



**TOMATO (T), EGGPLANT (E) and PEPPER (P) FUNGICIDES (Labeled & Rates/A) as of  
JULY 2014**

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Underlined are Registered for use in NYS and Includes **OMRI Listed products**; \* and † refer to **restrictions in NYS**; Group Nos. before Products are from the Fungicide Resistance Action Committee and EPA (Mode of Action), while Nos. after refer to Days To Harvest (DTH) ex. [FRAC No. 40 Product<sup>4DTH</sup>]; (*Warnings and Fungicide Resistance concerns are given in italics*) (**Important comments also in RED**); Because of EB resistance to Strobilurins in NYS, consider Quadris Opti, Quadris Top or Cabrio + Endura, or Tanos tank-mixed with protectant, but never use strobilurins alone for EB control.

Systemic fungicides are in **BOLD**. Major fungicide groups have been color coded to aid in finding and categorizing by MOA: *Phosphorous acids* = Blue; *Strobilurins* or **Group 11** = violet; *Chlorothalonils* = Black; *Coppers* = green; and *Sulfurs* = orange. Fungicide/nematicide usage for soil application or for Foliar/Greenhouse use has been highlighted as shown.

**Alphabetical Fungicide List**

- T, P <sup>Chili P1</sup> **Actigard**<sup>14</sup> 50WG (EPA 100-922) REI 12 hrs (*acibenzolar-S-methyl*, host plant defense induction) (Syngenta); T=Bac. Spot and speck 1/3 to 3/4 oz; Chili Pepper=Bac. Spot and Speck, 0.33-0.75 oz/A. (*Do not exceed rate [up to 6 applications] or yield reduction could occur.*) (Generally for field use, suggesting not applied before thinning or within 5 days of transplant). **14 DTH.**
- **T, E, P** <sup>33</sup> **Agri-Fos**<sup>0</sup> (EPA 71962-1) REI 4 hrs (*phosphorous acid*) (Liquid Fert.) T = LB, Phytoph RR, 1.5 qts/40 gal; E = Pythium, Phytophthora, 1.25 qts/40 gal; P = Phytophthora RR, 1.5 qts/25 gal. **0 DTH.**
- T, P <sup>25</sup> **Agri-mycin 17**<sup>0</sup>. **OMRI** (EPA 55146-96) REI 12 hrs (*Streptomycin sulfate*) (Nufarm); T, P = Bacterial spot (also for pepper), 200 ppm = 1/2 lbs./50 gallons water; begin application in 2-3 lvs stage, use prior to transplanting. Greenhouse use. **0 DTH.**
- T, P <sup>25</sup> **AG Streptomycin**<sup>0</sup> (EPA 66222-121) REI 12 hrs (*Streptomycin sulfate*) (MANA); see Agri-mycin 17 above. Greenhouse use. **0 DTH.**
- **T** <sup>33</sup> **Aliette**<sup>14</sup> WDG (EPA 264-516) REI 12 hrs (*fosetyl-Al*) (limit 20 lbs.) (Bayer); *Pythium damping off and Phytophthora root rot* 2.5-5 lbs. **14 DTH.**
- T, E, P <sup>M</sup> **Armicarb**<sup>0</sup> 100 and O Eco-Mate (EPA 5905-541) REI 4 hrs (*potassium bicarbonate*) (Helena); Primarily for PM 2.5-5 lbs./A (several species); also listed for Alt. Blk mold, EB, **Botrytis gray mold**, DM, Phoma fruit rot, and Septoria leaf spot. **0 DTH.** Approved for use in Gr. Hs.
- T, E, P <sup>M1</sup> **Badge**<sup>0</sup> SC (EPA 80289-3) REI 24 hrs (*copper oxychloride + copper hydroxide*, 20% metallic equiv. w/w) (Isagro). T Anth, Bac, EB, **Gray leaf mold**, LB, Septoria 1.8-3.7 pt/A; E Alter Blt, Anth, Phomopsis, 1.8 pts.; P Anth, Bac spot, Cercospora LS, 1.8-2.8 pt. **0 DTH.** (Greenhouse and shadehouse use for crops on label)
- T, E, P <sup>M1</sup> **BadgeX<sub>2</sub>**<sup>0</sup>. **OMRI** DF (EPA 80289-12) REI 48hrs. (*copper oxychloride + copper hydroxide*, 28% metallic equiv. w/w) (Isagro). multiple diseases, 0.5-1.25 lbs./A, limit to 5.25 lbs./A. **0 DTH** (Greenhouse and shadehouse use for crops on label; ie. for cucumber Ang LS and DM, 0.5-0.8 TBS/1000 sq ft.)
- T, E, P <sup>M1</sup> **Basic Copper**<sup>0</sup> 53 **OMRI** (EPA 45002-8) REI 24 hrs (*basic copper sulfate*, 53% metallic equiv.) (Albaugh); T Anth, Bac Spot and Speck, Canker, EB, LB, **Gray Leaf mold**, Septoria, 2-4



lbs./A; E Alter Blt, Anth, Phomopsis, DM, Leaf spots, 3-4 lbs.; P Anth, Bac spot, DM, 3-4 lbs. **0 DTH.**

- T, E, P <sup>M1</sup> Basic Copper Sulfate<sup>0</sup> (EPA 46923-9) REI 24 hrs (*basic copper sulfate*, 53% metallic equiv.) (Old Bridge). T Anth, Bac Spot and canker, EB, LB, **Leaf mold**, Septoria LS, Stemphylium LS, 2-4 lbs./A; E, Anth, DM, Phomopsis Blight, EB, 1 ¾ - 3 lbs./A; P Anth, Bac spot, EB?, DM?, 3-4 lbs./A. **0 DTH.**
- T, E, P <sup>M5</sup> Bravo Weather Stik<sup>0</sup> Tomato; <sup>3 E and P</sup> 6SC Complete label for most vegetables (EPA 50534-188-100) REI 12 hrs (*chlorothalonil*) (limit 20 pts. for T; limit 12 pts. for E & P) (Syngenta); Tomato Foliage EB, LB, **Gray leaf mold**, Septoria leaf spot, 1 3/8 to 2 pts./A; Tomato Fruit Set AN, Alt blk. mold, **Botrytis gray mold**, LB fruit rot, Rhizoc fruit rot, 2-2 3/4 pt/A. **0 DTH**; Eggplant and Pepper, Anth, Botrytis leaf mold, PM (*Leveillula*), 1 ½ pts./A. 3 DTH. (**Do not use of greenhouse-grown crops**).
- T<sup>0</sup>, E<sup>3</sup>, P<sup>3</sup> <sup>M5</sup> Bravo Ultrex 82.5 WDG<sup>0 or 3</sup> Complete label for most vegetables (EPA 50534-201-100) REI 12 hrs (*chlorothalonil*) (limit 18.3 lbs. for T; limit 10.9 lbs. for E & P); **Also T<sup>M5</sup> Bravo Zn<sup>0</sup> (limit of 28.5 pts.) (EPA 50534-204-100)** (Syngenta); Foliage EB, LB, Septoria leaf spot 1.3-1.8 lbs.; Fruit Set AN, Alt blk. mold, **Botrytis gray mold**, LB fruit rot, Rhizoc fruit rot, 1.8-2.75 lbs./A. **0 DTH. (Do not use of greenhouse-grown crops).**
- T, E, P <sup>11</sup> Cabrio<sup>0</sup> EG 20% (EPA 7969-187) REI 12 hrs (**No aerial application in NYS**) (*pyraclostrobin*) (limit 96 oz.) (BASF); T = AN, Alt Blk mold, **EB**, Septoria leaf spot 8-12 oz; LB, PM (*Leveillula*), Gray mold suppression only, 8-16 oz; E & P = AN, 8-12 oz; P = PM and Botrytis (suppression) 8-16 oz. (TEP on supplemental label for Suppression only Gray mold, Rhiz stem rot, Sclerotinia stem rot and Sou. Blight, 12-16 oz) (**Do not make more than 2 sequential applications in tomato (1 for eggplant and pepper) before alternate with Diff. MOA**); (**Not for greenhouse use or in transplant production**). **0 DTH.**
- T, E, P <sup>M1</sup> Camelot O<sup>0</sup>, **OMRI** (EPA 67702-2-67690) REI 4 hrs. (*copper octanoate*, 10%) (SePRO); Bac speck, spot, Anth, EB, **Gray mold**, **Leaf mold**, Septoria LS, LB, 2.0 gal/50-100 gal/A. 0 DTH.
- T <sup>M5 + 33</sup> Catamaran<sup>0</sup> (EPA 42519-31) REI 12h (*chlorothalonil*, 16.7% + **potassium phosphite, 38.9%**) (limit of 50 pts.) (Luxembourg-Pamol); Tomato foliage, EB, S., **Gray leaf mold**, **Gray leaf spot**, Target spot (south) 5-7 pt/A; Tomato fruit, Anth, Altern rot, Botrytis, LBS. rot, Rhizoctonia rot, 7 pt/A. **0 DTH.**
- T, E, P <sup>Bio. (44)</sup> Cease<sup>0</sup>, **OMRI** (EPA 69592-19-68539). REI 4hrs (*Bacillus subtilis* str. 713) (AgraQuest/BioWorks); Gr. Hs. Crop use per label for multiple diseases. **0 DTH.**
- T, E, P <sup>M1</sup> Champ<sup>0</sup> Flowable 2F (EPA 55146-64) REI 48hrs, <sup>M1</sup> Champ Dry Prill<sup>0</sup> (EPA 55146-57), <sup>M1</sup> Champ WG<sup>0</sup>, **OMRI** (EPA 55146-1) REI 48 hrs (*copper hydroxide*) (Nufarm); T = EB, LBS., 1 1/3-2 pt; Bac. Speck 1 1/3 pts.; Bac. Spot, AN Septoria leaf spot 1 1/3 – 2 2/3 pt; E = Alt, AN, Phomopsis 1 1/3 pts.; P = Bacterial spot, 1 1/3 to 2 pts. **0 DTH. Use on greenhouse crops as listed. See Ag Use Requirements.**
- T <sup>M5</sup> Chlorothalonil 720 SC<sup>0</sup> (EPA 66330-362) REI 12 hrs. with PPE. (54% chlorothalonil) (limit of 20 pts.) (Arysta); Foliage: EB, LBS., **Gray Leaf Mold**, Sept. LS 1 3/8 - 2 pt. Fruit: Anth, Alt Blk Mold, **Botrytis GM**, LB, Rhiz soil rot, 2-2 ¾ pt. **0 DTH.**
- T, E, P <sup>M1</sup> C-O-C-S<sup>0</sup> WDG (EPA 34704-326) REI 48hrs. Field, 24 hrs Gr Hs. (74.8% *copper oxychloride* + 14.2% *basic copper sulfate*, 50% metallic equiv.) (Loveland). T = EB, EB, Septoria LS, 2-4 lbs., Bacteria spot 2-6 lbs./A; E and P = DM, Alternaria, Phytophthora blight, Anth, 2-4 lbs./A. **0 DTH.**



- T, E, P<sup>Bio</sup> Contans<sup>0</sup>, OMRI WG (EPA 72444-1) REI 4 hrs (*Coniothyrium minitans*) (Sylvan Bioproducts/Prophyta); WM in agricultural and greenhouse soils, 1-4 lbs./A or 0.75-1.5 oz per 1000 sq ft. **0 DTH.**
- T, E, P<sup>M1</sup> Cueva<sup>0</sup>, OMRI (EPA 67702-2-70051) REI 4 hr. (10% *copper octanoate*) (Certis); Anth, Bac speck spot, EB, Gray mold, LB, Leaf mold, Septoria, 2 gal/50-100 gal./A. **0 DTH.**
- T, E, P<sup>M1</sup> Cuprofix Ultra 40 Dispers<sup>0</sup> (EPA 70506-201) REI 48 hrs (71.1% *basic copper sulfate*) (UPI) T = AN, Bac speck and spot, EB, LB, Septoria 1.25-3 lbs.; E = Alt, AN, Phomopsis, 1.25 lbs.; P = Bac. Spot, AN, 1.25-3 lbs. (label allows greenhouse [hoop] and field application). **0 DTH**
- T<sup>27</sup> Curzate<sup>3 or longer</sup> 60DF (EPA 352-592) REI 12 hrs (*cymoxanil* + protectant) (no more than 30 oz/season) (DuPont); LB, 3.2-5 oz. 3-5 DTH depending on protectant used. (Not for U-pick operations, or for use in greenhouses for transplant production). **3 DTH.**
- T, E, P<sup>17</sup> Decree<sup>0</sup> 50WDG (EPA 66330-35-67690) REI 12 hrs (*fenhexamid*) (limit 6 lbs.) (Arysta/Sepro); Botrytis Gray mold on transplants and greenhouse tomatoes, eggplant, Bell pepper production only; stand-alone (1.5 lbs./A) or tank mixed with product approved for gray mold (1-1.5lbs./A); (For greenhouse crops or transplants; Do not apply in the field; do not make more than 2 consecutive sprays). **0 DTH.**
- \* T<sup>5</sup> P<sup>7</sup> M<sup>3</sup> Dithane DF Rainshield (EPA 62719-402) REI 24 hrs (75% *mancozeb*) (limit 22.4 lbs.) (Dow) (Also T<sup>5</sup>, P<sup>7</sup> Dithane M-45, EPA 62719-387; T<sup>5</sup>, P<sup>7</sup> Dithane F-45, EPA 62719-396); use 0.75-1.5 lbs. for AN, EB, LB, Leaf mold, Septoria leaf spot; use 1 ½ to 3 lbs. for Bac. Speck and spot. **5 DTH.**
- T<sup>0</sup> E<sup>3</sup> P<sup>3</sup> M<sup>5</sup> Echo 720 Note: Complete label for most vegetables (EPA 60063-7) REI 12 hrs (54 % *chlorothalonil*) (limit of 20 pts.) (Sipcam); Foliage EB, LB, Septoria L S 1.25-1.82 lbs.; Fruit 1.82-2.75 lbs.. **0 DTH.** (Do not use of GH-grown crops). (Also T<sup>0</sup> Echo 90DF (EPA 60063-10) (limit 15.1 lbs. ai))
- T, E, P<sup>7</sup> Endura<sup>0</sup> 70WDG (EPA 7969-197) REI 12 hrs (*boscalid*) (limit of 6 applic. at low rate or 21 oz/season) (BASF); T = EB, 2.5-3.5 oz; Botrytis gray mold, 9-12.5 oz; E, P = EB, 2.5-3.5 oz. (Do not make more than 2 sequential applications before switching to a diff. MOA fungicide. **0 DTH.**
- T<sup>M5</sup> Equus<sup>0</sup> 500 ZN (EPA 66222-150) REI 12 hrs (*chlorothalonil* 38.5%) (limit of 28.5 pts.)
- T<sup>0</sup> E<sup>3</sup>, P<sup>3</sup> M<sup>5</sup> Equus<sup>0</sup> 720 SST<sup>0</sup> (EPA 66222-154) Note: Complete label for most vegetables REI 12 hrs (*chlorothalonil* 54%) (limit of 20 pts.) (MANA) Foliage EB, LB, Gray leaf mold, Septoria leaf spot, 1.35-2 pts/A; Fruit AN, Alt. Blk. Mold, Botrytis gray mold, LB fruit rot, Rhizoc. Fruit rot, 2.0-2.88 pts/A. **0 DTH.** (Do not use of GH-grown crops).
- T<sup>0</sup> E<sup>3</sup> P<sup>3</sup> M<sup>5</sup> Equus DF<sup>0</sup> Note: Complete label for most vegetables (EPA 66222-149) REI 12 hrs (*chlorothalonil* 82.5%) (limit of 18.3 lbs.) (MANA) Foliage EB, LB, Gray leaf mold, Septoria leaf spot, 1.3-1.8 lbs./A; Fruit AN, Alt. Blk. Mold, Botrytis gray mold, LB fruit rot, Rhizoc. Fruit rot, 1.8-2.6 lbs./A. **0 DTH.** (Do not use of GH-grown crops).
- T, E, P<sup>11</sup> Evito<sup>3</sup> 480 SC (EPA 62171-MS-001) NOT YET REGISTERED in NYS. REI 12 hrs. (*fluoxastrobin*, Group 11) (Arysta). Primarily for EB (3.8-5.7 fl oz/A) and suppression of LB (5.7 fl oz/A). (Alternate every application of Group 11 fungicide with at least 1 application of an effective fungicide with a different MOA; experience shows that Group 11 fungicide should be tank mixed with a good protectant like chlorothalonil to deal with fungicide resistance issues) (limit to 22.8 fl oz per season). **3 DTH.**
- T, P<sup>25</sup> Firewall<sup>0</sup> (EPA 80990-4) REI 12 hrs (*Streptomycin sulfate*) (AgroSource) T, P = Bacterial spot, 200 ppm, apply until transplant. Greenhouse use. **0 DTH.**
- T, E, P<sup>11</sup> Flint<sup>3</sup> 50WG (EPA 264-777) REI 12 hrs (*trifloxystrobin*) No aerial application in NY; (Bayer); T = EB, 2-3 oz; LB 4oz with a protectant; AN, Septoria leaf spot, PM (*Oidiopsis*) suppression 3-4 oz; E = EB (2-3 oz), AN, (3-4 oz suppression) P = PM (*Oidiopsis*) 1.5-2 oz, AN, 3-4



oz. (Do not make more than 3 sequential applications before switching to a diff. MOA fungicide; limit of 16 oz/season; Not for greenhouse use). **3 DTH.**

- T, E, P <sup>7</sup>Fontelis<sup>0</sup> (EPA 352-834) REI 12hrs (*penhiopyrad*) (limit of 72 fl oz/A) (DuPont); Not registered in NYS. 10 to 24 fl oz for EB, Gray mold, **PM** (*Leveillula*), Sept LS, Target spot, Suppr.. of Anth.. For use on Gr Hs. grown pepper and tomatoes; (no more than 2 sequential applications before switching to a different MOA). **0 DTH.**
- **T, E, P <sup>40</sup>Forum** <sup>T4,E,P 0 or longer by protectant</sup> **4.18 SC** (EPA 241-427) REI 12 hrs (**43.1% dimethomorph**) (Do not exceed 30 oz/A/season for all) (BASF);(Do not make more than 2 sequential applications before alternating with another material for specific control of LB for at least one application; (should be combined with mancozeb (Group M3) or Copper (M1) for E, P tank mix for *Phytophthora* blight suppression only, 6 oz/A; T Staked or nonstaked tomatoes, late blight, 6 oz/A. **0 DTH** for E and P, but depends on mixing partner; T **4 DTH**, but depends if also using a mixing partner.
- \* **T, E, P <sup>33</sup>Fosphite<sup>0</sup>** (EPA 68573-2) REI 4 hrs; (\***Restricted applicator use**); (**53% mono- and dipotassium salts of Phosphorous Acid**) (JH Biotech); T = Late Blight, 3-5 qts/min. 20 gal/A, Do not use at intervals of less than 3 days; Do not apply Fosphite foliarly to plants treated with copper at less than 20 day interval. **0 DTH.**
- <sup>NC</sup> **Fracture<sup>0</sup>** (EPA 84876-1-279) REI 4 hrs (20% BLAD amino acid seq. of β-conglutin) (FMC); T *Botrytis* gray mold and **Powdery mildew** (*Oidium* spp.), 24.4 or 36.6 fl oz/A; limit to 5 foliar applications per season; Allow 2-4 hrs for product to dry; not more than 2 sequential applications before switching to a fungicide with a different MOA. **0 DTH.**
- **T, E, P <sup>33</sup>Fungi-Phite<sup>0</sup>** (EPA 83472-1) REI 4 hrs (**45.5% mono- and di-potassium salts of phosphorous acid**) (Plant Protection); *Phytophthora* and *Pythium* also suppression of bacterial diseases, 1-2 qts/min of 30 gal water. **0 DTH.**
- \* **T <sup>22+M3</sup>Gavel<sup>5</sup>** 75DF (EPA 10163-6414) REI 48 hrs (*zoxamide* 8.3% and *mancozeb* 66.7%) (limit of 8 applic. or 16 lbs./season) (Gowan); Buckeye rot, EB, LB, **leaf mold**, Septoria leaf spot, 1.5-2 lbs.; Bac. Speck and spot use full rate of copper in tank mix with full rate of Gavel. **5 DTH.**
- **T, E, P <sup>33</sup>Helena ProPhyt<sup>0</sup>** (EPA 42519-22-AA-5905) REI 4 hrs (*potassium phosphite*) (Helena); T = LB, 4 pts. plus protectants (5 DTH) like mancozeb. **0/5 DTH**; E, P = Phytoph. Blt. 6 pts.
- **T<sup>0</sup>M<sup>5</sup>Initiate 720F<sup>0</sup>** (EPA 34704-881) REI 12 hrs, (*chlorothalonil*, 90%) (limit of 20 pts.) (Loveland); EB, LB, **Leaf mold**, Septoria, Anthracnose, Alternaria fruit rot, **Botrytis gray mold**, Rhiz. Fruit rot, 1-1/8-2 1/2 lbs. **0 DTH.** Also **T<sup>0</sup>M<sup>5</sup>Initiate Zn<sup>0</sup>** (EPA 34704-1050) see above.
- **T<sup>3+9</sup>Inspire Super<sup>0</sup>** (EPA 100-1317) REI 12 hrs, (*difenoconazole + cyprodinil*) (limit to 47 fl oz/season) (Syngenta); 16-20 fl oz for EB, Blk mold, Gray leaf spot, **Gray mold**, PM, Septoria L S, Target Spot, Anthracnose, **Leaf mold** (*Fulvia*); (No more than 2 consecutive sprays before rotating to a different MOA; adding an adjuvant may help efficacy; do not use on cherry (less than 2 in. tomatoes). **0 DTH**
- T, E, P <sup>Oil</sup>**JMS Stylet-Oil<sup>0</sup>**, **OMRI** (EPA 65564-1) REI 4 hr, (*paraffinic oil*, Not classified) (JMS Flower Farms); Alternaria blight, PM, mites, whiteflies, 3-6 qts/A. **0 DTH** (may be used in GH; see label for compatibility information)
- T, E, P <sup>M</sup>**Kaligreen<sup>1</sup>**, **OMRI** (EPA 11581-2) REI 4 hrs (*potassium bicarbonate*) (Otsuka); PM 2 1/2-3 lbs./A (approved for GH use). **1 DTH.**
- T, E, P <sup>M1</sup>**Kentan<sup>0</sup>** DF (EPA 80289-2) REI 48 hrs., (*copper hydroxide* 61.3% = 40% metallic cu) (Isagro); T = Anth, Bac Speck, Spot, EB, LB, Septoria l. s, 2-4 lab/A; E = Alt Blt, Anth, Phomopsis, 2 lbs./A; P = Anth, Bac Spot, 2-3 lbs./A. **0 DTH.** May be used for greenhouse crops on label.



**2014 Tomato, Eggplant, Pepper Fungicides NYS**

- T, E, P <sup>M1</sup>Kocide<sup>0</sup> 3000 (EPA 352-662) REI 48 hrs (*copper hydroxide* 46.1% = 30% metallic copper equivalent) (DuPont); T = AN, Bac speck and spot, EB, **Gray leaf mold**, LB, Septoria leaf spot, 0.75-1.75 lbs.; E = Alt Blt, AN, Phomopsis, 0.75 lbs.; P = An, Bac. Spot, 0.75-1.25 lbs. **0 DTH.** **May be used for greenhouse crops on label**; for example, ALL tomato diseases listed, 1 level TBS per 1000 sq. ft. is equivalent to 1 lbs./A, so use 1 1/2 -3 TBS per 1000 sq. ft.). See also Kocide 101, Kocide 2000 (EPA 352-656), Kocide 4.5LF (EPA 352-684), Kocide DF (EPA 352-688) for use on TEP.
- \* **T, E, P <sup>33</sup>Kphite 7LP<sup>0</sup> (EPA 73806-1) REI 4 hrs. (\***Restricted applicator use**); (53% Mono & di-potassium salts of *phosphorous acid*) (Plant Food Systems); Phytophthora and Pythium, also bacterial diseases, 1-3 qts. in 20 gal water. **0 DTH.****
- T, E, P <sup>M2</sup>Kumulus<sup>0</sup>, **OMRI** DF (EPA 51036-352) REI 24 hrs. (80% sulfur) (Microflo). T Russet mite 3-20 lbs.; E PM 2-5 lbs.; P PM, Red spider mite 3-10 lbs. **0 DTH.**
- T <sup>7+9</sup>Luna Tranquility (EPA 264-1085) REI 12 hrs. (*fluopyram + pyrimethanil*) Not yet registered.
- T, E, P <sup>Oil</sup>M-Pede<sup>0</sup>, **OMRI** (EPA 53219-6) REI 12 hrs (*potassium salts of fatty acids*) (Dow); Insects and PM, **Greenhouse and field**; **0 DTH.**
- T <sup>M3+M1</sup>ManKocide<sup>5</sup> (EPA 352-690) REI 48 hrs (*mancozeb* 15% + *copper hydroxide* 30% equivalent) (DuPont) T, Anth, EB, LB, **leaf mold**, Septoria leaf spot, Bac. Speck and spot, 2.5-5 lbs. **5 DTH.**
- T <sup>5</sup>, P <sup>7</sup> <sup>M3</sup>Manzate<sup>5</sup> Pro-Stick Disp. Granules (EPA 70506-234) REI 24 hrs (*mancozeb*) (limit 22.4 lbs.) (UPI); An, EG, LB, **Leaf mold**, Septoria L S, 0.75-1.5 lbs./A; **Bac. Speck and spot**, 1.5-3 lbs./A (**Use full rate of fixed copper with a half to full rate of Manzate**). **5 DTH.** **Also T <sup>5</sup> <sup>M3</sup> Manzate Flowable (EPA 70506-236)**
- T, E, P <sup>M1</sup>Mastercop<sup>0</sup> (EPA 55272-18-66222) REI 48 hrs. (*copper sulfate pentahydrate*) (limit 40 pts. T, 9 pts. E, 30 pts. P) (MANA); T for Anth, Bac. Speck, spot, EB, **Leaf mold**, LB, Septoria @ 0.5-3.0 pts.; E for Altern, Anth, Phomopsis @ 0.5-1.5 pts.; P for Anth, Bac. LS, Cercospora @ 0.5-3.0 pts. **0 DTH.**
- T, E, P <sup>M2</sup>Microfine Sulfur<sup>0</sup> (EPA 6325-13-34704) REI 24 hrs (90% *sulfur*) (Loveland); see label for rates. **0 DTH.**
- T, E, P <sup>M2</sup>Micro Sulf<sup>0</sup>, **OMRI** (EPA 55146-75) REI 24 hrs (*Sulfur*) (Nufarm) T PM and mites, 5-10lbs.; E PM, 4-6 lbs.; P PM, mites 3-10 lbs. **0 DTH.**
- T, P <sup>M2</sup>Microthiol Disperss<sup>0</sup>, **OMRI** (EPA 70506-187) REI 24 hrs (80% *sulfur*) (UPI); T, P PM also mite control, 5-10 lbs. **0 DTH.**
- T, E, P <sup>M</sup>MilStop<sup>0</sup>, **OMRI** (EPA 70870-1-68539) REI 1 hrs (*potassium bicarbonate*) (BioWorks); PM primarily, 2.5-5 lbs./A; (**approved for GH use**). **0 DTH.**
- T, E, P <sup>Bio</sup>Mycostop<sup>0</sup>, **OMRI** (EPA 64137-5) REI 4 hrs (*Streptomyces griseoviridis*, biological Group) (Verdera Oy) **Product may be used in a variety of application methods per label**; for a variety of root pathogens. **0 DTH.**
- T, E, P <sup>M1</sup>Nordox 75WB<sup>0</sup>, **OMRI** (EPA 48142-4) REI 12 hrs. (83.9% *cuprous oxide*) (Nordox AS); assorted diseases on label. **0 DTH.**
- T, E, P <sup>M1</sup>Nu-Cop<sup>0</sup> 50WP **OMRI** (EPA 45002-7) REI 24 hrs (77 % *cupric hydroxide*, equiv. 50%) (Albaugh). T EB, LB, Bac. speck and spot, Anth, Septoria varies 2-4 lbs./A; E Alter Blt, Anth, Phomopsis, 2 lbs.; P Bac. spot, 2-3 lbs. (**Approved for greenhouse and shadehouse crops on label**). **0 DTH.** See also Nu-Cop 3L (EPA 42750-75) and Nu-Cop HB (EPA 42750-132) for use on TEP.
- T, E, P <sup>33</sup>Nutrol (EPA 70644-1) REI 4hrs. (*potassium dihydrogen phosphate*) (LidoChem). T,P for PM, 8-16lbs./A; TEP for LB, **Leaf mold**, Root rot, Do, Fusarium wilt, **Gray mold** (generic listing);



Nutrol acts as a buffer resulting in an acidic spray soln.; **do not combine with copper fungicides or any spray material that warns against low pH applications (< 5.5).** 0 DTH.

- T, P<sup>M</sup> Oxidate<sup>0</sup>, OMRI (EPA 70299-2) REI 1 hr (*hydrogen peroxide*) (BioSafe Systems); For **Greenhouse use** see label. **0 DTH.** **Also:** Oxidate 2.0 (EPA 70299-12).
- T<sup>5</sup> M<sup>3</sup> Penncozeb 75DF<sup>5</sup> (EPA 70506-185) REI 24 hrs (*mancozeb*) (limit 16.8 lbs.) (UPI); AN, EB, **Gray leaf mold**, LB, Septoria L. S., 0.75-3 lbs./A; Bac Spot and speck, Use full rate copper + ½ rate of mancozeb. **5 DTH.** **Also** T<sup>5</sup> M<sup>3</sup> Penncozeb 80WP (EPA 70506-183)
- T, P<sup>33</sup> Phostrol<sup>0</sup> (EPA 55146-83) REI 4 hrs (**Na, K, NH<sub>4</sub> phosphorous acid**) (Nufarm); T = Phytophthora Root Rot, 2.5-5 pts. in min. of 10 gal of water or at higher rate if disease pressure is high; P = Phytophthora, Pythium, 1-2 qts. to foliage. **0 DTH.**
- T, E, P<sup>Bio</sup> PlantShield<sup>0</sup>, OMRI (EPA 68539-4) REI none listed (*Trichoderma harzianum*) (BioWorks);  
\* T, E, P<sup>43</sup> Presidio 4F<sup>2</sup> or longer (EPA 59639-140) REI 12 hrs (*fluopicolide*) (no more than 4 applications [12 fl oz] per season) (Valent). Use for the control of selective oomycetes. LB, Phytophthora blight (*P. capsici*), 3-4 fl oz/A. (**must be tank mixed with another fungicide with a different MOA; no more than 2 sequential applications before alternating to another effective fungicide.** **2 DTH or longer** depending on mixing partner.
- T, E, P Prev-Am Ultra (EPA 72662-3) REI 12 hrs (sodium tetraborohydrate decahydrate, *borax*) (Citrus Oil); LB, PM, 50 fl oz/100 gal. water (also insects). **0 DTH.**
- \* T, P<sup>28</sup> Previcur Flex<sup>5</sup> (EPA 264-678) REI 12 hrs (**propamocarb plus protectant**) (limit of 7.5 pts./season) (Bayer); T = LB, EB, 0.7-1.5 pts. plus protectant, Pythium root rot, 1.5 pt. (**5 DTH**); P = Pythium root rot, 1.2 pt. (**5 DTH**). T, P **Greenhouse use** before and after transplanting for *Pythium* and *Phytophthora* spp. responsible for root rot and damping off only, see label for specifics.
- T, E, P<sup>7+11</sup> Priaxor<sup>7</sup> (EPA 7969-311) REI 12 hrs (*fluxapyroxad + pyraclostrobin*) (limit 24 fl oz) (BASF); Anth, EB, Black Mold, Septoria LS, Target spot, 4-8 fl oz; PM, 6-8 fl oz; **Suppression only for Gray mold**, Rhiz stem rot, White mold, Sou. Blt, 4-8 fl oz; Suppression of LB, 8 fl oz. (**Do not make more than 2 consecutive applications before alternating to a fungicide with a different MOA.**) **7 DTH.**
- T, E, P<sup>33</sup> ProPhyt<sup>0</sup> see Helena ProPhyt.
- T, E, P<sup>11</sup> Quadris<sup>0</sup> F (EPA 100-1098) REI 4 hrs (*azoxystrobin*) (tomato [37 fl oz]; E and P [61.5 fl oz] (Syngenta); Foliar T = AN, Blk Mold, Buckeye rot, \*EB\*, Septoria leaf spot, **PM**, 5.0-6.2 fl oz; LB, 6.2 fl oz; P and E (limit of 61.5 fl oz/Season) = PM (Oidiopsis?) AN, 6.0-15.5 fl oz; Rhizoctonia seedling rot, 0.40-0.80 fl oz/1000 row ft. (**Do not apply near apple trees; do not use alone for tomato due to EB resistance**); (**Do not make more than 1 application before switching to a fungicide with a diff. MOA.**) (**No Greenhouse use on food crop.**) **0 DTH.**
- T<sup>11+M5</sup> Quadris Opti<sup>0</sup> F (EPA 100-1171) REI 12 hrs (*azoxystrobin + chlorothalonil*) [limit of 15.0 lbs. a.i. of chlorothalonil and 0.5 lbs. a.i.] (Syngenta); T = AN, Blk. Mold, Buckeye Rot, EB<sup>ok</sup>, PM, Septoria leaf spot, LB, 1.6 pt. (**Do not apply near apple trees**); (**Do not make more than 1 application before switching to a fungicide with a diff. MOA**); Delay application until 21 days after tsp.. or 35 days after seeding). (**No Greenhouse use on food crops.**) **0 DTH.**
- T, E, P<sup>11+3</sup> Quadris Top<sup>0</sup> (EPA 100-1313) REI 12 hrs. (*azoxystrobin + difenoconazole*) (limit of 47 fl oz/season on tomato; limit of 55.3 fl oz on E & P) (Syngenta); T EB, Blk mold, PM, Septoria LS, Target spot, Anth, Leaf mold, 8.0 fl oz/A, **0 DTH**; E & P Anth, Cercospora ls, Gray ls, PM, 8.0-14.0 fl oz/A. **0 DTH.** (**Make no more than 2 applications before switching to another effective fungicide; Do not apply near apple trees**)
- P<sup>13</sup> Quintec<sup>3</sup> (EPA 62719-375) REI 12 hrs (*quinoxifen*) (limit of 24 fl oz) (Dow); **PEPPER only** for control of Powdery mildew (*Leveillula taurica*) in all pepper types, 4-6 fl oz/A. **3 DTH.**



**2014 Tomato, Eggplant, Pepper Fungicides NYS**

- **T, E, P<sup>3</sup> Rally<sup>0</sup> 40WSPackets<sup>0</sup> (EPA 62719-410) REI 24hrs (*myclobutanol*)** (limit to 1.25 lbs., applies to all 3) (Dow); for control of PM (*Leveillula*) 2.5-4 oz/A for **T**; 2.5-5 oz **E** and **P**; (due to fungicide resistance concerns make sure of alternate with fungicides effective for PM and/or tank mix Rally with a protectant fungicide, at full label rate). **0 DTH.**
- **T, E, P<sup>33</sup> Rampart<sup>0</sup> (EPA 34704-924) REI 4 hrs (Mono- and dipotassium salts of phosphorous acid)** (Loveland); Generic label for Phytophthora blight, Downy mildew and late blight, 1-4 quarts in a minimum of 20 gal water/A; do not apply at intervals less than 3 days. **0 DTH.**
- **T, E, P<sup>21</sup> Ranman 400 SC<sup>0</sup> or longer** (EPA 71512-3) REI 12 hrs (*cyazofamid*) (limit to 16.5 fl oz) (ISK, FMC); **T** LB, 2.1-2.75 fl oz.; **E & P** Phytophthora blight 2.75 fl oz. **Gr. Hs. tomato** for Pythium, 3 fl oz as single treatment before transplanting. (Alternate Ranman with a fungicide with a different MOA; Tank mix Ranman with an organosilicone surfactant when water volumes are up to 60 gal/A). **0 DTH or longer.**
- **\* † T, E, P<sup>11</sup> Reason<sup>14</sup> 500SC** (EPA 264-695) REI 12 hrs (*fenamidone*) (limit of 24.6 fl oz) (Bayer); **T = EB<sup>ok if tank-mixed</sup>**, LB, (Septoria leaf spot suppression only), 5.5-8.2 fl oz. (**E & P** Phytophthora foliar and fruit suppression only), 8.2 fl oz/A. (Do not make more than **1** application of product before switching to a fungicide with a diff. MOA). (2(ee) for NYS **Tomato** for EB/LB control, **drops labeled rate to 4.0 fl oz** when tank-mixed with the minimum labeled amount for any labeled chlorothalonil or mancozeb product). **14 DTH.**
- **T, E, P<sup>SAR</sup> Regalia EC<sup>0</sup>, OMRI** (EPA 84059-3) REI 4h, (*Reynoutria sachalinensis* extract, biological SAR) (Marrone); Multiple diseases, 2-4 qts/50-100gal or 1-4 qts/A when mixed with another registered fungicide. **May be used in greenhouses.** **0 DTH.**
- **\*T, E, P<sup>33</sup> Resist 57<sup>0</sup> (EPA 82940-1) REI 4 h. (mono- and dipotassium salts of phosphorous acid)** (Actagro); **Foliar** Generic label for late blight, 1-3 quarts in a minimum of 20 gal water/A. **0 DTH.**
- **E, P<sup>40</sup> Revus<sup>1</sup> 2.08SC** (EPA 100-1254). REI 4 hrs (*mandipropamid*) (limit to 32 fl oz) (Syngenta). Full label primarily intended in pepper for DM (8 fl oz /A) and for suppression of Phytophthora blight for “E” (*P. capsici*) (8 fl oz/A). (for DM control, make no more than **2** consecutive applications before switching to a product with a different MOA; for suppression of Phyto Blight, tank mix Revus with copper and then alternate with a different MOA fungicide). **1 DTH.**
- **T<sup>40+3</sup> Revus Top<sup>1</sup>** (EPA 100-1278). REI 12 hrs (21.9 % *mandipropamid* and 21.9 % *difenoconazole*) (limit 28 fl oz) (Syngenta). For field use only and **not for tomato transplant production.** Anth, Blk mold (*A. a.*), Early blight, Late blight, leaf mold, PM (*Leveillula taurica*), Septoria LS, 5.5-7 fl oz/A. (Apply no more than **2** consecutive sprays before switching to another effective fungicide; Addition of a non-ionic surfactant is recommended; do not use on varieties which when mature are less than 2 inches, ie. Cherry tomatoes. **1 DTH.**
- **T, E, P<sup>4</sup> Ridomil Gold<sup>0</sup> soil; <sup>7</sup> foliar SL** (EPA 100-1202) REI 48 hrs (*mefenoxam*) (Syngenta); see also **<sup>4</sup>Ultra Flourish<sup>0</sup> soil; <sup>7</sup> foliar** (NuFarm); **T = Soil applications** for Pythium damping off, 1 pt. **0 DTH**; Phytophthora root and fruit rot, 1 pts. directed under the vines. (Does not control foliar phase; do not apply more than 3 pts. per season; do not use as a water transplant treatment, and do not use in greenhouse or on field-grown vegetable bedding plants). **7 DTH**; **P** and **E** = 1 pts. per surface treated acre. **7 DTH.** Crown rot phase 1 pt. **7 DTH.** See also **Twist** (EPA 100-1145) (25.1% *mefenoxam*).
- **T<sup>4+M5</sup> Ridomil Gold Bravo<sup>5</sup> SC** (EPA 100-1221) REI 48 hrs (*mefenoxam* + *chlorothalonil*) (limit of 11.25 lbs. a.i. of chlorothalonil/season) (Syngenta); **T = LB (US22<sup>T&p</sup>, US23<sup>T&P</sup>, US24<sup>Ponly</sup>)** and Fruit rot caused by Phytophthora spp., 2.5 pts., EB, leaf mold, Septoria leaf spot, 2.5 pts., Anth, Alternaria Black Fruit rot, Rhizoctonia fruit rot, **Botrytis gray mold**, 2.5-3.25 pts., if severe, use hi rate and add additional chlorothalonil. **5 DTH.**



**2014 Tomato, Eggplant, Pepper Fungicides NYS**

- **T, P<sup>4+M1</sup> Ridomil Gold Copper**<sup>T=14; P=7</sup> (EPA 100-804) REI 48 hrs. (see LB comments above)
- **T<sup>4+M3</sup> Ridomil Gold MZ<sup>5</sup> WG** (EPA 100-1269) REI 48 hrs. (see LB comments above)
- T, E, P<sup>Bio</sup> **RootShield Granules**<sup>0, OMRI</sup> (EPA 68539-3); **Also RootShield WP**<sup>0, OMRI</sup> (EPA 68539-7), 0 REI (*Trichoderma harzianum*) (BioWorks); **In-furrow** 5-12 lbs./A; **Gr. Hs. Planting mix** 1-1.5 lbs./cubic yd. soil mix; **Hydroponic tomatoes, Gr. Hs. Planting mix** 1-1.5 lbs./cubic yd. soil mix. **0 DTH.**
- TEP<sup>Bio</sup> **RootShield Plus Granules**<sup>0, OMRI</sup> (EPA 68539-10) (*Trichoderma harzianum* + *Trichoderma virens* strain G-41); **Also TEP RootShield Plus WP**<sup>0, OMRI</sup> (EPA 68539-) **In-furrow and Gr Hs Planting mix, etc.**; 0 DTH.
- T<sup>5</sup> P<sup>7 M3</sup> **Roper DF Rainshield** (EPA 34704-1063) REI 24 hrs. (58.1%, mancozeb) (Loveland); Anth, EB, LB, **Leaf Mold**, Septoria, 0.75-1.5 lb; Bac Speck, spot, 1.5-3 lb (limit 22.4 lb). **5 DTH.**
- T<sup>9</sup> **Scala<sup>1</sup> 400SC** (EPA 264-788) REI 12 hrs (*pyrimethanil*) (limit of 35 fl oz/season). (Bayer); **T = EB, Botrytis Gray mold, 7 fl oz. (Use only in a tank mix with another fungicide effective for these diseases). (May be used in well-ventilated plastic or glass greenhouses). 1 DTH but depends on mixing partner.**
- T, E, P<sup>Bio (44)</sup> **Serenade**<sup>0, OMRI</sup> ASO (EPA 69592-12) (*Bacillus subtilis*, biological), REI 4 hrs (AgraQuest); **Field use** EB, LB, **PM** 2-6 qts/A; Bac. Spot, 2-6 qts/A combined with registered copper. **0 DTH.**
- T, E, P<sup>Bio (44)</sup> **Serenade MAX**<sup>0, OMRI</sup> (EPA 69592-11) REI 4 hrs (*Bacillus subtilis*, biological) (AgraQuest); **Field** Bac. Spot, Speck EB, LB, **Gray mold**, 1-3 lbs./A. **0 DTH.**
- T, E, P<sup>Bio</sup> **Serenade Soil**<sup>0, OMRI</sup> (EPA 69592-12) REI 4 hrs (*Bacillus subtilis*, biological) (AgraQuest); For *Rhizoctonia*, *Pythium*, *Fusarium*, *Verticillium*, and *Phytophthora* as a soil drench (2-6 qts/A); as in-furrow (2.2-13.2 fl oz/1,000 row feet. **0 DTH.**
- T, E, P<sup>Bio</sup> **Sonata**<sup>0, OMRI</sup> (EPA 69592-13) REI 4 hrs (*Bacillus pumilis*, biological) (AgraQuest); **Field and Greenhouse Use** Bac. Spot, **PM**, EB, LB; 2-4 qts/A/100 gal. **0 DTH.**
- T, E, M<sup>2</sup> **Sulfur 6L**<sup>0</sup> (EPA 66330-211) REI 24 hrs (Sulfur, 6 lbs./gal.) (Arysta); **T** powdery mildew, russet and two-spotted mites, 4-10 2/3 pts/A; **E** PM, 3 1/3 to 5 2/3 gal./A. **0 DTH.**
- T, E, P<sup>M</sup> **SuffOil-X**<sup>0, OMRI</sup> (EPA 48813-1-68539) REI 4h (petroleum oil) (BioWorks); labeled only for insects. **0 DTH.**
- † **T<sup>9+12</sup> Switch 62.5WG**<sup>0</sup> (EPA 100-953) REI 12h, (cyprodinil, 37.5% + fludioxonil, 25%) (limit 56 oz) (Syngenta); Early blight, gray mold, Powdery mildew (*Leveillula*), 11-14 oz/A. **0 DTH. (Limit to 2 applications and then rotate to another MOA fungicide; Do not apply to small types (cherry or grape) in the greenhouse.**
- T, E, P<sup>Bio</sup> **T-22**<sup>0, OMRI</sup> **HC** (EPA 68539-4) REI 0 hrs. (*Trichoderma harzianum*, biological)
- **T, P<sup>11 + 27</sup> Tanos<sup>3 or longer</sup> 50DF** (EPA 352-604) REI 12 hrs (*famoxadone + cymoxanil*), (limit of 72 oz/season, both crops), **must be tank mixed with a protectant** (DuPont); **(Do not apply more than 1 application before switching to a fungicide with a different MOA; Do not apply more than 50% of applications of Tanos or other Group 11 fungicide per season; T = EB<sup>ok if tank mixed</sup>, 6-8 oz; LB, 8 oz (protectant can be mancozeb (5 DTH), chlorothalonil (0 DTH), Kocide (0 DTH), etc.); AN, Gray leaf mold, LB, Septoria leaf spot, 8 oz; disease suppression of Bac. Spot, Bac. Speck, Buckeye rot, 8 oz; 2ee for Dis. Suppression of Bacterial Canker, 8 oz. 3 DTH, but 5 DTH if using mancozeb; P = Suppression of Phytophthora Blight (foliar and fruit phase only), 8-10 oz. 3 DTH**
- T, E, P<sup>M2</sup> **That Flowable Sulfur**<sup>0</sup> (EPA 57538-5) REI 24 hrs. (*Sulfur*) (Stoller); **T** russet mite 0.5-1 gal/A; **E** PM 1-2 gal/A; **P** PM, red spider mite, 3-5 pts/A. **0 DTH.**





**2014 Tomato, Eggplant, Pepper Fungicides NYS**

- T, E, P <sup>Oil</sup> Trilogy<sup>0</sup>, **OMRI** (EPA 70051-2) REI 4 hrs (70% clarified hydrophobic extract of Neem oil, biological) (Certis); ALL, Listed for multiple diseases including EB, Anth, Botrytis and **PM** and insects, 0.5-1% in 25-100 gal/A. **0 DTH**.
- ~~T, E, P~~ <sup>4</sup> Twist<sup>0</sup>soil; 7directed spray (EPA 100-1145) REI 0 hrs if soil injected or incorporated (mefenoxam 25.1%) (Syngenta); ~~T~~, root and fruit rot by Phytophthora, see label for rates; ~~E and P~~ Crown Rot by *P. capsici*, see label for rates. ~~7 DTH~~. See also **Ridomil Gold SL** (EPA 100-1202)
- T, E, P <sup>4</sup> Ultra Flourish<sup>0</sup>soil; 7 directed spray **2EC** (EPA 55146-73) REI 48 hrs (*mefenoxam*) (Nufarm); E, P Soil applications will provide control of Pythium damping off and Phytophthora crown rot, at 2 pts.; T Pythium damping off 2-4 pts. Phytophthora root and fruit rot, 2 pt. (**Do not use as a water transplant treatment, and do not use in greenhouse or on field-grown vegetable bedding plants**). **0 DTH**.
- † T, E, P Vydate L (EPA 352-372) REI 48 hrs (*oxamyl*, insecticide/nematicide) (DuPont); for nematodes (root knot, sting, lesion, and ring), also insects see label for foliar or drip application ;( † **Not for use on Long Island**) T = 3 DTH, E = 7 DTH, P = 7 DTH.
- <sup>45 + 40</sup> Zampro<sup>4</sup> (*ametoctradin + dimethomorph*) (EPA ?) (BASF) LB and Phytophthora suppression. **4 DTH**.
- T <sup>M3</sup> Ziram<sup>7</sup> 76DF (EPA 70506-173) REI 48 hrs (*ziram*) (limit of 24 lbs./season) (UPI); (**Not for use on cherry tomatoes**). AN, EB, Septoria leaf spot, 3-4 lbs. /A; may be mixed with copper fungicides to enhance bacterial disease control. **7 DTH**.
- T <sup>M3</sup> Ziram Granuflo<sup>7</sup> (EPA 45728-12) REI 48 hrs. (*ziram* 76%) (limit of 24 lbs./season) (Taminco); Anth, EB, Septoria, 3-4 lbs./A. **7 DTH**. **Do not use on cherry tomatoes**.
- \* T <sup>22</sup> Zoxium 80WSP<sup>5</sup> (EPA 10163-6413) REI 48 hrs. (*zoxamide*) (limit of 8 applic. or 2 lbs./season) (Gowan); Late Blight and Buckeye rot, 2.5-4.0 oz/A. (**Do not make more than 2 sequential applications before alternating to a fungicide with a different MOA**). **5 DTH**.

This summary is provided as a helpful guide to most of the products that are available for Tomato, Eggplant, or Pepper Disease Control and is not a substitute for Pesticide Labels. Refer to the 2014 Cornell Vegetable Guidelines or the product label before buying any product. Every effort has been made to provide correct, complete, and up-to-date information at the time of this presentation/publication. Trade names used are for convenience only. No endorsement of products intended, nor is criticism of unnamed products implied. These recommendations are not a substitute for pesticide labeling. Always read the product label before applying any pesticide.

**ABBREVIATIONS:** † = Restricted for no use on LI; \* = Restricted to commercial applicator use; M = Multi-site activity; OLF = Other labeled formulation; MOA = mode of action; TEP = for tomato, eggplant and pepper, respectively.

**TOMATO Diseases** and responsible *pathogens*: AN = Anthraxnose, *Colletotrichum coccodes*; EB = Early blight, *Alternaria tomatophila*; LB = Late blight, *Phytophthora infestans* (particularly US-22, 23 and others); Alternaria black mold = *A. alternata* f. sp. *lycopersici*; Leaf mold = *Fulvia (Passalora) fulva* (syn. *Cladosporium*); Gray mold = *Botrytis cinerea*; **PM** = T Powdery mildew *Oidium neolycopersici* common in greenhouses; **PM** of T, P & E = *Sphaerotheca*, and more correctly *Leveillula taurica (Oidiopsis taurica)* which is rare in NYS; Phomopsis fruit rot of pepper = *Phomopsis capsici*; Phomopsis Fruit rot of eggplant (Phomopsis Blt in eggplant) = *Phomopsis vexans*; White mold = *Sclerotinia sclerotiorum*; Zonate leaf spot = *Cristulariella moricola* (on top foliage can look like LB); Rhizoctonia diseases (Damping off, fruit rot, foliar blight) = *Rhizoctonia solani*; Buckeye rot, *P. capsici*; Bacterial canker = *Clavibacter michiganensis* subsp. *michiganensis*; Rhizoctonia stem rot of pepper and eggplant = *Rhizoctonia solani*; Septoria leaf spot, *Septoria lycopersici*; Target spot (not in NYS), *Corynespora cassiicola*; Bacterial speck = *Pseudomonas syringae* pv. *tomato*; Bacterial leaf spot = is caused by 6 *Xanthomonas* species: *Xanthomonas perforans* (T5); *X. perforans* (T4); *X. perforans* (T3); *Xanthomonas vesicatoria* (T2); *X. euvesicatoria* (1); and *X. gardneri*.



## 2014 Tomato, Eggplant, Pepper Fungicide Roster for NYS

### Overview of Tomato (T), Eggplant (E) and Pepper (P) Fungicide Roster with [No Product 0=Days to Harvest]

See: <http://vegetablemndonline.ppath.cornell.edu> for more updates (underlined = labeled for NYS) T. A. Zitter, JULY 2014. (fungicide limit given is per season); **Systemic fungicides** are in **BOLD**, **Protectants** are listed first in upper left corner.

### Protectants/Mixing Partners/Alternating (Field diseases listed)

- M<sup>5</sup> *chlorothalonil*<sup>0</sup> T, E, P **Bravo Weather Stik**, **Bravo Ultrex**, **Equus 720 SST & DF** & **Echo 720** are complete for all three crops (see limits on label), (others<sup>T only</sup> include **Bravo Zn**, **Chlorothalonil 720 SC**, **Initiate 720F** and **Zn**, and **Echo 90DF**) (Foliage: An, EB, LB, **Gray leaf mold**, and Septoria) (Fruit: Alt Blk mold, **Botrytis mold**, Rhiz.)
- T, P M<sup>3</sup> *mancozeb*=MZ for tomato and pepper include \*T<sup>5</sup>, P<sup>7</sup> **Dithane DF Rainshield** (limit 22.4 lbs/19.2 lbs), T<sup>5</sup>, P<sup>7</sup> **Dithane M-45** (limit 21 lbs/18 lbs), T<sup>5</sup>, P<sup>7</sup> **Dithane F-45** (limit 16.8 qts/14.4 qts), T<sup>5</sup>, P<sup>7</sup> **Manzate Pro-Stick** (22.4 lbs/ 19.2 lbs), T<sup>5</sup>, P<sup>7</sup> **Roper DF Rainshield** (limit 22.4lbs/19.2 lbs) (Tomato<sup>5</sup> An, EB, LB, **Leaf mold**, Septoria, Bac speck and spot) (Pepper<sup>7</sup> Bac spot, Anth, EB, Phomopsis Blt or Fruit rot, Phytophthora blt, see label); T<sup>5</sup> **Manzate Flowable**, **Pencozeb 75 DF & 80WP** for tomato only.
- T M<sup>3</sup> *ziram*<sup>7</sup> = **Ziram** or **Zir. Granuflo** (An, EB, Septoria) (limit of 24 lbs./sea.)
- TEP M<sup>1</sup> *copper, varies*<sup>0</sup> = **Badge SC**, **Badge X**, **OMRI**, **Basic Copper Sulfate & 53** **OMRI**, **Camelot O** **OMRI**, **Champ 2F**, **Dry Prill. WG** **OMRI**, **C-O-C-S WDG**, **Cueva** **OMRI**, **Cuprofix Ultra 40 Disperss.**, **Kentan DF**, **Kocide (ex 3000)**, **Mastercop**, **Nordox 75WB** **OMRI**, **Nu-Cop 50WP** **OMRI**, **3L**, **HB** **OMRI** (Anth, Bac Speck, Spot, EB, Septoria LS, see label)
- Also T<sup>5</sup>, P<sup>7</sup> only M<sup>1+M3</sup> **ManKocide (copper hydroxide + MZ)** (Tomato<sup>5</sup>: Anth, EB, LB, Septoria LS, Gray LS, **Leaf Mld**, Bac Speck & Spot; Pepper<sup>7</sup>: Anth, Bac Spot, Cer LS, Phytoph Blt (suppr.), Ripe rot)
- TEP Bio(44) **Serenade MAX** or **ASO**<sup>0</sup> or **Cease** **OMRI** (*Bacillus subtilis*) (EB, LB, PM, **Gray mold**, Bac Spot, Speck); *Bacillus pumilis*<sup>0</sup> = **Sonata**<sup>0</sup> **OMRI** (Bac Spot, PM, EB, LB); Bio **Serenade Soil**<sup>0</sup> **OMRI** (soilborne fungi)
- TEP M *K bicarbonate* = **Armicarb**<sup>0</sup>, **Kaligreen**<sup>1</sup>, **OMRI**, **MilStop**<sup>0</sup> **OMRI** (PM)
- TP M **Oxidate**<sup>0</sup> **OMRI** (*hydrogen peroxide*) (Bac speck & spot seed); SAR **Regalia EC**<sup>0</sup> **OMRI**, (Multi dis.)
- M<sup>2</sup> *Sulfur*<sup>0</sup> = **Micro Sulf** **OMRI**, **That**, **Microthiol Disperss** **OMRI**, **Kumulud DF** **OMRI**, **Sulfur 6L** (PM or mites, see label)

### Group 11 Strobilurins (QoI) and "like"

Because of **EB resistance** to Strobilurins in NYS, consider T<sup>11+M5</sup> **Quadris Opti**<sup>0</sup> (limit 15 lbs. a.i.) (*azoxystrobin* + *chlorothalonil*) (AN, Buckeye, EB, PM (Oidiopsis), Sep., LB) or TEP<sup>11+3</sup> **Quadris Top**<sup>0</sup> (limit 47 fl oz) (T=EB, Blk Mold, PM, Sept LS, Anth, **Leaf mold**); (E, P=Anth, Cer LS, Gray LS, PM), or<sup>11+7</sup> TEP **Cabrio** + **Endura**<sup>0</sup>, or TP<sup>11+Prot</sup> **Tanos** (limit of 72 oz) **tank-mixed with protectant** **Varies**, or consider T<sup>22+M3</sup> \*

**Gavel**<sup>5</sup> (*zoxamide* + *mancozeb*) (limit 16 lbs.), but never alone.

- TEP<sup>11</sup> **Evito**<sup>3</sup> (*fluoxastrobin*) (limit to 22.8 fl oz) **Not registered**
- TEP<sup>11</sup> **Quadris**<sup>0</sup>, (*azoxystrobin*), (limit 37 fl oz) **EB tank mix**
- TEP<sup>11</sup> **Flint**<sup>3</sup> (*trifloxystrobin*) (limit 16 oz) (**EB tank mix** LB, Sept.)
- TEP<sup>11</sup> **Cabrio**<sup>0</sup> (*pyraclostrobin*) (limit 96 oz) (**EB tank mix** AN, Alt Bk. Mold, **EB**, LB, Sept, **Botrytis mold suppression**)
- TP<sup>11</sup> **Tanos**<sup>3 or longer</sup> (*famoxadone* + *cymoxanil*) (limit 72 oz) **needs to be tank-mix** (AN, EB<sup>ok when tank mixed</sup>, **Leaf mold**, LB, Sept, **suppression of Bac. Spot**, **Speck**, **Canker**, and **Buckeye rot**)
- \*† T<sup>11</sup> **Reason**<sup>14</sup> (*fenamidone*) (limit 24.6 fl oz) (**EB tank mix**, LB, Sept. LS **suppression**) († Not for use on Long Island)

### Multiple Disease Control

- TEP<sup>11+3</sup> **Quadris Top**<sup>0</sup> (*azoxystrobin* + *difenoconazole*) (47 fl oz limit) (T=EB, Blk Mold, PM, Sept LS, Anth, **Leaf mold**); (E, P=Anth, Cer LS, Gray LS, PM)
- T<sup>3+9</sup> **Inspire Super**<sup>0</sup> (*difenoconazole* + *cyprodinil*) (47 fl oz limit) (same as above for T diseases only)
- T<sup>40+3</sup> **Revus Top**<sup>1</sup> (*difenoconazole* + *mandipropamid*) (28 fl oz limit) (Anth, Alt Bk. mold, EB, LB, **Leaf mold (Fulvia)**, **PM (Leveillula)** Sept LS)
- T<sup>7+9</sup> **Luna Tranquility (fluopyram + pyrimethanil)**
- TEP<sup>7</sup> **Fontelis**<sup>0</sup> (*penthiopyrad*) (limit of 72 fl oz) (EB, **Gray Mld**, PM, Sept. LS, **suppr. Anth**)
- TEP<sup>7+11</sup> **Priaxor**<sup>7</sup> (*fluxapyroxad* + *pyraclostrobin*) (limit of 24 fl oz) (An, Blk Mld, EB, SLS, PM, **Suppression of Gray mold**, Rhiz and Sclerotinia stem rot, Sou. Blt., **Suppr. LB**)

### Others (Botrytis Gray Mold, Powdery Mildew, White mold)

- TEP<sup>17</sup> **Decree**<sup>0</sup> (*fenhexamid*) (**Botrytis Gray mold**, **GH prod & trspls**)
- TEP<sup>7</sup> **Endura**<sup>0</sup> (*boscalid*) (EB, (Septoria), **Botrytis Gray mold**) (21 oz limit)
- T<sup>9</sup> **Scala**<sup>1</sup> if mixed with chlorothalonil (*pyrimethanil*) (EB, **Botrytis Gray mold**) (35 fl oz)
- P<sup>13</sup> **Quintec**<sup>3</sup> (*quinoxifen*) (limit 24 fl oz) (PM only)
- † T<sup>9+12</sup> **Switch 62.5WG**<sup>0</sup> (*cyprodinil* + *fludioxonil*) (limit to 56 oz) (EB, **Gray mold**, PM) († Not for LI)
- TEP<sup>3</sup> **Rally**<sup>0</sup> (*myclobutanil*) (limit 1.25 lbs.) (PM, **Leveillula**)
- TEP Bio **Contans**<sup>0</sup> **OMRI** (*C. minitans*) (W Mold)
- T<sup>P1</sup> **Actigard**<sup>14</sup> Bac spot and speck
- \*† Nem **Vydate**<sup>3T, 7E, 7P</sup> (*oxamyl*) (nematodes) († **Not on Long Island**)
- T<sup>NC</sup> **Fracture**<sup>0</sup> ( $\beta$ -conglutin) (**Botrytis Gray mold** and **Powdery mildew**) (5 appl/S)

### Late Blight and other Phytophthora (tank mix [TMix] and alt. with protectant or another labeled fungicide)

- T<sup>4+M5</sup> **Ridomil Gold Bravo SC**<sup>14</sup>, (*mefenoxam* + *chlorothalonil*) (**LB**, **US-22, 23 only**, EB) also T<sup>4+M1</sup> **RidGold/Copper**<sup>5</sup> and T<sup>4+M3</sup> **RidGold/Mancozeb**<sup>5</sup> (**LB**)
- \* TEP<sup>43</sup> **Presidio**<sup>2 or longer</sup> (*fluopicolide*) (LB, Phytophthora blight); Tmix with protectant (limit of 12 fl oz)
- \* TP<sup>28</sup> **Previcur Flex**<sup>5 days</sup> (*propamocarb*) (**LB**, **EB with TMix protectant**) (limit 7.5 pts.)



## 2014 Tomato, Eggplant, Pepper Fungicide Roster for NYS

- EP <sup>40</sup>Revus<sup>1</sup> 1 day or longer by mixing partner (*mandipropamid*) (limit 32 fl oz) P=for DM and supp. Phytophthora blight for E & P
- T <sup>40+3</sup>Revus Top<sup>1</sup> (mandipropamid + difenoconazole) Anth, Blk Mold, EB, LB. **leaf mold**, PM, Sept (limit 28 fl oz)
- T <sup>27</sup>Curzate<sup>3</sup> 3 days or longer by mixing partner (*cymoxanil*) (limit of 30 oz) (LB & EB with TMix protectant)
- **T<sup>11</sup>Tanos<sup>3</sup> or longer (*famoxadone + cymoxanil*) needs to be tank-mix with protectant (LB, other diseases) (72 oz)**
- \*T <sup>22+M3</sup>Gavel<sup>5</sup> (*zoxamide + mancozeb*) (limit 16 lbs.) (LB, also very good on EB)
- \* <sup>22</sup>T Zoxium<sup>5</sup> (*zoxamide*) (limit 2 lbs.) (LB and Buckeye rot)
- TEP<sup>21+ M3</sup> or <sup>5</sup>Ranman<sup>0</sup> or longer if tank-mixed (*cyazofamid*) (limit 16.5 fl oz) (LB, EB with added **TMix protectant**, Phytoph. blt.)
- \*†TEP <sup>11</sup>Reason<sup>14</sup> (*fenamidone*) (limit 24.6 fl oz) (Phytoph foliar and fruit suppression)
- TEP <sup>40</sup>Forum<sup>T=4</sup> 4 days or longer as determined by mixing partner; E,P=0 days or longer depending on mixing partner (*dimethomorph*) (30 oz limit) (LB, EB with **TMix added protectant**)
- T <sup>M5+33</sup>Catamaran<sup>0</sup> (*chlorothalonil + phosphorous acid*) (limit of 50 pts.) (Fol. EB, LB; Fru. Anth, Alt., LB, Rhiz.)
- TEP<sup>33</sup>Agri-Fos<sup>\*</sup>; \* Fosphite; Fungi-Phite, ProPhvt, \*Kphite 7LP, Phostrol, Rampart, \*Resist 57 (*phosphorous acid*)<sup>0</sup> (LB, some suppression of bacteria on labels)

### Oomycetes (Pythium, Phytoph. root rot)

- TEP <sup>4</sup>Ridomil Gold<sup>0</sup> soil, 7 foliar, Ultra Flourish, Twist
- TP <sup>33</sup>\* Kphite<sup>0</sup>, Phostrol<sup>0</sup>, Rampart<sup>0</sup>
- T <sup>33</sup>Aliette<sup>14</sup>

### Greenhouse Usage (Check label for specifics)

- <sup>M1</sup>TEP <sup>0</sup>Badge X<sup>0</sup>, <sup>OMRI</sup> (*copper*), Badge SC, Champ2F, Champ Dry Prill, Champ WG <sup>OMRI</sup>, C-O-C-S WDG, Cueva <sup>OMRI</sup>, Cuprofix Ultra 40 Disperss, Kentan DF, Kocide (all formulations), Nordox 75WB <sup>OMRI</sup>, Nu-Cop 50WP <sup>OMRI</sup> (+ other formulations) (Bac. and fungi, Gray leaf mold, leaf mold)
- <sup>24</sup>Agri-mycin 17 (or OLP) (*Streptomycin*) (Seedlings only prior to field) (Bac. Dis.)
- <sup>Bio.</sup>TEP <sup>0</sup>RootShield Granules & WP <sup>OMRI</sup> (*Trichoderma harzianum*); RootShield Plus Gr & WP (*T. harzianum* and *T. virens*) (**soilborne pathogens**)
- <sup>M</sup>TEP JMS Stylet-Oil<sup>0</sup> <sup>OMRI</sup> (*mineral oil*) (EB, PM, insects)
- <sup>M</sup>TEP Contans<sup>0</sup> <sup>OMRI</sup> (*Coniothyrium minitans*) (**W Mold**)
- <sup>M</sup>TEP M-Pede<sup>0</sup> <sup>OMRI</sup> (*K salts of fatty acids*) (PM)
- T<sup>21</sup>Ranman<sup>0</sup> (*cyazofamid*) (1 application in Gr. Hs tray for Pythium DO)
- <sup>M</sup>TEP Regalia <sup>OMRI</sup> (extract of *Reynoutria*) (SAR, multiple diseases)
- <sup>7</sup>TP Fontelis<sup>0</sup> (*penthiopyrad*) (EB, Gray Mold, PM, Sept LS, Anth suppression)
- <sup>17</sup>TEP Decree<sup>0</sup> (*fenhexamid*) (Gray mold)

- \*<sup>28</sup>TP Previcur Flex<sup>5</sup> (*propamocarb*) (Gr. Hs. drip sys. or **drench for root rot and Damping off**) (*Pythium, Phytophthora*)
- <sup>9</sup>T Scala<sup>1</sup> (*pyrimethanil*) (Gr. Hs. or high tunnel, well ventilated) (EB, **Botrytis Gray mold**)
- <sup>M</sup>TP Oxidate (*hydrogen peroxide*) (Oxidizing agent)
- <sup>M</sup>TEP Armicarb<sup>0</sup>, Kaligreen<sup>1</sup>, <sup>OMRI</sup>, MilStop<sup>0</sup> <sup>OMRI</sup>, (PM)
- <sup>Bio</sup>TEP Cease, Sonata<sup>0</sup> (*B. subtilis, B. pumilis*) (PM) <sup>OMRI</sup>
- T,P <sup>7</sup>Fontelis<sup>0</sup> (*penthiopyrad*) (limit 72 fl oz) (Altn, Gray mold, PM, Septoria, Supp. Anth)

### Current OMRI Listed Products & Registered in NYS (all M = multi-site activity)

- <sup>M1</sup>TEP Badge X<sup>0</sup>, <sup>0</sup>Basic Copper 53 (Gray leaf mold) Camelot O, Nu-Cop (Bac. and fungi, Gray leaf mold), Champ WG, Cueva, Nordox 75WB
- <sup>Bio.</sup>TEP RootShield Granules & WP<sup>0</sup>, (*Trichoderma harzianum*) (**soilborne pathogens**); TEP RootShield Plus Granules & WP<sup>0</sup> (*T. harzianum* and *T. virens*) (**soilborne pathogens**)
- <sup>SAR</sup>TEP Regalia<sup>0</sup> (*Reynoutria*) (Multiple diseases)
- <sup>M</sup>TEP Trilogy<sup>0</sup> (*neem oil*) (EB, Anth, (PM)
- <sup>Bio.</sup>TEP Contans<sup>0</sup> (*Coniothyrium*) (**White mold**)
- <sup>M</sup>TEP Organic JMS Stylet Oil<sup>0</sup> (*mineral oil*) (PM)
- <sup>M</sup>TEP SuffOil-X<sup>0</sup> (insects only)
- <sup>M</sup>TEP Kaligreen<sup>1</sup>, MilStop<sup>0</sup> (*K bicarbonate*) (PM)
- <sup>Bio</sup>TEP Mycostop<sup>0</sup> (*S. griseoviridis*)
- <sup>M</sup>TP Oxidate<sup>0</sup> (*hydrogen peroxide*)
- <sup>Bio.(44)</sup>TEP Serenade ASO<sup>0</sup> (PM), Serenade MAX<sup>0</sup> (PM), Cease<sup>0</sup>, (PM), Serenade Soil<sup>0</sup> (*B. subtilis*) Sonata<sup>0</sup> (*B. pumilis*) (**Soilborne diseases**)
- <sup>M2</sup>TEP Kumulus DF<sup>0</sup>, Micro Sulf; Microthiol Disperss (PM) (Sulfurs)

Every effort has been made to provide correct, complete, and up-to-date information at the time of this presentation/publication. Trade names used are for convenience only. No endorsement of products intended, nor is criticism of unnamed products implied. These recommendations are not a substitute for pesticide labeling. Always read the product label before applying any pesticide. \* Restricted to commercial applicator; † Not for use on Long Island.