

**TABLE 2. GENERAL FERTILIZER SUGGESTIONS FOR VEGETABLE CROPS\***

CROP	Desirable pH	Nitrogen (N) lb/acre	Recommended Nutrients Based on Soil Tests								Nutrient Timing and Method
			Soil Phosphorus Level				Soil Potassium Level				
			Low	Med	High	Very High	Low	Med	High	Very High	
			P <sub>2</sub> O <sub>5</sub> lb/acre				K <sub>2</sub> O lb/acre				
<b>ASPARAGUS</b>											
	6.5 to 7.0	100	250	150	100	0	250	225	150	0	Total recommended.
		50	250	150	100	0	150	100	75	0	Broadcast before cutting season.
		50	0	0	0	0	100	125	75	0	Sidedress after cutting.
		Apply 2 lb boron (B) per acre every 3 years on most soils.									
<b>BEAN, Lima</b>											
...Single crop	6 to 6.5	70 to 110	120	80	40	20	160	120	80	20	Total recommended.
		25 to 50	80	40	20	0	120	80	60	0	Broadcast and disk-in.
		20	40	40	20	20	40	40	20	20	Band-place with planter.
		25 to 40	0	0	0	0	0	0	0	0	Sidedress 3 to 5 weeks after emergence.
<b>BEAN, Snap</b>											
	6 to 6.5	40 to 80	80	60	40	20	80	60	40	20	Total recommended.
		20 to 40	40	40	0	0	40	40	0	0	Broadcast and disk-in.
		20 to 40	40	20	40	20	40	20	40	20	Band-place with planter.
<b>BEET</b>											
	6 to 6.5	75 to 100	150	100	50	0	150	100	50	0	Total recommended.
		50	150	100	50	0	150	100	50	0	Broadcast and disk-in.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress 4 to 6 weeks after planting.
		Apply 2 to 3 lb boron (B) per acre with broadcast fertilizer.									
<b>BROCCOLI</b>											
	6 to 6.5	125 to 175	200	100	50	0	200	100	50	0	Total recommended.
		50 to 100	150	100	50	0	150	100	50	0	Broadcast and disk-in.
		50	50	0	0	0	50	0	0	0	Sidedress 2 to 3 weeks after planting.
		25	0	0	0	0	0	0	0	0	Sidedress every 2 to 3 weeks after initial sidedressing.
		Apply 2 to 3 lb boron (B) per acre with broadcast fertilizer.									
<b>BRUSSEL SPROUTS, CABBAGE, and CAULIFLOWER</b>											
	6 to 6.5	100 to 175	200	100	50	0	200	100	50	0	Total recommended.
		50 to 75	200	100	50	0	200	100	50	0	Broadcast and disk-in.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress 2 to 3 weeks after planting.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress if needed, according to weather.
		Apply 2 to 3 lb boron (B) per acre and molybdenum per acre as 0.5 lb sodium molybdate per acre with broadcast fertilizer.									
<b>CANTALoupES and MELONS</b>											
...Bareground	6 to 6.5	75 to 115	150	100	50	25	200	150	100	25	Total recommended.
		25 to 50	125	75	25	0	175	125	75	0	Broadcast and disk-in.
		25	25	25	25	25	25	25	25	25	Band-place with planter.
		25 to 40	0	0	0	0	0	0	0	0	Sidedress when vines start to run.
		Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.									
...Plasticulture		100 to 150	125	75	25	25	200	150	100	25	Total recommended.
		25	125	75	25	25	100	75	50	25	Broadcast and disk-in.
		75 to 125	0	0	0	0	100	75	50	0	Fertigate.
		Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer. Drip fertilization: See "cantaloupe" in specific commodity recommendations later in this handbook.									
<b>CARROT</b>											
	6 to 6.5	90 to 120	150	100	50	0	150	100	50	0	Total recommended.
		50	150	100	50	0	150	100	50	0	Broadcast and disk-in.
		40 to 70	0	0	0	0	0	0	0	0	Sidedress if needed.
		Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.									
<b>CUCUMBER</b>											
...Bareground	6 to 6.5	80 to 160	150	100	50	25	200	150	100	25	Total recommended.
		40 to 100	125	75	25	0	175	125	75	0	Broadcast and disk-in.
		20 to 30	25	25	25	25	25	25	25	25	Band-place with planter 7 to 14 days after planting.
		20 to 30	0	0	0	0	0	0	0	0	Sidedress when vines begin to run, or apply in irrigation water.
...Plasticulture		120 to 150	150	100	50	25	150	100	50	25	Total recommended.
		25	125	75	25	0	150	100	50	0	Broadcast and disk-in.
		95 to 125	25	25	25	25	0	0	0	25	Fertigate.
		Drip fertilization: See "cucumber" in specific recommendations later in this handbook.									

\* Nitrogen rates should be based on your local fertilizer recommendations.

**TABLE 2. GENERAL FERTILIZER SUGGESTIONS FOR VEGETABLE CROPS\* (cont'd)**

CROP	Desirable pH	Nitrogen (N) lb/acre	Recommended Nutrients Based on Soil Tests								Nutrient Timing and Method
			Soil Phosphorus Level				Soil Potassium Level				
			Low	Med	High	Very High	Low	Med	High	Very High	
			P <sub>2</sub> O <sub>5</sub> lb/acre				K <sub>2</sub> O lb/acre				
<b>EGGPLANT</b>											
...Bareground	6 to 6.5	100 to 200	250	150	100	0	250	150	100	0	Total recommended.
		50 to 100	250	150	100	0	250	150	100	0	Broadcast and disk-in.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress 3 to 4 weeks after planting.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress 6 to 8 weeks after planting.
		Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.									
...Plasticulture		145	250	150	100	0	240	170	100	0	Total recommended.
		50	250	150	100	0	100	100	100	0	Broadcast and disk-in.
		95	0	0	0	0	140	70	0	0	Fertigate.
		Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer. Drip fertilization: See "eggplant" in specific recommendations later in this handbook.									
<b>ENDIVE, ESCAROLE, LEAF and ROMAINE LETTUCE</b>											
	6 to 6.5	75 to 150	200	150	100	0	200	150	100	0	Total recommended.
		50 to 100	200	150	100	0	200	150	100	0	Broadcast and disk-in.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress 3 to 5 weeks after planting.
<b>HERBS (BASIL, PARLESY, CLIANTRO)</b>											
	6 to 6.5	100 to 175	200	150	100	0	200	150	100	0	Total recommended.
		50 to 75	200	150	100	0	200	150	100	0	Broadcast and disk-in.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress after first cutting.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress after each additional cutting.
<b>LEAFY GREENS, COLLARD, KALE, and MUSTARD</b>											
	6 to 6.5	75 to 80	150	100	50	0	150	100	50	0	Total recommended.
		50	150	100	50	0	150	100	50	0	Broadcast and disk-in.
		25 to 30	0	0	0	0	0	0	0	0	Sidedress, if needed.
		Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.									
<b>LEEK</b>											
	6 to 6.5	75 to 125	200	150	100	0	200	150	100	0	Total recommended.
		50 to 75	200	150	100	0	200	150	100	0	Broadcast and disk-in.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress 3 to 4 weeks after planting, if needed.
		Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.									
<b>OKRA</b>											
	6 to 6.5	100 to 200	250	150	100	0	250	150	100	0	Total recommended.
		50 to 100	250	150	100	0	250	150	100	0	Broadcast and disk-in.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress 3 to 4 weeks after planting.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress 6 to 8 weeks after planting.
		Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.									
NOTE: Where plastic mulches are being used, broadcast 50 to 100 lb nitrogen (N) per acre with recommended P <sub>2</sub> O <sub>5</sub> and K <sub>2</sub> O and disk incorporate prior to laying mulch. Drip fertilization: See "okra" in specific commodity recommendations later in this handbook.											
<b>ONION</b>											
...Bulb	6 to 6.5	125 to 150	200	100	50	0	200	100	50	0	Total recommended.
		50 to 75	200	100	50	0	200	100	50	0	Broadcast and disk-in.
		75 to 100	0	0	0	0	0	0	0	0	Sidedress twice 4 to 5 weeks apart.
		Apply 1 to 2 lb boron (B) and 20 lb sulfur (S) per acre with broadcast fertilizer.									
...Green		150 to 175	200	100	50	0	200	100	50	0	Total recommended.
		50 to 75	200	100	50	0	200	100	50	0	Broadcast and disk-in.
		50	0	0	0	0	0	0	0	0	Sidedress 4 to 5 weeks after planting.
		50	0	0	0	0	0	0	0	0	Sidedress 3 to 4 weeks before harvest.
Apply 1 to 2 lb boron (B) and 20 lb sulfur (S) per acre with broadcast fertilizer.											
<b>PARSNIP</b>											
	6 to 6.5	50 to 100	150	100	50	0	150	100	50	0	Total recommended.
		25 to 50	150	100	50	0	150	100	50	0	Broadcast and disk-in.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress 4 to 5 weeks after planting.
		Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.									

\* Nitrogen rates should be based on your local fertilizer recommendations.

**TABLE 2. GENERAL FERTILIZER SUGGESTIONS FOR VEGETABLE CROPS\* (cont'd)**

CROP	Desirable pH	Nitrogen (N) lb/acre	Recommended Nutrients Based on Soil Tests								Nutrient Timing and Method
			Soil Phosphorus Level				Soil Potassium Level				
			Low	Med	High	Very High	Low	Med	High	Very High	
			P <sub>2</sub> O <sub>5</sub> lb/acre				K <sub>2</sub> O lb/acre				
<b>PEA, Garden/English</b>											
	5.8 to 6.5	40 to 60	120	80	40	0	120	80	40	0	Total recommended. Broadcast and disk-in before seeding.
<b>PEPPER</b>											
...Bareground	6 to 6.5	100 to 130	200	150	100	0	200	150	100	0	Total recommended.
		50	200	150	100	0	200	150	100	0	Broadcast and disk-in.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress after first fruit set.
		25 to 30	0	0	0	0	0	0	0	0	Sidedress later in season, if needed.
...Plasticulture		100 to 185	320	250	100	0	350	250	100	40	Total recommended.
		50	200	150	100	0	200	150	100	40	Broadcast and disk-in.
		50 to 135	120	100	0	0	150	100	0	0	Fertigate.
Drip fertilization: See "pepper" in specific commodity recommendations later in this handbook.											
<b>POTATO</b>											
...Loams and silt loams	5.8 to 6.2	100 to 150	110	90	70	50	200	150	50	50	Total recommended.
		85 to 135	60	40	20	0	200	150	50	50	Broadcast and disk-in.
		15	50	50	50	50	0	0	0	0	Band-place with planter at planting.
...Sandy loams and loamy sands		150	200	150	100	50	300	200	100	50	Total recommended.
		50	200	150	100	50	300	200	100	50	Broadcast and disk-in.
		100	0	0	0	0	0	0	0	0	Sidedress 4 to 5 weeks after planting.
<b>PUMPKIN and WINTER SQUASH</b>											
...Bareground	6 to 6.5	80 to 90	150	100	50	0	200	150	100	0	Total recommended.
		40 to 50	150	100	50	0	200	150	100	0	Broadcast and disk-in.
		40 to 50	0	0	0	0	0	0	0	0	Sidedress when vines begin to run.
...Plasticulture		80 to 150	150	100	50	0	200	150	100	0	Total recommended.
		25 to 50	150	100	50	0	100	75	50	0	Disk in row.
		55 to 100	0	0	0	0	100	75	50	0	Fertigate.
<b>RADISH</b>											
	6 to 6.5	50	150	100	50	0	150	100	50	0	Total recommended. Broadcast and disk-in.
Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.											
<b>RUTABAGA and TURNIP</b>											
	6 to 6.5	50 to 75	150	100	50	0	150	100	50	0	Total recommended.
		25 to 50	150	100	50	0	150	100	50	0	Broadcast and disk-in.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress when plants are 4 to 6 in. tall.
Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.											
<b>SOUTHERNPEA</b>											
	5.8 to 6.5	16	96	48	0	0	96	48	0	0	Total recommended. Broadcast and disk-in.
<b>SPINACH</b>											
...Fall	6 to 6.5	75 to 125	200	150	100	0	200	150	100	0	Total recommended.
		50 to 75	200	150	100	0	200	150	100	0	Broadcast and disk-in.
		25 to 50	0	0	0	0	0	0	0	0	Sidedress or topdress.
...Overwinter		80 to 120	0	0	0	0	0	0	0	0	Total recommended for spring application to an overwintered crop.
		50 to 80	0	0	0	0	0	0	0	0	Apply in late February.
		30 to 40	0	0	0	0	0	0	0	0	Apply in late March.
<b>SQUASH, Summer</b>											
	6 to 6.5	100 to 130	150	100	50	0	150	100	50	0	Total recommended.
		25 to 50	150	100	50	0	150	100	50	0	Broadcast and disk-in.
		50	0	0	0	0	0	0	0	0	Sidedress when vines start to run.
		25 to 30	0	0	0	0	0	0	0	0	Apply through irrigation system.
Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.											
Drip fertilization: See "summer squash" in specific commodity recommendations later in this handbook.											
<b>SWEET CORN</b>											
	6 to 6.5	110 to 155	160	120	80	20	160	120	80	20	Total recommended.
		40 to 60	120	100	60	0	120	100	60	0	Broadcast before planting.
		20	40	20	20	20	40	20	20	20	Band-place with planter.
		50 to 75	0	0	0	0	0	0	0	0	Sidedress when corn is 12 to 18 in. tall.

\* Nitrogen rates should be based on your local fertilizer recommendations.

**TABLE 2. GENERAL FERTILIZER SUGGESTIONS FOR VEGETABLE CROPS\* (cont'd)**

CROP	Desirable pH	Nitrogen (N) lb/acre	Recommended Nutrients Based on Soil Tests								Nutrient Timing and Method
			Soil Phosphorus Level				Soil Potassium Level				
			Low	Med	High	Very High	Low	Med	High	Very High	
			P <sub>2</sub> O <sub>5</sub> lb/acre				K <sub>2</sub> O lb/acre				
Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer. NOTE: On very light sandy soils, sidedress 40 lb N per acre when corn is 6 in. tall and another 40 lb N per acre when corn is 12 to 18 in. tall.											
<b>SWEETPOTATO</b>											
	5.8 to 6.2	50 to 80	200	100	50	0	300	200	150	120	Total recommended.
		0	150	60	30	0	150	50	30	0	Broadcast and disk-in.
		50 to 80	50	40	20	0	150	150	120	120	Sidedress 21 to 28 days after planting.
Add 0.5 lb of actual boron (B) per acre 40 to 80 days after transplant.											
<b>TOMATO</b>											
... Bareground for Sandy loams and loamy sands	6 to 6.5	80 to 90	200	150	100	0	300	200	100	0	Total recommended.
		40 to 45	200	150	100	0	300	200	100	0	Broadcast and disk-in.
		40 to 45	0	0	0	0	0	0	0	0	0
Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.											
... Bareground for Loam and clay		75 to 80	200	150	100	0	250	150	100	0	Total recommended.
		50	200	150	100	0	250	150	100	0	Broadcast and disk-in.
		25 to 30	0	0	0	0	0	0	0	0	0
Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.											
...Plasticulture	6 to 6.5	130 to 210	200	150	100	0	420	345	275	0	Total recommended.
		50	200	150	100	0	125	125	125	0	Broadcast and disk-in.
		80 to 160	0	0	0	0	295	220	150	0	Fertigate.
Apply 1 to 2 lb boron (B) per acre with broadcast fertilizer.											
Drip fertilization: See "tomato" in specific commodity recommendations later in this handbook.											
<b>WATERMELON</b>											
...Nonirrigated	6 to 6.5	75 to 90	150	100	50	0	200	150	100	0	Total recommended.
		50	150	100	50	0	200	150	100	0	Broadcast and disk-in.
		25 to 40	0	0	0	0	0	0	0	0	0
...Irrigated		100 to 150	150	100	50	0	200	150	100	0	Total recommended.
		50	150	100	50	0	200	150	100	0	Broadcast and disk-in.
		25 to 50	0	0	0	0	0	0	0	0	0
		25 to 50	0	0	0	0	0	0	0	0	Topdress at first fruit set.
...Plasticulture		125 to 150	150	100	50	0	200	150	100	0	Total recommended.
		25 to 50	150	100	50	0	100	75	50	0	Disk in row.
		100	0	0	0	0	100	75	50	0	Fertigate.
NOTE: Excessive rates of N may increase the incidence of hollow heart in seedless watermelon.											
Drip fertilization: See "watermelon" in specific commodity recommendations later in this handbook.											

\* Nitrogen rates should be based on your local fertilizer recommendations.

**TABLE 3. NUTRIENT VALUES FOR MANURE APPLICATIONS AND CROP RESIDUES**

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O		N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
	Pounds per Ton				Pounds per Ton		
Cattle manure	5-10 <sup>1</sup>	3	3	Ladino clover sod	60	0	0
Poultry manure	25-50 <sup>1</sup>	20	10	Crimson clover sod	50	0	0
Pig manure	5-10 <sup>1</sup>	2	2	Red clover sod	40	0	0
Horse manure	6-12 <sup>1</sup>	3	6	Birdsfoot trefoil	40	0	0
Liquid poultry manure (5 - 15% solids)	7-15 <sup>1</sup>	5-10	5-10	Lespedeza	20	0	0
Alfalfa sod	50-100 <sup>2</sup>	0	0	Soybeans			
Hairy vetch	50-100	0	0	Tops and roots	40	0	0
				Grain harvest residue	15	0	0

<sup>1</sup> Lower values for fall - and winter - applied manure and higher values for spring - applied manure. Use these figures only if manure being used has not been analyzed.

<sup>2</sup> 75% stand = 100 - 0 - 0, 50% stand = 75 - 0 - 0, and 25% stand = 50 - 0 - 0.

**Table 3A. NUTRIENT VALUES FOR VARIOUS PLANT, ANIMAL, AND NATURAL PRODUCTS**

Typical NPK Analysis					
Plant By-Products	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Release Time	
Alfalfa Meal or Pellets	2.0	1.0	2.0	1 to 4 months	
Corn Gluten Meal	9.0	0.0	0.0	1 to 4 months	
Cottonseed Meal	6.0	0.4 to 3.0	1.5	1 to 4 months	
Soybean Meal	7.0	1.2 to 2.0	1.5 to 7.0	1 to 4 months	
Kelp Powder	1.0	0.0	4.0	Immediate to 1 month	
Animal By-Products					
Bat Guano (high N)	10.0	3.0	1.0	4 plus months	
Bat Guano (high P)	3.0	10.0	1.0	4 plus months	
Blood Meal	12.0 to 14.0	2.0	1.0	1 to 4 months	
Bone Meal (raw)	3.0	22.0	0.0	1 to 4 months	
Bone Meal (steamed)	1.0 to 2.0	11.0 to 15.0	0.0	1 to 4 months	
Feather Meal	7.0 to 12.0	0.0	0.0	4 plus months	
Fish Emulsion	5.0	2.0	2.0	1 to 4 months	
Fish Powder	12.0	0.3	1.0	Immediate to 1 month	
Enzymatically Digested Hydrolyzed Liquid Fish	4.0	2.0	2.0	1 to 4 months	
Fish Meal	10.0	6.0	2.0	1 to 4 months	
Worm Castings	2.0	1.5	1.5	1 to 4 months	
Natural Minerals					
“Soft” Rock Phosphate	0.0	14 to 16	0.0	Very slow (years)	
Greensand	0.0	0.0	3.0	Very slow	

**TABLE 4. PERCENTAGE EQUIVALENTS AND CONVERSION FACTORS FOR MAJOR, SECONDARY, AND MICRONUTRIENT FERTILIZER SOURCES**

Fertilizer Source Material	Plant Food Contents,%	Lb of Material Required to Supply 1 Lb of the Initially Listed Plant Nutrient	Fertilizer Source Material	Plant Food Contents,%	Lb of Material Required to Supply 1 Lb of the Initially Listed Plant Nutrient
<b>Nitrogen Materials</b>			<b>Magnesium Materials</b>		
Monoammonium phosphate*	11 (N) and 48 (P <sub>2</sub> O <sub>5</sub> )	9.1	Epsom salts*	10 (Mg) and 13 (S)	9.6
Nitrate of potash*	13 (N) and 44 (K <sub>2</sub> O)	7.7	Sulfate of potash-magnesia*	11.1 (Mg) and 21.8 (K <sub>2</sub> O)	9.0
Nitrate of soda-potash*	15 (N) and 14 (K <sub>2</sub> O)	6.7	Kieserite*	18.1 (Mg)	5.5
Calcium nitrate*	15 (N) and 19 (Ca)	6.7	Brucite	39 (Mg)	2.6
Nitrate of soda	16 (N)	6.3	<b>Sulphur Materials</b>		
Diammonium phosphate*	18 (N) and 46 (P <sub>2</sub> O <sub>5</sub> )	5.6	Granulated sulfur	90 to 92 (S)	1.1
Nitrogen solution	20 (N)	5.0	Ammonium sulfate*	23 (S) and 20.5 (N)	4.3
Ammonium sulfate*	20.5 (N) and 23 (S)	4.9	Gypsum*	15-18 (S) and 19 to 23 (Ca)	6.1
Nitrogen solution	30 (N)	3.3	Epsom salts*	13 (S) and 10 (Mg)	7.7
Nitrogen solution	32 (N)	3.1	<b>Boron Materials</b>		
Ammonium nitrate	33.5 to 34.0 (N)	3.0	Fertilizer Borate Granular*	14.30 (B)	7.0
Nitrogen solution	40 (N)	2.5	Fertilizer Borate-48	14.91 (B)	6.7
Urea	45 to 46 (N)	2.2	Solubor	20.50 (B)	4.9
Anhydrous ammonia	82 (N)	1.2	Fertilizer Borate-68	21.13 (B)	4.7
<b>Phosphorus Materials</b>			<b>Manganese Materials</b>		
Normal superphosphate*	20 (P <sub>2</sub> O <sub>5</sub> ) and 11 (S)	5.0	Manganese sulfate*	24.0 (Mn)	4.2
Triple superphosphate*	44 to 46 (P <sub>2</sub> O <sub>5</sub> )	2.2	Manganese sulfate*	25.5 (Mn)	3.9
Monoammonium phosphate*	48 (P <sub>2</sub> O <sub>5</sub> ) and 11 (N)	2.1	Manganese sulfate*	29.1 (Mn)	3.4
Diammonium phosphate*	46 (P <sub>2</sub> O <sub>5</sub> ) and 18 (N)	2.2	Manganese oxide	48.0 (Mn)	2.1
<b>Potassium Materials</b>			Manganese oxide	55.0 (Mn)	1.8
Nitrate of soda-potash*	14 (K <sub>2</sub> O) and 13 (N)	7.1	<b>Zinc Materials</b>		
Sulfate of potash-magnesia*	21.8 (K <sub>2</sub> O) and 11.1 (Mg)	4.6	Zinc sulfate*	36 (Zn)	2.8
Nitrate of potash*	44 (K <sub>2</sub> O) and 13 (N)	2.3	Zinc oxide	73 (Zn)	1.4
Sulfate of potash*	50 (K <sub>2</sub> O) and 17 (S)	2.0	<b>Molybdenum Materials</b>		
Muriate of potash*	60 (K <sub>2</sub> O)	1.7	Sodium molybdate	39.5 (Mo)	2.5
			Sodium molybdate	46.6 (Mo)	2.1
			Ammonium molybdate*	56.5 (Mo)	1.8

\* Supplies more than one essential nutrient.

VARIETIES <sup>1</sup>	AL	GA	KY	LA	MS	NC	SC	TN
<b>TOMATOES (cont'd)</b>								
<b>Roma Types</b>								
Plum Regal <sup>2, 10, 11, 18, 19, 24</sup>	A		K	L		N	S	T
Pony Express <sup>9, 10, 11, 12, 14, 18, 20</sup>			K					T
<b>Greenhouse Types – Beefsteak</b>								
Big Dena <sup>10, 11, 13, 16, 18</sup>	A			L	M			
Beorange <sup>10, 11, 13, 18, 20, 22, 26a-e</sup>			K					
Geronimo <sup>11, 13, 16, 18, 26a-e, 27</sup>	A		K	L	M			T
Starbuck <sup>10, 13, 18, 20, 26a-e</sup>	A			L	M			
Torero <sup>11, 13, 16, 18, 26a-e, 27</sup>	A			L	M			
Trust <sup>11, 13, 16, 18, 26a-e</sup>	A	G	K		M	N	S	T

<sup>1</sup> Abbreviations for state where recommended.  
<sup>2</sup> Tomato Spotted Wilt Virus resistance (TSWV).  
<sup>3</sup> Heat set (heat tolerance).  
<sup>4</sup> Southern Bacterial Wilt resistance.  
<sup>5</sup> Local markets only.  
<sup>6</sup> Super sweet medium sized cherry, superior quality.  
<sup>7</sup> Determinant or short internode grape tomato.  
<sup>8</sup> Alternaria Stem Canker tolerance/resistance (ASC).  
<sup>9</sup> Bacterial Speck tolerance/resistance (BSK-0).  
<sup>10, 11, 12</sup> Fusarium Wilt race 1, 2 or 3 tolerance/resistance (F).  
<sup>13</sup> Fusarium Crown Root Rot tolerance/resistance (FCRR).  
<sup>14</sup> Nematode resistance (N).  
<sup>15</sup> Gray Leaf Spot resistance (St).  
<sup>16</sup> Tobacco Mosaic Virus resistance (TMV).  
<sup>17</sup> Yellow fruit.  
<sup>18</sup> Verticillium Wilt resistance (V).  
<sup>19</sup> Early Blight tolerance/resistance.  
<sup>20</sup> Tomato Mosaic Virus resistance (ToMV).  
<sup>21</sup> Tomato Yellow Leaf Curl Virus resistance (TYLCV).  
<sup>22</sup> Orange fruit.  
<sup>23</sup> Salad size (Campari type).  
<sup>24</sup> Late blight tolerance/resistance.  
<sup>25</sup> Suitable for high tunnel production.  
<sup>26a-e</sup> Tomato leaf mold race A,B,C,D,E tolerance/resistance.  
<sup>27</sup> Powdery mildew tolerance/resistance.

**Seed Treatment.** To minimize the occurrence of bacterial canker, bacterial spot, and bacterial speck, seed should be treated with chlorine. If seed is not treated with chlorine by the seed company, then dip seed in a solution containing 1 quart of household bleach and 4 quarts of water plus one-half teaspoon of surfactant for 1 minute. Provide constant agitation. Use 1 gallon of solution per pound of seed. Prepare a fresh solution for each batch of seed. Wash seed in running water for 5 minutes and dry seed thoroughly. The final rinse should be done with acidified water (1 oz. vinegar per gallon of water). Further information on seed treatments can be found in SEED TREATMENTS section starting on page 239.

### TOMATO PLANTING DATES

	Spring	Fall
AL North	4/15–6/15	7/1–8/1
AL South	3/1–4/30	7/15–8/15
GA North	4/15–6/15	7/1–8/1
GA South	3/1–4/30	7/15–8/30
KY East	5/15–6/1	NR
KY Central	5/5–6/15	NR
KY West	4/20–7/1	NR
LA North	3/15–6/30	7/1–8/10
LA South	3/1–6/30	7/15–8/15
MS North	4/20–6/30	NR
MS South	3/1–3/15	NR
NC East	4/15–5/10	8/1–8/15
NC West	5/15–7/15	NR
SC Coastal Island	3/1–4/30	7/1–7/15
SC East	3/15–4/30	7/1–7/15
SC West	5/1–6/30	NR
TN East	5/1–6/30	NR
TN West	4/20–6/20	NR

**Hardening Transplants.** It is usually desirable to harden tender tomato seedlings before planting them in the field. Recent research has shown that hardening tomato plants by exposure to cool temperatures (60° to 65°F/day and 50° to 60°F/night) for a week or more causes catfacing. Harden plants by withholding water. Allow plants to wilt slightly between light waterings. Do not harden transplants by withholding fertilizer.

**Drip Fertilization.** Before mulching, adjust soil pH to 6.5 and, in the absence of a soil test, apply enough fertilizer to supply 50 pounds per acre of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O, (some soils will require 100 pounds per acre of K<sub>2</sub>O) then thoroughly incorporate into the soil.

After mulching and installing the drip irrigation system, the soluble fertilizer program should be initiated according to that described in the following table. On soils testing low to low-medium boron, also include 0.5 pound per acre of actual boron.

The first soluble fertilizer application should be applied through the drip irrigation system within a week after field-transplanting the tomatoes. Continue fertigating until the last harvest.

### SUGGESTED FERTIGATION SCHEDULE FOR TOMATO\* (low soil potassium)

Days after planting	Daily nitrogen	Daily potash	Cumulative	
			Nitrogen	Potash
(lb / A)				
Preplant			50.0	125.0
0–14	0.5	0.5	57.0	132.0
15–28	0.7	1.4	66.8	151.6
29–42	1.0	2.0	80.8	179.6
43–56	1.5	3.0	101.8	221.5
57–77	2.2	4.4	148.0	313.9
78–98	2.5	5.0	200.5	418.9