



Universal Feeding Schedule

Flyer #18
Version 2016.07.27

for Normal Feeding of Full Sun Plants in Soil, Soil-less & Hydroponics

For Lettuce and Shade crops reduce amounts by 50%



Week	Phase	Light Hours	Z7 Enzyme Cleanser (per Gallon of water)	Elite Micro (per Gallon of water)	Elite Grow (per Gallon of water)	Elite Bloom (per Gallon of water)	On Schedule	Flora Extract (per Gallon of water)	USB (per Gallon of water)
1	Rooted Cuttings*	18	½ ml each part	¼ tsp (200ppm)	⅛ tsp (50ppm)	⅛ tsp (50ppm)	---	¼ ml	½ ml
2	Vegetation**	18	½ ml each part	¼+⅛ tsp - ½ tsp (300ppm-400ppm)	¼ tsp - ½ tsp (100ppm-200ppm)	---	---	¼ ml	½ ml
3	Pre Bloom	18	½ ml each part	¼+⅛ tsp - ½ tsp (300ppm-400ppm)	¼ tsp - ½ tsp (100ppm-200ppm)	---	3 tsp/quart †	¼ ml	½ ml
4	Transition to Bloom	18	½ ml each part	¼+⅛ tsp - ½ tsp (300ppm-400ppm)	¼ tsp - ½ tsp (100ppm-200ppm)	⅛ tsp - ¼ tsp (50ppm-100ppm)	3 tsp/quart †	¼ ml	½ ml
5	Early Bloom	12	½ ml each part	¼+⅛ tsp - ½ tsp (300ppm-400ppm)	¼ tsp - ½ tsp (100ppm-200ppm)	⅛ tsp - ¼ tsp (50ppm-100ppm)	⅓ ml/gallon	¼ ml	½ ml
6	Early Bloom	12	½ ml each part	¼+⅛ tsp - ½ tsp (300ppm-400ppm)	¼ tsp - ½ tsp (100ppm-200ppm)	⅛ tsp - ¼ tsp (50ppm-100ppm)	⅓ ml/gallon	¼ ml	½ ml
7	Mid Bloom	12	½ ml each part	¼+⅛ tsp - ½ tsp (300ppm-400ppm)	¼ tsp - ½ tsp (100ppm-200ppm)	⅛ tsp - ¼ tsp (50ppm-100ppm)	⅓ ml/gallon	¼ ml	½ ml
8	Mid Bloom	12	½ ml each part	¼+⅛ tsp - ½ tsp (300ppm-400ppm)	¼ tsp - ½ tsp (100ppm-200ppm)	⅛ tsp - ¼ tsp (50ppm-100ppm)	⅓ ml/gallon	¼ ml	½ ml
9	Late Bloom	12	½ ml each part	¼+⅛ tsp - ½ tsp (300ppm-400ppm)	¼ tsp - ½ tsp (100ppm-200ppm)	¼ tsp - ½ tsp (100ppm-200ppm)	⅓ ml/gallon	¼ ml	½ ml
10	Late Bloom***	12	½ ml each part	¼+⅛ tsp - ½ tsp (300ppm-400ppm)	¼ tsp - ½ tsp (100ppm-200ppm)	¼ tsp - ½ tsp (100ppm-200ppm)	⅓ ml/gallon	¼ ml	½ ml
11	Pre-Harvest****	12	½ ml each part	¼ tsp - ¼+⅛ tsp (200ppm-300ppm)	⅛ tsp - ¼ tsp (50ppm - 100pp.)	⅛ tsp - ¼ tsp (50ppm-100ppm)	⅓ ml/gallon	¼ ml	½ ml

IMPORTANT INFORMATION: Plants will respond quicker and more favorably to an addition of plant food rather than if you hurt them by initially feeding them too much and then try to back off on fertilizer strength. This feeding schedule is written to show the minimum to the maximum amount of fertilizer usage in each week of plant growth. Smaller plants in smaller pots may do better using the minimum dosage while larger plants in larger pots will likely benefit from the higher dosage. All references to ppm (parts per million) in TDS (total dissolved solids) is based on 500ppm to every 1.0 EC (electrical conductivity) measurements.

If you start off by using the minimum amount of fertilizer and the plant shows signs of light color or yellowing increase to the maximum amounts of each part shown on the feeding schedule. If the plants look good at the higher dosage keep using the higher dosage. If you are at the higher dosage and the plants look good overall but they are a darker green than you would like to see, reduce the dosage of the Elite Grow a little at a time until the perfect dosage of the elite Grow is obvious. In other words, your perfect dosage may be ½ tsp (400ppm) Elite Micro and ¼ + ⅛ tsp (150ppm) Elite Grow, a reduction of ⅛ tsp (50ppm) of Elite Grow from the maximum dosage stated on the feed chart. Allow at least 72 hours for leaf color changes before making another dosage adjustment.

Use the Flying Skull greenhouse log to record your final recipe for each week of plant growth. If you are using ppm/TDS instead of volume measurements, please use the feeding schedule to cross reference volume to ppm/TDS. When using the Flying Skull line the general rule is to increase the ppm/TDS of the nutrient as the plant and pot/root system size increases; ppm/TDS levels to adequately grow the plants will rarely exceed 900ppm. Use the least amount of plant food needed to grow the plants.

Note: It is normal for many strains to have some minor tip burn in the later weeks of bloom when the plants are producing heavily.

* As an option, maintain 50ppm/0.1EC of the above recipe for every inch of plant height until the feed target has been achieved. See plant food label for more information.

** Repeat Week 2 for Extended Vegetation time.

*** Repeat Week 10 for Extended Bloom time.

**** Run only Z7 and Flora Extract for the last 3 days before harvest.

† Spray On Schedule on plant leaves and stems once a day.

5mL = 5cc = 1 teaspoon † 3 teaspoons = 1 Tablespoon † ½ mL per gallon of water = 1 teaspoon per 10 gallons of water

The feeding chart's dosage shows both tsp and ppm per gallon. The reasoning is simple; sometimes you need more accurate dosage than tsp per gallon. To use ppm per gallon simply fill or top off your reservoir with water and take note of this starting ppm reading. As an example, add Elite Micro until you get a reading 400ppm above your start reading. Now add Elite Grow until you get 100ppm higher. Now add Elite Bloom until you get 50ppm higher. You will have added ½ tsp of Elite Micro, ¼ tsp Elite Grow and ⅛ tsp of Elite Bloom. These ppm/TDS to Volume numbers are approximate.

If the dry plant food seems to take too long to dissolve in tanks you may make a liquid concentrate. You can add two cups of Elite Micro to an empty gallon jug and add warm (not hot) water, screw on a cap and shake. Do this same procedure with Elite Grow and Elite Bloom in separate containers. You now have liquid nutrients to place into the feed barrel or use with a Dosatron auto feed system. This will make mixing a batch of nutrients go much faster as the nutrients are in already in solution. We suggest you use ppm or EC to make your recipe. This method is outlined in the information below.

You can also use weights to mix up your nutrients. Approximate ratios (as the fertilizer's absorption of water will effect weight):

Elite Micro ½ tsp = 400ppm = 0.8 EC = 2 grams
 Elite Grow ½ tsp = 200ppm = 0.4 EC = 2 grams
 Elite Bloom ½ tsp = 200ppm = 0.4 EC = 2.8 gram

THE FOLLOWING INFORMATION IS TAKEN FROM OUR WEBSITE WWW.FLYINGSKULL.NET

What is the best range of plant food strength?

Smaller plants in smaller pots may do better using the minimum dosage on the feed chart while larger plants in larger pots will likely benefit from the higher dosage.

A grower's custom bloom recipe for large plants in large containers that like a good dose of nitrogen throughout bloom could look like this:

½ tsp (400ppm) Elite Micro – ½ tsp (200ppm) Elite Grow – ½ tsp (200ppm) Elite Bloom

Similarly, a recipe for large plants that don't like a higher nitrogen dose throughout bloom might look like this:

½ tsp (400ppm) Elite Micro – ¼ tsp (100ppm) Elite Grow – ½ tsp (200ppm) Elite Bloom

Can I increase the amount of Elite Micro, Elite Grow or Elite Bloom fertilizers beyond what the feed schedule states?

While Flying Skull is great for the hobby grower, the line was created for commercial operations where you use the least amount of plant food possible. It is recommended that you increase or decrease all 3 base parts (Elite Micro, Elite Grow or Elite Bloom) of the fertilizer proportionally to obtain your desired results. Older plants in bloom rarely use less than 300ppm of Elite Micro.

However, the grower has the ability to raise or lower the strength of each part whenever it is desired. You can create your own custom recipe from the base recipe by simply adjusting one or all of the parts to suit special plant strain/variety needs. If you want the plant to be greener and you are satisfied that the lighter green color is not from a micro-nutrient deficiency, add more Elite Grow. If the plant shows signs of purple stem from a lack of phosphorus, add more Elite Bloom. If you see signs of yellowing on new growth but the older growth is fine, add more Elite Micro. If you see signs of tip burn you can reduce all three to a level that eliminates the tip burn. Do these additions or subtractions of each part of the plant food line (Elite Micro, Elite Grow or Elite Bloom) by 25-50 ppm/TDS at a time. Rarely is there a need for Cal Mag eXtreme unless you are growing in coco coir, so much so that we don't list it on the feed schedule. The Cal Mag eXtreme is useful to strip the sodium and potassium from the coco coir before the initial planting. This is done by soaking the coir with Cal Mag eXtreme for a few hours then rinsing it out. Begin by adding 3 tsp (15mL) of Cal Mag eXtreme to each gallon of water, then apply to the coco coir. At the end of the wait time rinse it out, the ppm/TDS of the runoff from the coir should match the water supply's ppm/TDS.

Plants growing in soils fortified with organics and or slow release fertilizers should feed in the lower ppm/TDS ranges (250-400ppm) as organic and slow release fertilizers can build up and release all at once under certain atmospheric and feeding conditions. This could cause overfeeding issues.

How can I be better and faster when mixing the nutrients into the barrel?

This is a great way to mix your plant food. Let's say you're making a 600ppm batch of vegetative food in a tank. Your water supply is 50ppm and you know that ½ tsp Elite Micro = 400ppm and ½ tsp Elite Grow = 200ppm. Fill your tank with water. Pour the Elite Micro into the tank until you get 450ppm, then add the Elite Grow until you get to 650ppm.

I want to add nutrients to a barrel that is not empty. How can I best do it?

This next method works best if you are adding the concentrated nutrients to a barrel that is not yet empty. Since there was nutrient left in the barrel, we need to add water and a lesser amount of plant food so we get the same recipe as before. To do this we will have to do some simple math.

You filled the barrel to the top with water and it is now showing 100ppm. Let's recap what we did when we first mixed the barrel. The vegetative recipe you initially used was a ratio of Elite Micro to Elite Grow. The water coming out of the tap has 50ppm in it. You used ½ tsp (400ppm) Elite Micro and ½ tsp (200ppm) Elite Grow which gave you a total of 650ppm (1.2 EC). This ppm ratio of Elite Micro to Elite Grow is 2 to 1 or 66.6 percent Elite Micro and 33.3 percent Elite Grow. How do we know this? We know that ½ tsp of Micro will add approximately 400ppm to 1 gallon of water and that ½ tsp of Grow will add approximately 200ppm to 1 gallon water. So, we divide 400 by 600 we get .666 or 66.7%. If we divide 200 by 600 we get .333 or 33.3%. These two numbers add up to 1 or 100% of the feed target.

Since the feed target is 650ppm and we have 100ppm in the barrel we need to add 550ppm of the original recipe to get us back to our feed target. To do this we will need to times the 550 by .666 (the number that represents the Elite Micro addition). The answer is 366ppm. Most meters read every 10ppm so in this case round up to 370ppm. 370ppm is how much Elite Micro to add to the barrel. As the barrel already has 100ppm in it, you will add the Elite Micro until you get to 470ppm. Now add the Elite Grow until you get to 650ppm. You are now back to your original recipe and at your original feed target.

100ppm + 370ppm Elite Micro = 470ppm

470ppm + 180ppm Elite Grow = 650ppm

Now let's do the same thing for a bloom recipe.

After adding water to the top of the barrel you have a reading of 100ppm.

You chose a recipe of ½ tsp of Elite Micro, ¼ tsp of Elite Grow and ¼ tsp of Elite Bloom.

½ tsp Elite Micro = 400ppm

¼ tsp of Elite Grow = 100ppm

¼ tsp of Elite Bloom = 100ppm

You need to make up 550ppm.

Our percentage of Elite Micro needed. 400 divided by 600 = .666

Our percentage of Elite Grow needed. 100 divided by 600 = .166

Our percentage of Elite Bloom needed. 100 divided by 600 = .166

Now that we have these numbers we can figure out exactly how much of each part of the plant food to add to the barrel.

0.666 times 550 = 366ppm (round up to 370ppm) of Elite Micro added. This will bring you up to 470ppm TDS (remember you had 100ppm TDS to start).

0.166 times 550 = 91.6ppm TDS of Elite Grow added to the barrel. Round down to 90ppm. Adding this amount to the barrel will bring your ppm/TDS to 560ppm.

0.166 times 550 = 91.6ppm TDS of Elite Bloom added to the barrel. Round down to 90ppm. Adding this amount to the barrel will bring your ppm/TDS to 650ppm.

100ppm + 370ppm Elite Micro = 470ppm

470ppm + 90.0ppm Elite Grow = 560ppm

560ppm + 90.0ppm Elite Bloom = 650ppm

If you need help you can always call us; Flying Skull takes care of its own.

What is the best way to apply the fertilizer?

Automated low strength constant feeding in conjunction with ECWAM methodology will continue to be the best all-around feeding application whether it is feed to waste or feed to recirculate. Please see the Growers Log you were issued at the time of purchase. We suggest the use of Dosatron equipment for accurate automated feedings.

Alternate feedings to watering can be productive but they can be hard to master for consistent growth rates needed for today's market. A feed schedule that is feeding one day then watering the next day might be done in this fashion: Apply Flying Skull recipe until the runoff matches the feed target on day 1, then day 2 water to saturation and stop.

The 3 keys to alternating feedings and watering's are:

1. Make sure the nutrient never builds up too high in the growing medium. The buildup of fertilizer in the growing medium can restrict water flow into the plant and increase or decrease mineral flow into the root.
2. Make sure the plant has access to water at all times. Without access to water the growth of the plant stalls and the plant becomes dehydrated. Plants that don't have access to water may look OK but their growth rates will stall until the supply of water has been restored. By allowing the soil to dry out you make the plant food strength many times stronger than the fertilizer application you poured into the soil.
3. Make sure the feed/water has been fully oxygenated. Oxygen is the key to proper root growth and health, this includes a symbiotic relationship with micro-organisms.