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## **Stocker Horticultural & Hydroponic Supplies (2004) Ltd**

**Newsletter**

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### **GROWER TIP OXYGEN**

At this time of year nutrient temperatures hit their maximum. Remember warm nutrient will not hold oxygen – if you are around 25 – 30 degrees, this is too hot and you will be stressing your plants. You might need to look at some shade or ventilation for your nutrient tank. Get rid of that black alkathene feed line. Contact Wayne if you are interested in building a cooler.

At 20 °C your nutrient can carry dissolved oxygen to a maximum of 10 g / litre while at 30 °C it is 7.5 g / litre. With low oxygen we run the risk of a Pythium attack. You will see the white long thin roots – loose their length and turn brown – your plants will wilt in the heat, and death will follow.

Remember that oxygen holds the very important number 2 spot on our list of Basic Hydroponic principles – wo when we are called out to someone in serious trouble its this list we refer to – water quality being the first item then oxygen followed by nutrient, pH, environment (temperature, humidity, light).

With oxygen, the first item to consider is the venturi and is it drawing properly, and of course water temperature and any algae present. In summer put an extension on the air intake line – always hoping that the outside air may be cooler than in the tank room – reverse this in winter.

### **FRESH IS BEST**

Getting your product to market in these hot, humid conditions can be a real mission.

The job starts at harvesting. Lettuce should be harvested in the cooler temperatures of the early morning. They are susceptible to water loss and wilting. Some simple techniques:

1. Harvest first thing in the morning.
2. Use cool crates.
3. Get harvested product into the shade as soon as possible.
4. Remove the green house heat from the product as soon as possible.
5. Transport in refrigerated vehicles.
6. Avoid holding in ambient temperatures.
7. Cool storage facilities are important.

Ethylene gas reduces vegetable quality. Apples, stone fruit, tomatoes, bananas etc produce ethylene. Don't store lettuce near these. Damaged and rotting produce release ethylene. Petrol and diesel engines also produce ethylene.

Your plants will benefit from being stored at 0 °C to 2 °C with a relative humidity of 90 – 95 %.

Post Harvest Handling – Harvested lettuce is still living – it continues to respire and lose water.

Plastic wrappers are used to protect the product. In some cases the air in the bag of cut product can be modified to extend shelf life.

Leafy vegetables are best kept in a relative humidity of 90 to 95 %. This minimizes wilting. Within a film package the humidity can build up to 100 %. Usually packages of lettuce are perforated to provide gas exchange.

Cooling and Refrigeration – Refrigeration and high humidity combine to extend the shelf life of your product. Refrigeration controls the growth of many decay producing bacteria and fungi and slows metabolism. Refrigeration retards respiration, which is usually desirable.

The most well prepared salad will prematurely rot if somewhere along the chain the temperature or humidity have come close to ambient or if the product is crushed or the product has been stored next to fruit.

I know most of our growers are close to their markets and also most of our product is delivered to the end user by the same person that grew the product – and usually on the same day that it was harvested.

# TOMATOES

I have written this brief article in the hope that some lettuce and herb growers might try something new – its really easy.

We deal with the seed companies Lefroy Valley, Terranova, Kings and South Pacific Seeds. Get your seed through us at the same price as from the seed company. Experiment and learn something new.

The supermarkets just sell the same old tasteless product year after year – try some heirloom varieties and give the taste buds a new experience.

Our tomato growers are generally under plastic, using NFT or run to waste systems. We get softer light through plastic especially twin skin. This softer light lends itself toward a vegetative steer. Also increase the irrigation and your crop will be in La La Land.

To start the plants off we steer toward vegetative growth i.e. plenty of leaves – to provide the strength for growing plenty of perfect fruit. Early flowers can be removed. Don't touch the growing tip though. Remove laterals and secure the tomato string at the base of the plant – twisting the stem around string. Keep the growing tip at a constant height lowering the plant and removing the old foliage. We end up layering the stems horizontally, and don't end up with a mess, that excludes much needed light and air. Increase the irrigation, and provide some shade.

To encourage a tomato plant to flower, and so fruit we need to stress the plant a little i.e. a slight reduction in water – we might cut out the first and last watering of the day. We would also increase the light available – pull back shade cloth and clean the green house covers.

In NFT you just need the media to get the seed established – and the plant can go into the system. If

you grow in pots use pumice – its easy to control the moisture level and you are less likely to have fungal problems, best of all, its local and cheap.

In run to waste systems some growers irrigate a small amount hourly – just sort out a system that best suits the temperature and plants.

As for CF – start off at 10 and over the next 6 weeks most growers would be around 30. Learn to read your plants – if the growth is very hard and dark reduce the CF – if the growth is too soft, try increasing. Tomatoes are a very forgiving crop – even if you are way off the mark with everything – you will still produce tomatoes.

Get some bumble bees to help the pollination – give the plants some movement – this also helps the process.

Tomatoes are great fun, with plenty of action, and its easy to achieve great results.

Remember, in those bag and dripper systems – take your CF and pH readings from what exits the bag and adjust accordingly. Watch for a build-up of salts and be ready to flush the media (salt building up is indicated by a rising CF in the nutrient exiting the bag or pot).

For every problem there is a solution – please phone us. Our boxed nutrient has been steadily improved over the past 10 years and can be fine tuned to suit your crop and water supply.

If you are like me you will appreciate the acid free variety of tomatoes.

BON APETITE.

## FOR SALE

**Exal glasshouse heater**, 3 phase – 15kw heat-thermostat controlled, portable on wheels, electric fan, hot/cold.

**Pots** – black rectangular – approximately 1600.

Contact G & E Carradus  
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Please pay accounts: Directly to our bank A/c 06-0317-0725026-00 (we NEED your **grower** name on the statement) or you can Mail to Stocker Hort & Hydro, 1 Matos Segedin Drive, Cambridge 3495.