MAINTAINED DURING THE HOLDING PERIOD. SEE PLAN NO. 6228-A FOR MORE INFORMATION ON STRUCTURES AND LAYOUTS.

LEGEND

MARK	DESCRIPTION
1.	COOLING FAN - WITH AUTOMATIC SHUTTER AND CAPACITY TO CHANGE THE AIR 1-2 TIMES PER MINUTE.
2.	AIR INTAKE - SPACE 5'-8' APART - ALLOW A MINIMUM OF 1.5 THE CROSS-SECTIONAL AREA OF THE FAN IN TOTAL AREA OF INTAKES. MOUNT ABOVE THE STACKS. SEE DRAWING FOR DETAIL.
3.	STACKS - SWEET POTATOES IN CRATES. [MAKE STACKS WIDTH AND LENGTH APPROXIMATELY 1½ TIMES (MINIMUM) THE HEIGHT.]
4.	PASSAGEWAY - FOR LOADING 5' W. WIDER IF A FORK LIFE IS USED.
5.	PASSAGEWAY INTO STACKS - 18" - 24".
6.	HEATER, CEILING MOUNTED GAS WITH BLOWER - THE CAPACITY SHOULD BE ENOUGH TO MAINTAIN 85°F DURING CURING PERIOD ALSO ENOUGH TO MAINTAIN 50°-55°F DURING THE STORAGE. IF BUILDING MORE THAN 50' LONG, A CIRCULATION FAN SHOULD BE ADDED TO DISTRIBUTE HEAT EVENLY THROUGH BUILDING.
7.	THERMOSTAT - CEILING HEATER CONTROL. MOUNTED ABOUT EYE LEVEL (5') OFF FLOOR.
8.	MANUAL SWITCH - FOR FAN CONTROL.
9.	COOLING THERMOSTAT - MOUNT AT TOP OF STACKS WITH SENSING BULB OUTSIDE. AFTER THE STORAGE TEMPERATURE OF 55°F IS REACHED THE FAN SHOULD BE TURNED OFF AND USED ONLY TO MAINTAIN STORAGE TEMPERATURE.
10.	TIME SWITCH.
11.	PSYCHROMETER - WET BULB-DRY BULB THERMOMETERS TO DETERMINE TEMPERATURE AND RELATIVE HUMIDITY.

NOTE: STACKED CRATES--BY HAND OR FORK LIFT--SHOULD BE ON PALLETS. THIS WILL ENHANCE VERTICAL AIR MOVEMENT THROUGH THE ROOTS.



PL. NO. 6228 A

DIAGRAMATIC- SWEET POTATO STORAGE & CURING SYSTEM

MCES
Mississippi Cooperative Extension Service
Mississippi State University
USDA and Counties Cooperating

DESIGN BY LEE MILLER
DRAWN BY M.J. THRASHER
DATE JUNE, 1978

SHEET 1 OF 1