

# 2019 FEED CHART



## SOIL AND DRAIN TO WASTE (NON-NUTRIENT GROWING MEDIA)

UNITS: ML/GALLON

WEEK	VEGETATIVE				FLOWER								FLUSH
	1	2	3	4	1	2	3	4	5	6	7	8	9
KLN®	10												
Pro-TeKt®	2.5	5	5	5	5	5	5	5	5	5	5	5	
Foliage-Pro™ or GROW™	5	5	5	5	5	2.5	2.5	2.5					
BLOOM™					5	10	10	10	10	10	5	5	
Mag-Pro®			2.5	2.5	2.5	2.5	5	5	10	5	2.5	2.5	
Dyna-Zyme™			5			5			5				
Dyna-Flush™					5								5
TARGET PPM													
Foliage-Pro®	345	420	575	575	885	1060	1215	1215	1390	1080	615	615	
GROW™	385	460	615	615	925	1235	1235	1235					

## RECIRCULATING

UNITS: ML/GALLON

WEEK	VEGETATIVE				FLOWER								FLUSH
	1	2	3	4	1	2	3	4	5	6	7	8	9
KLN®	10												
Pro-TeKt®	5	5	5	5	5	5	5	5	5	5	5	5	
Foliage-Pro™ or GROW™	5	10	10	10	5	2.5	2.5	2.5					
BLOOM™					5	10	10	10	10	10	10	5	
Mag-Pro®			2.5	5	5	5	5	5	10	5	5	2.5	
Dyna-Zyme™			5			5			5				
Dyna-Flush™					5								5
TARGET PPM													
Foliage-Pro®	420	690	845	1000	1040	1215	1215	1215	1390	1080	1080	615	
GROW™	460	770	925	1080	1080	1390	1235	1235					

# GROWER NOTES

**USE THIS AS A GUIDE**

**H<sub>2</sub>O** In most cases, using tap water works fine with Dyna-Gro nutrients. Test the water in your area to determine mineral concentration in your water (ppm) (parts per million) and subtract that number from your total targeted ppm on the feed chart **IN RED** (using ppm meter set at the 500 scale). If you are using RO water, the ppm will be close to 0. Keep the solution below 75° F (24° C).

## **MIXING**

Application rates of nutrients and supplements are measured in milliliters/gallon. **IMPORTANT:** Always add Pro-TeKt® to your nearly full reservoir mix thoroughly. Then add your other Dyna-Gro nutrients. Never mix Pro-TeKt® and nutrient concentrates together, they must be diluted first.

## **pH**

After adding your nutrients and supplements, measure your mixtures pH. Plant uptake of various minerals varies with pH. Refer to the pH Nutrient Uptake Tables. Adjust your pH levels with Dyna-Gro®'s pH-Up or pH-Down to 5.5 –6.5 for hydroponics, 6.2 - 7 for soil. In most cases Pro-TeKt® is best used to raise pH of nutrient mixtures.

**ADVANCED GROWER TIP:** Alternate pH levels (1 week lower then 1 week higher) for optimum nutrient uptake.

## **PPM (Parts-Per-Million)**

Our PPM values on the Feed Chart should be used as a rough estimate.

Stay within a range of 150± of the targeted ppm values on the feed chart **IN RED**.

If using water other than Reverse Osmosis, obtain the ppm value of your water before adding your nutrients and supplements, then subtract that amount from your total to arrive at your actual feed rate.

## **Foliage-Pro® or GROW™? WHICH ONE TO USE?**

Foliage-Pro® is the improved version of GROW™, which specifically addresses the nutrient needs of *Cannabis indica*. GROW™ was our original formula which continues to work well for all plants and is preferred by many long time Dyna-Gro users. Which one to use is personal preference, both are high quality one-part nutrients and are extremely beneficial to your plants.

## **LIGHT**

Foliage-Pro® is high in nitrogen and will increase the size of your plant and cut grow time.

**INDOOR GROWERS:** 18 hours of light per day for the vegetative stage, 12 hours of light per day for the flowering stage.

## **WHAT ABOUT CAL-MAG?**

Foliage-Pro®, GROW™, and BLOOM™ are complete nutrients containing all 16 macro and micro nutrients your plants need to thrive. Each has sufficient levels of calcium and magnesium.

You do not need a Cal-Mag supplement when using Dyna-Gro™ nutrients.

Supplement with Mag-Pro® to increase magnesium, phosphorus, potassium and sulfur levels.

## **LONGER OR SHORTER STAGES FOR FLOWER**

If shorter than 8 weeks, eliminate all recommendations on week 2 of flowering in the chart.

If longer than 8 weeks duplicate week 5 for a total of 9 weeks.

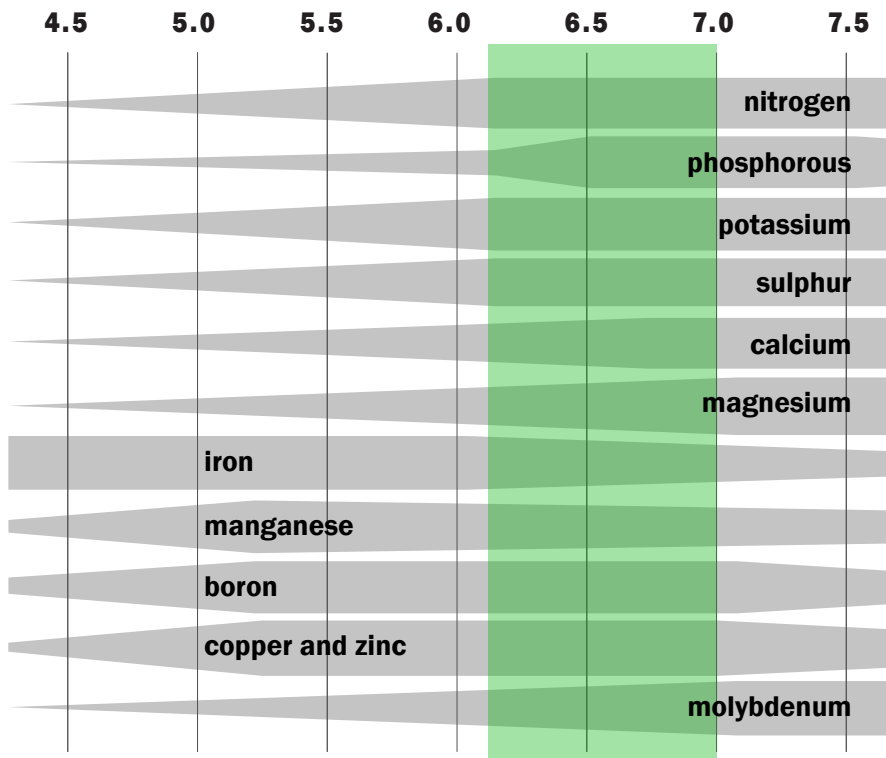
## **MAG-PRO®**

In addition to adding high phosphorus and low nitrogen, which combine to slow growth and promote flowering, Mag-Pro® provides higher levels of magnesium and sulfur which are important components of flavor and scent.

# PH RANGE NUTRIENT UPTAKE & AVAILABILITY



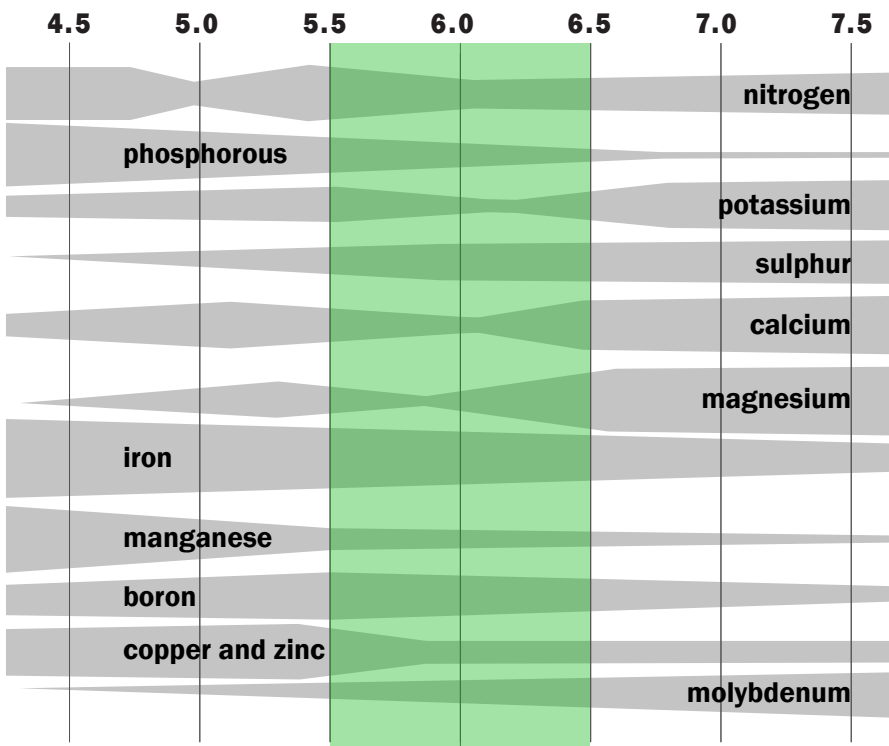
## SOIL



Understanding pH and its role in growing plants is crucial for optimal growth. It is a measure of the acidity or alkalinity of a solution and is measured on a scale from 1-14. A pH of 1 is considered an extremely acidic solution, and a pH of 14 is a highly alkaline solution. A pH of 7.0 on the scale is neutral. Reverse Osmosis water, water that has had all dissolved solids removed, will be approximately pH 7.0.

Nutrients are available to plants based on the pH of the water they are diluted in and the plant's growing medium. This is represented in the chart to the left.

## HYDROPONICS



For growing in soil, the pH range should be 6.2 to 7.0. In hydroponics, the pH should be maintained between 5.5 and 6.5. When the proper pH is achieved, the nutrients become more available to the plant. pH levels that are too low or too high can result in the release of or tying up of minerals in soils that can lead to toxic or deficient levels of some mineral elements.

If pH is too low, raise using Dyna-Gro™ pH-Up or Pro-TeKt®. If pH is too high, lower the pH using Dyna-Gro™ pH-DOWN.