



Nutrient Film Technique Commercial Package: Lettuce and Herb Production

CropKing's many years of research and growing experience have helped us to determine the best equipment and the best growing methods for different crops. When the goal is to produce high quality lettuce and herb crops, we recommend the NFT channel system. This growing system is an investment in the future of your business and every component is of the highest quality. The NFT re-circulating system also efficiently reduces water usage. Over the years we have made changes and improvements to our growing systems, always giving careful consideration to which equipment will be the most efficient and economical. CropKing is genuinely concerned about our customer's bottom line because a profitable grower is our best advertisement!

Other features of our Commercial NFT System:

NFT Channels: Channels are food grade, sunlight resistant PVC channels with removable top cover for easy cleaning. Each channel has two types of end caps: one solid cap and one spouted cap with anti-drip drainage design. Planting holes in top caps are pre-punched square holes on 8" centers. CropKing NFT channels are completely enclosed, eliminating light from reaching the nutrient solution which greatly reduces algae growth. Algae growth can plug lines and attract pests. The spouted end cap plugs directly into the drain line for easy removal during harvesting, cleaning and replanting.

Fertroller: The CropKing Fertroller is an automated nutrient controller providing continuous monitoring and control of the EC and pH levels

of the nutrient solution tank. With continuous, automatic adjustment of the nutrient solution, growers can expect higher production and increased crop quality. Other features of the Fertroller include: an alarm to warn the grower if solution is outside the set parameters, safety preset lockouts prevent dosing in out of range situations, large digital displays of the actual values and desired values, and easy pH calibration. The Fertroller includes three concentrate tanks for micro nutrients, macro nutrients, and pH control, (all pre-assembled, mounted and tested).

Nutrient Delivery: Features a large underground nutrient solution reservoir. Underground reservoirs provide a stable nutrient solution temperature. Included in the package is an energy-saving nutrient



pump and a backup pump for crop security, inline filtration with spare filter cartridges, large diameter PVC nutrient headers, zone valves and high flow emitter fittings to direct nutrient solution to each channel are also included.

Seedling Nursery: Custom manufactured PVC seedling nurseries are located on one end of the growing system. The nursery is designed as a propagation area for enough new seedlings to populate the growing channels as they are harvested. The nursery features automated irrigation for consistent growth and reduced labor.

NFT Channel Supports: A Galvalume galvanized steel frame for supporting the growing channels and connecting hardware is included.

CO₂ Enrichment and Control System: The shorter daylight hours of winter limit plant growth. Another limiting factor is the reduced amount of CO₂ in the air. Plants have the ability to use much more CO₂ during photosynthesis than is found in the normal atmosphere. More available CO₂ to use for photosynthesizing and growth means faster and more prolific growing plants. This system monitors the available CO₂ in your greenhouse

NFT Systems

and adjusts it to your desired set point using the iGrow, which controls the CO₂ generator.

Computerized Environmental Controller: The iGrow 1400 Control System is the brain of the greenhouse. This dedicated unit controls all the environmental equipment in the greenhouse including fans, heaters, vent door, wet wall, lights and CO₂. Maintaining the proper plant environment in your greenhouse is critical to growing a profitable crop. This system measures both temperature and humidity of the greenhouse and adjusts the equipment to maintain the correct set points. These precision controls allow you to improve crop quality, reduce equipment usage, and lower your energy costs. For added security, this system is capable of alarm auto-dialing to alert you if there is an issue in your greenhouse. The iGrow Control System has on-screen programming for easy tracking and adjustment of the environment. There are

12 outputs with LED status display indicators and manual over-ride switches. With the addition of "slave units" the iGrow system can be expanded.

Electrical Panel: To help ensure everything works properly, CropKing provides a pre-wired electrical panel that has been tailored to your greenhouse needs. The breaker panel is mounted on a white painted board, with the relay box, and the iGrow controller(s). These are prewired together and terminal strips are provided to connect the greenhouse equipment. This pre-wired panel makes installation much easier, allowing you to connect the panel to the incoming power source in your greenhouse. Wires will need to be run from your greenhouse equipment to the provided terminal strips on the panel. The wiring for this system can be complicated and often misunderstood by the local electrician. CropKing simplifies this with our prewired electrical panel. Our panels and boxes are interior grade NEMA enclosures that are appropriate for a hydroponic greenhouse operation. The power requirements of a greenhouse depend on the size of the greenhouse and whether grow lights are being installed. *Note: Please check with the local electric codes. While we use UL listed components in our electrical panels, some codes require the constructed panel be UL listed.*

Testing and Miscellaneous Equipment: Bluelab Combo Meter, Sensaphone Model 1104, Sensaphone Remote Temperature Sensor, Nutrient Mixing Pump, Mini-Max Thermometer (2), pocket sling psychrometer, and white ground cover for floor under the growing channel are all part of this package. A vacuum seeder is included with 2 Bays and larger to eliminate hand seeding.

Growing Supplies: CropKing feels that it is beneficial to include the first year of growing supplies with your order. It saves on shipping costs, as it ships with the rest of your system at no extra charge. Your growing supplies include approximately 1 year of hydroponic fertilizer (designed specifically for your water), 1 inch rockwool starter cubes and seeds for the first three crop rotations.

Shade Cloth: The most cost effective way of controlling greenhouse temperature during the hot, summer months is using shade cloth. It improves light diffusion, reflects summer heat, and keeps the greenhouses cooler. It is manufactured from knitted polyethylene fabric that does not rot, mildew, or become brittle. We include the cabling and quick clips for easy installation. 40% white shade cloth is standard. (Different shade cloth densities are available depending on geographic location and local light levels).



| SYSTEM SIZES | WIDTH X LENGTH | PLANT SPACES |
|--------------------------------------|----------------|--------------|
| Freestanding Greenhouse | 30 x 128 | 6,192 |
| Single Bay Gutter Connect Greenhouse | 22 x 128 | 4,653 |
| 2-Bay Gutter Connect Greenhouse | 44 x 128 | 9,306 |
| 4-Bay Gutter Connect Greenhouse | 88 x 128 | 18,612 |
| 6-Bay Gutter Connect Greenhouse | 132 x 128 | 27,918 |
| 8-Bay Gutter Connect Greenhouse | 176 x 128 | 37,224 |
| 16-Bay Gutter Connect Greenhouse | 352 x 128 | 74,448 |