Important: Warranty Disclaimer for Plans

For the convenience of our clientele, this website makes available conceptual plans that can be helpful in planning buildings, facilities, or other structures. They were developed over many years by engineers at Land Grant universities through the former USDA Cooperative Farm Buildings Plan Exchange. *Regardless of the original intent, these are older plans that provide conceptual information only, and are not to be considered or used as construction plans.*

These plans do not claim to represent the most current technology or the most recent construction techniques, standards, or codes. For example, over the years there have been changes in the National Design Specifications for Wood Construction, changes in the strengths and types of building materials, and changes in fasteners, among other things. Those changes, along with variations in climate, building codes, and other factors, make it imperative that professional services be utilized for your specific project. Suggested services include, but are not limited to, structural design, assurance of compliance with codes and regulations, site selection, construction supervision, and provision for utilities, waste management, and access. *These plans do not replace the need for competent design assistance in developing safe, legal, and well-functioning agricultural buildings and systems.*

*Neither the University of Kentucky, the Midwest Plan Service, the United States Department of Agriculture, nor any of the cooperating Land Grant universities, warranty these plans. They are for conceptual use only and are not for use as construction plans.*
WIRING DIAGRAM FOR:
1- 2-SPEED FAN.
2- MOTORIZE SHUTTER.
3- 2-STAGE THST. FOR FAN.
4- HEATER THERMOSTAT.

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2- MOTORIZE SHUTTERS.
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ALTERNATE UNIT HEATER WIRING FOR:
1. ONE THERMOSTAT ONLY FOR HEAT CONTROL
2. FANS RUNNING CONTINUOUSLY FOR AIR CIRCUIT
3. HEAT CAN'T BE "ON" UNLESS FANS ARE POWERED.
4. ALL OTHER SAFETY CONTROLS AS IN NORMAL OPERATION.

GENERAL INFORMATION
1. Total fan ventilation capacity should be based on 3/4 to 1 air change per minute for plastic houses or fiber glass covered with removable plastic sides during summer. For totally enclosed houses, use 1 to 1 1/4 air change per minute. See Ky.11.511-5 for chart of ventilation requirements for various house sizes. First stage of winter ventilation should be 25 to 35 percent of house volume (C.F.M.) with at least 2 more stages to reach maximum rate.

2. All fans to be mounted in end or side of house to exhaust with (not against) air flow of prevailing winds. Mount fresh air inlet shutters in opposite end, or side.

3. Heat requirements to be based on house type and size, type of covering, number of layers, and temperature differential to be maintained. See Ky.11.511-4 for chart of heat requirements for greenhouses. Select size and number of unit heaters to give total heat output required.

4. Wire heater fans to operate continuously in winter to provide air circulation. Use manual switch or proper THST connections to stop operation during summer ventilation.

5. When two or more heaters are used in one house, recommend all heaters be connected to one thermostat through a small multi-pole relay or use the alternate wiring diagram shown on all heaters will operate together for a more uniform house temperature. (CAUTION: Two or more heater THST TERMINALS cannot be connected directly on same SPST thermostat to operate properly, thus, the relay or alternate wiring is required.) Where individual thermostats are used for each heater, set them to operate as close to same temperature as possible for the most uniform house temperature.

6. Use booster fans or commercial poly-tube equipment to increase air circulation if unit heater fans are inadequate.

7. Evaporative pad cooling may be used with any plan shown install and use according to manufacturer's instructions. Be sure to obtain data and information on the water requirements, installation procedures, performance capacities, maintenance, costs, and feasibility for your use before purchasing pad cooling.

NOTES ON ELECTRICAL WIRING
1. Heat and ventilation fans wired as shown prevent operation at same time.
2. Set HEAT THST. at minimum temp. desired in greenhouse.
3. Set FAN THST. at temperature desired for ventilation to begin, but at least 5°F above HEAT THST. setting.
4. Be sure total amperage of fan motors and other equipment connected to a THST. does not exceed allowable load rating of THST. contacts. If necessary, use proper power relays or motor starters to handle required load. (CAUTION: Two separate relays are required to operate a 2-speed fan, thus, use 2-speed motors within amperage rating of a 2-stage THST.)