
HOR 134 GREENHOUSE OPERATIONS

FINAL EXAM STUDY GUIDE - 2007.

Covers Videos, Lectures, and Chapters 1-12 of textbook. Part I. Exam Format

50 pts Draw and Label
150 pts Heating and Cooling
100 pts Greenhouse site selection
100 pts Short paragraph answer

CALCULATIONS

Bring a calculator on the Day of EXAM
Heating
Cooling
Fertilizer Calculations



Part II. TERMS TO KNOW

GLAZING MATERIALS

Glass
Polycarbonate
Polyethylene film
Fiberglass
Light transmittance
Insulating properties
Anti fog coating
Infrared reflection
Pressurizing fan

FRAMING

Metal
Wood
Truss
Strut
Chord
Purlin

GREENHOUSE TYPES

Even span
Uneven span
Lean to
Ridge and furrow
Gutter connected
High profile
Low profile
Retractable roof
Gothic style
Quonset style
Wall
Roof
Gable

Curtain wall

VENTILLATION

Ridge vent
Ventilator
Roof vent
Side vents

HEATING

Convection
Conduction
Solar heat
Radiation
Radiant energy
LP gas
Natural gas
Btu
MBtu
Unit heater
Boiler
Boiler Horsepower
Thermostat
Infiltration
Zoned heating
Exhaust
Carbon monoxide
Heat exchanger
Sulfur dioxide
Ethylene
HAF fan
Finned pipes
Radiant heater
Standard heat loss value

Corrected heat loss
Climate Factor (K)
Construction Factor (C)
Curtain Wall (CW)
Thermal screen
windbreaks

GREENHOUSE COOLING

Fan-and-Pad
Passive cooling
Active cooling
Winter cooling
Summer cooling
Polytube
HAF fan
Chlorine/Bromine injector
Excelsior
Cellulose
Fog
Relative humidity
Sling psychrometer
Evaporation
Ventilator
cfm
elevation
light intensity
temperature gradient
exhaust fan
uncorrected air exchange
corrected air exchange
 F_{house}
 F_{light}
 F_{vel}

F_{temp}
F_{elev}
Pump capacity
Sump
Convection tube
Dry bulb temperature
Wet bulb temperature

ENVIRON. CONTROL SYSTEMS

Manual controls
On/off switches
Step controllers
Dedicated microprocessors
Computers: Integrated Control
Data loggers

ROOT SUBSTRATE

Organic matter
Carbon-to-Nitrogen ration
Bulk Density
Moisture Retention / Aeration
Cation Exchange Capacity
pH
Peat Moss
Bark
Cair
Sawdust
Vermiculite
Sand
Perlite
Polystyrene Foam
Rock Wool

ROOT SUBSTRATE PASTEUR.

Weed seeds
Resistant plant viruses
Soil insects
Fusarium
Bacteria
Nematodes
Water molds
Manganese toxicity
Ammonium toxicity
Methyl bromide
Chloropicrin
Reinoculation

WATERING

Underwatering
Overwatering
Pythium
Phytophthora
Rhizoctonia

Water Quality
Soluble Salt (EC)
Alkalinity
Hardness
Specific Elements
Reverse Osmosis
Drip tube
Microsprinkler
Boom irrigation
Ebb-and-Flood
Flood Floor System
Trough Culture
Float System

FERTILIZATION

Pre-Plant
Non Mineral Nutrients
Macronutrients
Micronutrients
Nutrient Toxicity
Nutrient Deficiency
Roles of nutrients
Rule of 75
Injector
Fertilizer Calculations
Slow-Release Fertilizer
Water Soluble Fertilizer
Chelated Micronutrients
Substrate analysis
Foliar analysis

ALT. CROPPING SYSTEMS

Nutrient Film Technique
Rock Wool
Aeroponics
In-Line Pasteurization
Whole-Firm Recirculation

CARBON DIOXIDE FERT.

Photosynthesis
Respiration
Carbon Deficiency
Carbon Dioxide Injection

LIGHT AND TEMPERATURE

Photosynthesis
Light quality
Chlorophyll
Carotenoids
Incandescent filament
Fluorescent cool white
Metal Halide
Low pressure sodium

High pressure sodium
Reflector
Ballast
Growth rooms
Photoperiodism
Critical Daylength
Short-Night Treatment
Long-Night Treatment
DIF