23/24

BIO DIESEL

MORE TRICHOMES - MORE BUD - MORE FLAVOUR

BIO DIESEL NUTRIENTS GROWERS GUIDE

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PROPAGATION (LIGHTS 20HRS ON / 4HRS OFF)

Cuttings and Seedlings require only small levels of nutrients but benefit greatly by ensuring the exact pH (5.8) is maintained to promote early root establishment. For seedlings it is important to pre-soak the growing media with the correct solution below.

The values in this feed chart represent the recommended number of mls of product to add to each litre of water - simply multiply the value shown by the number of litres of feed you are mixing. Always start with part A then part B of Green Diamond and then add the other nutrients you are using - this will reduce foaming during mixing.

PROPAGATION STAGE	WK1	WK2	WK3
GREEN DIAMOND A&B	1.0	1.0	1.0
SUPERNATURAL	0.5	0.5	0.5
ALOEVATE	2.0	2.0	2.0
PH TARGET	5.8	5.8	5.8

**Use Mykos Mycorrhizae Fungi when transplanting into larger pots.*

VEGETATIVE GROWTH WEEKLY FEED GUIDE (LIGHTS 18HRS ON / 6HRS OFF)

Once your plants are transplanted you are ready to start vegetative growth. Pay special attention to temperatures and humidity at this stage and ensure the correct lighting levels.

GROWTH STAGE	WK1	WK2	WK3	WK4	WK5
GREEN DIAMOND A&B	2.0	2.0	3.0	3.0	3.0
SUPERNATURAL	0.5	0.5	0.5	1.0	1.0
ALOEVATE	2.0	2.0	5.0	5.0	5.0
MARINE CAMG+	0.25	0.25	0.5	0.5	1.0
BIO ONE	1.0	1.0	1.0	1.0	1.0
PH	5.8-6.2	5.8-6.2	5.5-6.0	5.5-6.0	5.5-6.0
EC	1.2	1.2	1.8	1.8	2.2
CRYSTAL CLEAR FLUSH				5.0	

Some varieties may require either more or less **Marine CaMg+*
Do not adjust the pH of **Crystal Clear and ensure minimum 20% runoff at flush*

**EC strength may vary depending on water source, adjust with fresh water to reach to target EC.*
Use Phosphoric **acid pH down as needed to adjust tanks within the correct range as required*

FOLIAR SPRAYS

By Foliar Spraying you are applying nutrients directly through the leaves. This accelerates growth rates and ensures complete full spectrum mineral uptake despite nutrient pH.

FOLIAR SPRAYS ARE HIGHLY RECCOMENDED DURING VEGETATIVE GROWTH

GREEN DIAMOND A+B	WK1	WK2-4	WK4+
SUPERNATURAL	1.0	1.0	1.0
ALOEVATE	5.0	5.0	5.0
MARINE CAMG+	-	0.25	0.5

**Apply Foliar sprays under low lighting levels in Vegetative growth stage only.*

FRUITING & FLOWERING STAGE WEEKLY FEED GUIDE (LIGHTS 12HRS ON/ 12HRS OFF)

During the first 3 weeks of flowering your plants will go through a process called "internodal stretching," increasing in size just before they start to form small buds. When the stretching stops (typically around the end of week 3), you should remove any weak lower lateral branches and large fan leaves that are covering new growth. This will allow better light penetration through the canopy, improve airflow and lead to increased yields.

AUTO FLOWERING PLANTS

Auto flowering seeds will generally "Auto Flower" after 3 weeks of Vegetative growth.
After 3 weeks in growth stage **switch** lights to 12/12 and start the Bio Diesel Flowering chart.

FLOWERING -BLOOM	WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9
GREEN DIAMOND A&B	3.0	3.0	3.0	4.0	4.0	4.0	3.0	W	W
SUPERNATURAL	1.0	1.0	1.0	1.0	1.0	1.0		A	A
ALOEVATE	5.0	5.0	5.0	5.0	5.0	5.0		T	T
BIO ONE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	E	E
BIO DIESEL	2.0	2.0	2.0	4.0	4.0	4.0		R	R
RHINO K	1.0				2.0	1.0	1.0		
RHINO PK POWDER	0.5g				0.5g	0.5g	0.5g		
PH	5.8-6.2	5.8-6.2	5.8-6.2	5.8-6.2	6.0-6.2	6.0-6.2	6.0-6.2		
EC	2.0	1.8	1.8	2.1	2.6	2.4	2.0		
CRYSTAL CLEAR FLUSH		5.0		5.0		5.0		5.0	

USE EITHER RHINO K OR RHINO PK POWDER – DO NOT USE BOTH COMBINED

**Rhino PK powder is tank stable for automated watering while Rhino K is organic and better applied the day of mixing.*
**Some varieties and different plant sizes may prefer higher or lower base nutrient EC levels.*
**Do not adjust the pH during the Crystal Clear Flush. Apply at the end of the indicated week above with 20% runoff.*

PRO TIPS

HIGH PRODUCTION CO2

Many of the commercial farms and advanced growers use Co2 in the grow environment. EC Values can be run 10-25% stronger for most strain varieties. For Co2 levels above 1000PPM increase Green Diamond strength through all stages. Ie 1ml = 1.2ml 2ml = 2.5ml 3ml = 4ml to create a higher EC strength. Ensure a minimum runoff amount of 10-20% when running higher ECs.

TANK AND PLUMBING MAINTENANCE

Micronized Organics like Bio Diesel and Supernatural can create unharmful bio films that settle in the bottom or against the sides of your nutrient tank. Between tank fills simply wipe out the tank with a damp cloth or peroxide solution like Bio Clear. Between Cycles you should flush your plumbing lines with a peroxide solution like Bio Clear. To avoid any buildups and sterilise ready for the next crop.

WATERING TIPS AND DRY BACKS

Ensure not to overwater after initial transplant. Allow coco fibre to dryback to around 30% moisture content before next watering. A healthy plant should use approximately 5% water per coco volume in the early stages then 7.5% - 10% based on pot size. Ie. 2L water per 20L of coco = 10% water volume.

FLUSHING AND FINISHING

Crystal Clear should be used as both a Maintenance flush and as a final flush before harvest. Do not adjust the pH of the solution and ensure plenty of runoff. It will lower the pH of rising growing media while also clearing it of unused salts. Always add a complete nutrient feed the following day after using crystal clear at the correct pH range.

PRO TIP – *Larger Dry backs during the final week of flush can positively stress the plant creating a more resinous quality result with a stronger aroma and flavour.*

ESSENTIAL CLIMATE ADVICE FOR CONTROLLED ENVIRONMENTS WITH LED

In order for your plants to process nutrients efficiently your climate parameters and light levels need to be correct. The below chart was developed using exhaustive farm testing and the latest up to date resources from industry leaders.

To mantain correct temperatures and humidity levels indoor growers will need to use simple climate devices like a heater, Dehumidifier and Humidifier. The use of a PPFD light meter and VPD meter are also highly recommended.

PLANT STAGE	LIGHT INTENSITY PPFD (UMOL)	TEMPERTAURE CELSIUS	RELATIVE HUMIDITY	TARGET VPD	C02 INJECTION PPM LEVEL
SEEDLINGS & CUTTINGS Weeks 1-3	50 – 150	21 - 25 C	70% - 80%	0.4 - 0.6	450 PPM
VEGETATIVE Weeks 1-4	300 - 400	25 - 28 C	60% - 70%	0.8 - 1.0	600 PPM
VEGETATIVE Weeks 5-8	300 - 600	25 - 30 C	60% - 70%	0.8 - 1.0	900 PPM
FLOWERING Weeks 1-3	600 - 900	25 - 30 C	50% - 60%	1.0 - 1.2	1400 PPM
FLOWERING Weeks 4-7	700- 1100	25 - 30 C	50% - 60%	1.2 - 1.5	1400 PPM
FLOWERING Weeks 8-9	700- 1100	25 - 30 C	40% - 50%	1.2 - 1.5	700 PPM
NOTES	It is best to gradually increase PPFD to acclimatise plants to the higher intensity. PPFD Intensity is limited by Co2 if you don't supplement extra Co2 then ensure you run the lower PPFD values above or you will experience bleaching. The high values are for GAS injected rooms only.	Depending on geographical location some climates are easier to manage at the higher or lower temp ranges. Consult a VPD chart to match up the correct RH with temperature within the correct VPD range for easy management in your geographic location.	If your room is outside these values consult a VPD chart to ensure your RH and Temp creates a correct VPD for plant growth. During Ripening lower RH to prevent Botrytis (Bud Rot)	Calculated at -1C leaf surface temp offset. Try a VPD meter for constant monitoring. If your VPD is too low you will experience poor nutrient uptake and mobility leading to yellowing.	When using Co2 run the higher temps and lighting PPFD figures in the chart. Co2 is reduced at ripening to lower RH to avoid botrytis. use a quality Co2 Controller for dosing levels and fan control.

FOR FURTHER RESOURCES OR A CUSTOM DESIGNED FEED CHART CONTACT US ONLINE AT:
www.biodieselnutrients.com.au or on Instagram **@biodiesel_growsupport**