

# Mittlieder Method of Fertilizing

## Constant Feed - Feeding Seedlings

Constant Feed is a solution of **3 Gallons of water mixed with 1 oz (2 Tbls) of "Weekly Feed"**. Feed Seedlings with this solution until planted. Do NOT use Constant Feed on seeds that are not sprouted. Start Constant Feed after the seeds have sprouted and continue until planted in the garden.

## Pre-Plant - Ingredients & Ratios

Ingredients	Rati	Acre / 1,000 lbs	40 pounds (lbs)			25 pounds (lbs)			10 pounds (lbs)			5 pounds (lbs)		
		lbs or pints	lbs or pints	cups	Tbls	lbs or pints	cups	Tbls	lbs or pints	cups	Tbls	lbs or pints	cups	Tbls
Gypsum / Lime (Calcium) [Note 2]	80	1000	40	80	1280	25	50	800	10	20	320	5	10	160
Epson Salt (Magnesium Sulfate Hydrate)	4	50	2	4	64	1.25	2.5	40	0.5	1	16	0.25	0.5	8
Borax (Boron) [20 Mule Team Borax]	1	12.5	0.5	1	16	0.31	0.63	10	0.13	0.25	4	0.06	0.13	2

\* NOTE 1: Pint = Pound. "A Pint is a Pound - the World Around." Pint = 2 Cups

An Ounce (oz.) = 2 Tablespoons - There are 2 Tbls in an ounce, If you want measurements in ounces, take the Tbls column and divide it by 2 (ie. 4 Tbls / 2 = 2 oz)

\* NOTE 2: In areas that get less than 20 inches of rain per year - Use Gypsum. In areas that get 20 or more inches of rain per year - Use Lime 0-19"= Gypsum, 20" (or more)= Lime

- **Apply 2 Pint (4 Cups) of "Pre-Plant" and 1 Pint (2 Cups) of "Weekly Feed" (see below) to a standard 30' long x 18" wide garden bed. Till into the bed, and then reshape the bed and plant.**
- Pre-Plant is used each time you start a new crop. So if you have a Spring AND Fall crop you would use Pre-Plant in the Spring and then again in the Fall.
- If your beds are different lengths, use 1 oz (2 Tbls.) of Pre-Plant and 1/2 oz (1 Tbls.) of Weekly Feed per running foot of garden bed.

## Weekly Feed - Ingredients & Ratios

Ingredients	Rati	Acre / 300 lbs	40 pounds (lbs)			25 pounds (lbs)			10 pounds (lbs)			5 pounds (lbs)		
		lbs or pints	lbs / pints	or cups	or Tbls	lbs / pints	or cups	or Tbls	lbs / pints	or cups	or Tbls	lbs / pints	or cups	or Tbls
NPK Fertilizer (15-15-15, 16-16-16, 17,17,17, etc.)	40	300	50	100	1600	25	50	800	10	20	320	5	10	160
Epson Salt (Magnesium Sulfate Hepta-hydrate)	6	45	7.5	15	240	3.75	7.5	120	1.5	3	48	0.75	1.5	24
Micro Nutrients ( <a href="http://growfood.com">growfood.com</a> Materials/Fertilizer)	1	7.5	1.25	2.5	40	0.63	1.25	20	0.25	0.5	8	0.13	0.25	4

\* NOTE: See the notes about pounds and ounces under Pre-Plant section above

- **Apply 1 Pint (2 Cups) of "Weekly Feed" to a standard 30' long x 18" wide garden bed – ½ oz (1 Tbls.) per running foot.**
- For Transplants, apply ¼ oz per running foot nitrogen immediately, then Weekly Feed Fertilizer 3 days after transplanting and on a weekly basis thereafter.
- For crops planted from seed, do not fertilize until the seeds have sprouted
- Use Weekly Feed until 3 weeks before maturity for single-crop varieties (Examples - 3wks spinach & leaf lettuce, 5 wks head lettuce & cabbage, until blossoms on potatoes, tassels on corn); until 8 weeks before Fall frost for ever-bearing crops.

# How to Solve for Ratios

Different Math teachers will teach you different ways of solving these problems. Ex:  $60/110 = 30/X$  – find X

Multiply  $30 \times 110$  & divide by  $60 = 55$

The Formula to the right also works. Green sections are what you know, & yellow sections are what you are solving.

## Formula

$$\left( \frac{\text{Part of the ratio you want to SOLVE}}{\text{Part of the ratio you KNOW}} \right) \times \text{Ratio VALUE you know} = \text{Ratio VALUE want to solve}$$

Ratio Data Value		
80	Know	30
4	Solve	??
1	--	--

$$\left( \frac{4}{80} \right) \times 30 = 1$$

Ratio Data Value		
80	Solve	??
4	Know	5
1	--	--

$$\left( \frac{80}{4} \right) \times 5 = 100$$

Ratio Data Value		
80	Know	40
4	--	--
1	Solve	??

$$\left( \frac{1}{80} \right) \times 40 = 0.5$$

Ratio Data Value		
40	Know	30
6	Solve	??
1	--	--

$$\left( \frac{6}{40} \right) \times 30 = 4.5$$

Ratio Data Value		
40	Solve	??
6	Know	5
1	--	--

$$\left( \frac{40}{6} \right) \times 5 = 33.3$$

Ratio Data Value		
40	Know	40
6	--	--
1	Solve	??

$$\left( \frac{1}{40} \right) \times 40 = 1$$