

**nutriculture**  
GROW SYSTEMS

# NFT GROW GUIDE

THE DEFINITIVE GUIDE TO IMPROVING YOUR YIELDS USING NFT

## RAISING SEEDS AND CUTTINGS

IF YOU ARE GROWING FROM SEED OR CUTTINGS THIS INFORMATION WILL BE HANDY!

### GROWING FROM SEED

A good quality propagator provides the best environment for healthy seeds. An X-Stream Heat propagator allows you to control heat and humidity to achieve excellent results.

### USING COMPOST

Germinate seed in a seed tray of compost.

When large enough, transplant to a plastic pot with drainage holes. Plants germinated from seed are also suitable for NFT.

Water as necessary. If compost contains nutrient (check the label) use water only. If compost contains nutrient use hydroponic nutrient at half strength.

Plants are ready to be transplanted when you can remove the pot and the compost remains bound by the white roots of your transplants.



X-STREAM AEROPONIC PROPAGATOR

X-STREAM HEAT PROPAGATOR



GERMINATING SEEDS IN A POT OF COMPOST



A WELL ROOTED PLANT



### USING ROCKWOOL

Before using rockwool soak the rockwool overnight in water at pH 5.5. This reduces alkalinity.

Plant the seed in the rockwool cube. Gently bury and cover over the seed using a blunt instrument and allow to germinate.

When the seedling develops its first green leaf, begin to water sparingly with half-strength hydroponic nutrient.



### WHEN TO TRANSPLANT

When white roots appear it can be transplanted to a larger rockwool block.

Keep seedlings watered with half strength hydroponic nutrient. Your plants are ready to be transplanted to your NFT system when you have lots of white roots visible on the surface of the large block.



### CUTTINGS DEVELOPED IN AEROPONIC PROPAGATORS

Bring the seeds or cuttings on as directed by your propagator instructions.

Young plants can then either be transplanted to an alternative medium, e.g. Rockwool, and grown on before transplanting to your system, or grown on in the propagator until the roots reach 8 – 10cm in length and transplanted directly into your NFT system.



### RAISING TRANSPLANTS FROM CUTTINGS

Follow the instructions for raising from seed but DO NOT use nutrients in the water until your cutting has rooted.

### BEFORE PLANTING OUT

Add nutrients according to the manufacturer's instructions (see back page for guidance on tank volumes). Check pH.

**TOP TIP:** For raising seedlings or cuttings, over-watering slows root growth dramatically. Always keep your plants slightly on the dry side.

## PLANTING OUT AND MAINTENANCE

### WHEN TO PLANT OUT

Do not plant into your NFT system until the plant is rootbound.

If white roots aren't on the outside of the growing medium when you place your plant into the NFT system the roots will become saturated with no access to oxygen and will die-back.

The plants pictured below are ready for your NFT system. DO NOT transplant until your plants are at this stage.

### MAINTAINING pH

- Check pH levels in your tank weekly
- Decide the pH you want to maintain, between 5.8 – 6.5 is ideal
- Test the pH of the nutrient solution in your tank using a test kit or pH pen
- If the pH of the solution is in the correct range 5.8 – 6.5 do nothing
- If the pH of the solution is above the correct range add phosphoric acid (pH Down)
- If the pH is below the correct range add potassium hydroxide (pH Up)

Use the pH Down or pH Up very sparingly. Adjust pH to your chosen level over several days.

### SAFETY FIRST

Phosphoric acid is strongly acidic and potassium hydroxide is strongly alkaline. Always follow the safety instructions on the container.

### TOP TIP

Remember a consistent temperature is key.

Use a submersible heater to assist in achieving this.



AEROPONIC CUTTING



GRO-TANK



ROCKWOOL PROPAGATION BLOCK



COMPOST PROPAGATION BLOCK



## MAINTAINING THE SOLUTION

### TOPPING UP THE SOLUTION

Add nutrients according to the manufacturer's instructions.

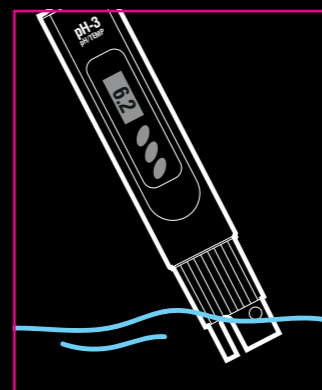
Do not let the solution level in your tank drop significantly. Use an auto-top-up to avoid this happening.



### WITH AN EC METER

Top-up the NFT system if needed with water only, wait one hour for new water to mix with old solution, then check EC reading. Add nutrients to bring EC level back to the target EC.

Empty your tank at least once per month so you can start again with a fresh nutrient solution – this is called a 'solution change'.



### WITHOUT AN EC METER

Top-up the Gro-Tank as needed with nutrient solution at half the strength of the nutrient you are currently using in the system.

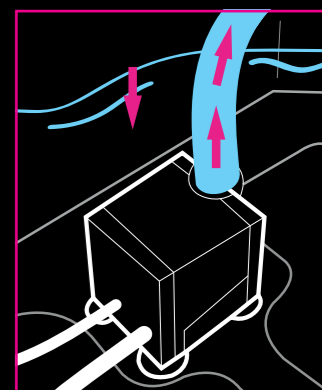
Empty your tank at least once per month so you can start again with a fresh nutrient solution – this is called a 'solution change'. Making up a container of half dose nutrient solution makes topping-up easier.



### EMPTYING THE GRO-TANK

Switch the pump off. Remove the delivery tube from the channel inlet and fit the emptying tube onto the delivery tube to empty the Gro-Tank.

We recommend that you remove as much solution as possible, you can use a sponge to soak up any solution that doesn't drain away. Used solution can be disposed of in the garden.





## KEY THINGS TO REMEMBER

### RAISING TRANSPLANTS FROM SEED

1. Transplant when root bound.
2. Ensure atmospheric (air space) environment is suitable for the plant you intend to grow.
3. Follow nutrient instructions on nutrient label.
4. Maintain nutrient & pH levels.
5. Monitor & control pests and diseases.

### THE MOST COMMON CAUSES OF POOR GROWTH

1. Plants placed in the channel too early – ensure that only rootbound plants are used.
2. Heavy handedness with acid – take care not to add too much.
3. Incorrect nutrient dose used – check manufacturer's instructions.



## ABOUT ROOTS

NFT is such an effective method of growing because it produces very healthy roots. There are three different root types;

### 1. PRIMARY ROOTS

These are the large diameter roots which first emerge and travel into the nutrient solution and which grow very rapidly.

### 2. SECONDARY ROOTS

These are smaller diameter roots emerging from the primary roots. The large surface area of these roots makes them vital for taking-up nutrients and water. Plants have a mechanism known as 'active uptake' which enables plants to determine what they want to take-up from what is provided. This is why NFT is so successful for growing plants.

### 3. ROOT HAIRS

These are vital to the health of your plants. Root hairs are the lungs of the plant. They take-up oxygen (as essential to plants as it is to humans), which is why your plants need to have root hairs above the solution level in the channel.



## GRO-TANK KITS

### GT205



695mm (L) x 385mm (W) x 185mm (H)

### GT424



1010mm (L) x 485mm (W) x 205mm (H)

### GT604



1525mm (L) x 485mm (W) x 190mm (H)

### GT901



2110mm (L) x 530mm (W) x 215mm (H)

### GT100



1200mm (L) x 1060mm (W) x 215mm (H)

### GT150



1850mm (L) x 1000mm (W) x 150mm (H)

# MULTI-DUCT KITS

**MD100**



**MD300**



System	Dimensions L x W x H	Tank Volume	No. of Plants
MD100	170cm x 120 x 45cm	50L	9
MD200	170 x 120 x 45cm	90L	9
MD300	340 x 120 x 45cm	90L	18
MD601	225 x 118 x 45cm	90L	8
MD602	430 x 118 x 45cm	90L	16
MD603	225 x 212 x 45cm	90L	16
MD604	430 x 212 x 45cm	90L	32
MD801	250 x 91 x 45cm	90L	12
MD802	510 x 118 x 45cm	90L	24
MD803	252 x 212 x 45cm	90L	24
MD804	510 x 212 x 45cm	90L	48

2585

