

Table E-9. Commonly Used Fungicides Registered for Vegetables (see NOTE on the preceding page). X=fungicide is registered for the crop. The number next to X=PHI (days to harvest); if no number is present PHI=0 days. XGH=labeled for greenhouse use (see also Table E-11. Selected Fungicides and Bactericides Labeled for Greenhouse Use).

| Fungicides | Actigard (acibenzolar-S-methyl) | Aliette (fosetyl A1) | Approach (picoxystrobin) | Aprivia Top (difenoconazole+benzovindiflupyr) | azoxystrobin | Cabrio (pyraclostrobin) | Cannonball (fludioxonil) | Chlorothalonil ^a | Curzate (cymoxanil) | Elatus (azoxystrobin+benzovindiflupyr) | Endura (boscalid) | Fixed copper ^a | Fontelis (penthiopyrad) |
|-----------------------|---------------------------------|----------------------|--------------------------|---|--------------|-------------------------|--------------------------|-----------------------------|---------------------|--|-------------------|---------------------------|-------------------------|
| FRAC Code(s) | 21 | 33 | 11 | 3+7 | 11 | 11 | 12 | M05 | 27 | 11+7 | 7 | M1 | 7 |
| Crop | | | | | | | | | | | | | |
| Asparagus | | X110 | | | X100 | | | X190 | | | | | |
| Beans, snap | | | X14 | X14 | X | | X7 | X7 | | | X7 | X | X |
| Beans, lima | | | X14 | X14 | X | | X7 | X14 | | | X7 | X | X |
| Beets | | | | | X | X | | | | | | X | X |
| Broccoli | X7 | X3 | | | X | X | | X7 | | | X | X | X |
| Carrots | | | | | X | X | | X | | | X | X | X |
| Celery | | X3 | | | X | X | X | X7 | | | X | X | X3 |
| Chinese cabbage | X7 | X3 | | | X | X | | X7 | | | X | X | X |
| Cole crops | X7 | X3 | | | X | X | | X7 | | | X14 | X | X |
| Cucumbers | X | X | | X | X1 | X | | X | X3 | | X | X | X1 |
| Eggplants | | | | X | X | X | | X3 | | | X | X | X |
| Garlic | X7 | | | | X | X7 | X7 | X7 | | | X7 | X | X3 |
| Greens, mustard | X7 | X3 | | | X | X | | | | | X14 | X | X |
| Greens, turnip | X7 | | | | X | | | | | | | X | X |
| Horseradish | | | | | X | X | | X14 | | | X | | X |
| Leeks | | | | | X | X7 | X7 | X14 | | | X7 | X | X3 |
| Lettuce | X7 | X3 | | | X | X | X | | X3 | | X14 | X | X3 |
| Muskmelons | X | X | | X | X1 | X | X14 | X | X3 | | X | X | X1 |
| Okra | | | | X | X | | | X3 | | | | X | X |
| Onions, dry | X7 | X7 | | | X | X7 | X7 | X14 | | | X7 | X | X3 |
| Onions, green | | X7 | | | X | X7 | X7 | X14 | | | X7 | X | X3 |
| Parsley | | X | | | X | X | X | | | | X14 | X | X3 |
| Parsnips | | | | | X | X | | X10 | | | | | |
| Peas | | | | X14 | X | | | | | | X21 | X | X |
| Peppers | X14 | | | X | X | X | | X3 | | | X | X | X |
| Potatoes | | | | | X14 | | | X7 | X14 | X14 | X10 | X | |
| Pumpkin/winter squash | X | X | | X | X1 | X | | X | X3 | | X | X | X1 |
| Radish | | | | | X | X | | | | | | | X |
| Spinach | X7 | X3 | | | X | X | X | | X1 | | | X | X3 |
| Squash, summer | X | X | | X | X1 | X | | X | X3 | | X | X | X1 |
| Strawberries | X | X | | | X | X | | | | | | X | X |
| Sweet corn | | | X7 | | X7 | | | X14 | | X7 | | X | |
| Sweet potatoes | | | | X14 | X | | | | | | X10 | | |
| Tomatoes | X14 | X14 | | X | X | X | | X | X3 | | X | X | X |
| Watermelon | X | X | | X | X1 | X | X14 | X | X3 | | X | X | X1 |

Superscripts: a=seed treatment or soil use only, b=Ultra Flourish is not labeled on these crops, c=Sulfur rates above 4 lb/A applied during high temperatures may cause crop injury, d=Only in DE, PA, MD, and VA, e=See label for PHI.

Table E-9. Commonly Used Fungicides Registered for Vegetables - continued

X=fungicide is registered for the crop. The number next to X=PHI (days to harvest); if no number is present PHI=0 days. XGH=labeled for greenhouse use (see also Table E-11 “Selected Fungicides and Bactericides Labeled for Greenhouse Use).”

| Fungicides | Forum (dimethomorph) | Gavel (zoxamide+mancozeb) | Gem (trifloxystrobin) | Headline (pyraclostrobin) | Headline AMP (pyraclostrobin+metconazole) | Inspire Super (difenoconazole+cyprodimil) | iprodione | Luna Experience (fluopyram+tebuconazole) | Luna Privilege (fluopyram) | Luna Sensation (fluopyram+trifloxystrobin) | mancozeb | Merivon (fluxapyroxad+pyraclostrobin) | metalaxyl |
|-----------------------|----------------------|---------------------------|-----------------------|---------------------------|---|---|----------------|--|----------------------------|--|------------------|---------------------------------------|-----------|
| FRAC Code(s) | 40 | 22 + M03 | 11 | 11 | 11 + 3 | 3+ | 2 | 7 + 3 | 7 | 7 + 11 | M03 | 7 + 11 | 4 |
| Crop | | | | | | | | | | | | | |
| Asparagus | | | | | | | | | | | X180 | | X |
| Beans, snap | | | | X7 | | | X ^e | | | | | | X |
| Beans, lima | X7 | | | X7 | | | X ^e | | X14 | | | | X |
| Beets | | | X7 | | | | | | | | | X7 | X |
| Broccoli | X7 | | | | | X7 | X | | | | | | X |
| Carrots | | | X7 | | | | X | | | | | X7 | X |
| Celery | X7 | | X7 | | | | | | | | | X1 | X |
| Chinese cabbage | X7 | | | | | X7 | | | | | | | X |
| Cole crops | X7 | | | | | X7 | | | | | | | X |
| Cucumbers | X5 | X5 | | | | X7 | | | | | X5 | X | X |
| Eggplants | X5 | | X3 | | | X | | | | | | | X |
| Garlic | X5 | X7 | | | | X7 | X | | | | X7 | X7 | X |
| Greens, mustard | X7 | | | | | X7 | | | | | | | |
| Greens, turnip | X7 | | | | | X7 | | | | | | | |
| Horseradish | | | X7 | | | | | | | | | X7 | X |
| Leeks | X5 | | | | | X7 | | | | | | X7 | X |
| Lettuce | X7 | | | | | | X14 | | | | | X1 | X |
| Muskmelons | X5 | X5 | | | | X7 | | | | | X5 | X | X |
| Okra | | | | | | | | | | | | | |
| Onions, dry | X5 | X7 | | | | X7 | X7 | | | | X7 | X7 | X |
| Onions, green | X5 | X7 | | | | X14 | | | | | | X7 | X |
| Parsley | X7 | | | | | | | | | | | X1 | X |
| Parsnips | | | X7 | | | | | | | | | X7 | X |
| Peas | | | | X7 | | | | | | | | | X |
| Peppers | X5 | | X3 | | | X | | | | | | | X |
| Potatoes | X5 | X14 ^d | X7 | X3 | | | X14 | | X7 | | X14 ^d | | X |
| Pumpkin/winter squash | X5 | X5 | | | | X7 | | | | | | X | X |
| Radish | | | | | | | | | | | | X7 | X |
| Spinach | X7 | | | | | | | | | | | X1 | X |
| Squash, summer | X5 | X5 | | | | X7 | | | | | X5 | X | X |
| Strawberries | | | | | | | X ^e | | X1 | | | X | |
| Sweet corn | | | | X7 | X7 | | | | | | X7 | | |
| Sweet potatoes | | | | X3 | | | | | | | | | X |
| Tomatoes | X5 | X5 | X3 | | | X | | | | | X5 | | X |
| Watermelon | X5 | X5 | | | | X7 | | X7 | X | X | X5 | X | X |

Superscripts: a=seed treatment or soil use only, b=Ultra Flourish is not labeled on these crops, c=Sulfur rates above 4 lb/A applied during high temperatures may cause crop injury, d=Only in DE, PA, MD, and VA, e=See label for PHI.

Table E-9. Commonly Used Fungicides Registered for Vegetables - *continued*

X=fungicide is registered for the crop. The number next to X=PHI (days to harvest); if no number is present PHI=0 days. XGH=labeled for greenhouse use (see also Table E-11 Selected Fungicides and Bactericides Labeled for Greenhouse Use).

| Fungicides | Moncut (flutolanil) | Omega (fluazinam) | phosphonates ^a | Presidio (fluopicolide) | Previcur Flex (propamocarb) | Priaxor (fluxapyroxad+pyraclostrobin) | Pristine (pyraclostrobin+boscalid) | Procure (triflumizole) | Proline (prothioconazole) | propiconazole | Quadris Opti (azoxystrobin+chlorothalonil) | Quadris Top (difenoconazole+azoxystrobin) | Quash (metconazole) |
|-----------------------|---------------------|-------------------|---------------------------|-------------------------|-----------------------------|---------------------------------------|------------------------------------|------------------------|---------------------------|---------------|--|---|---------------------|
| FRAC Code(s) | 7 | 29 | 33 | 43 | 28 | 7 + 11 | 11 + 7 | 3 | 3 | 3 | 11 + M05 | 3 + 11 | 3 |
| Crop | | | | | | | | | | | | | |
| Asparagus | | | | | | | | | | | | | |
| Beans, snap | | X14 | X | | | X7 | | | | X7 | | | |
| Beans, lima | | X30 | X | | | X7 | | | | X7 | X14 | | |
| Beets | | | | X7 | | | | | | X14 | | | |
| Broccoli | X | X50 | X | X2 | | X3 | | X1 | | | | X1 | |
| Carrots | | X7 | | X7 | | | X | | | X14 | X | X7 | |
| Celery | | | X | X2 | | | X | | | X14 | X7 | | |
| Chinese cabbage | | X20 | X | X2 | | X3 | | X1 | | | | X1 | |
| Cole crops | X | X20 | X | X2 | | X3 | | X1 | | | | X1 | |
| Cucumbers | | | X | X2 | X2 | | X | X | X7 | | X1 | X1 | |
| Eggplants | | X30 | X | X2 | | X | | | | | | X | |
| Garlic | | X7 | X | | | | X7 | | | X14 | X7 | X7 | |
| Greens, mustard | X | X20 | X | X2 | | X3 | | X1 | | | | X1 | |
| Greens, turnip | X | X20 | X | | | X3 | | X1 | | | | X1 | |
| Horseradish | | | | X7 | | | | | | | | | |
| Leeks | | | X | | | | X7 | | | X14 | X14 | X7 | |
| Lettuce | | X30 | X | X2 | X2 | | | X | | | | | |
| Muskmelons | | X30 | X | X2 | X2 | | X | X | X7 | | X1 | X1 | |
| Okra | | X30 | | | | | | | | | | | |
| Onions, dry | | X7 | X | | | | X7 | | | X14 | X7 | X7 | |
| Onions, green | | | X | | | | X7 | | | X14 | X14 | X7 | |
| Parsley | | | X | X2 | | | | X | | X14 | | | |
| Parsnips | | | | X7 | | | | | | | | | |
| Peas | | | X | | | X7 | | | X7 | | | | |
| Peppers | | X30 | X | X2 | X5 | X | | | | | | X | |
| Potatoes | X | X14 | X | | X14 | X7 | | | | | X14 | X14 | X1 |
| Pumpkin/winter squash | | | X | X2 | X2 | | X | X | X7 | | X1 | X1 | |
| Radish | | | | X7 | | | | | | | | | |
| Spinach | | | X | X2 | | | | | | | | | |
| Squash, summer | | | X | X2 | X2 | | X | X | X7 | | X1 | X1 | |
| Strawberries | | | | | | | X | X1 | | X | | X | |
| Sweet corn | | | | | | X7 | | | | X14 | | | |
| Sweet potatoes | | | | X7 | | | | | | | | X14 | X1 |
| Tomatoes | | | X | X2 | X5 | X | | | | | X | X | |
| Watermelon | | X30 | X | X2 | X2 | | X | X | X7 | | X1 | X1 | |

Superscripts: a=seed treatment or soil use only, b=Ultra Flourish is not labeled on these crops, c=Sulfur rates above 4 lb/A applied during high temperatures may cause crop injury, d=Only in DE, PA, MD, and VA, e=See label for PHI.

Table E-9. Commonly Used Fungicides Registered for Vegetables - *continued*

X=fungicide is registered for the crop. The number next to X=PHI (days to harvest); if no number is present PHI=0 days. XGH=labeled for greenhouse use (see also Table E-11 Selected Fungicides and Bactericides Labeled for Greenhouse Use).

| Fungicides | Quilt (propiconazole+azoxystrobin) | Quilt Xcel (propiconazole+azoxystrobin) | Quintec (quinoxyfen) | Rally (myclobutamil) | Ranman (cyazofamid) | Reason (fenamidone) | Revus (mandipropamid) | Revus Top (mandipropamid+difenoconazole) | Ridomil Gold, Ultra Flourish (mefenoxam) | Ridomil Gold Bravo (mefenoxam+chlorothalonil) | Ridomil Gold Copper (mefenoxam+copper) | Ridomil Gold MZ (mefenoxam+mancozeb) | |
|-----------------------|------------------------------------|---|----------------------|----------------------|---------------------|---------------------|-----------------------|--|--|---|--|--------------------------------------|--------|
| | FRAC Code(s) | 3 + 11 | 3 + 11 | 13 | 3 | 21 | 11 | 40 | 3 + 40 | 4 | 4+ M05 | 4+ M01 | 4+ M03 |
| Crop | | | | | | | | | | | | | |
| Asparagus | | | | X180 | | | | | X | | | | |
| Beans, snap | X7 | X7 | | X | X | X3 | X1 | | X ^b | | X7 | | |
| Beans, lima | X7 | X7 | | | X | X3 | | | X ^b | | X3 | | |
| Beets | | | | | | X14 | | | X | | | | |
| Broccoli | | | | | X | X2 | X1 | | X ^b | X7 | | | |
| Carrots | X14 | X14 | | | X14 | X14 | | | X ^b | X7 | X7 | | |
| Celery | X14 | X14 | | | | X2 | X1 | | X | | | | |
| Chinese cabbage | | | | | X | X2 | X1 | | X ^b | X7 | | | |
| Cole crops | | | | | X | X2 | X1 | | X | X7 | | | |
| Cucumbers | | | | X | X | X14 | X | | X | X | X5 | X5 | |
| Eggplants | | | X3 | X | X | X14 | X | | X | | | | |
| Garlic | X14 | X14 | | | | X7 | X7 | | X ^a | X7 | X10 | X7 | |
| Greens, mustard | | | | | X | X2 | X1 | | X ^b | | | | |
| Greens, turnip | | | | | X | X2 | X1 | | X ^b | | | | |
| Horseradish | | | | | | X14 | | | X ^a | | | | |
| Leeks | X | X | | | | X7 | X7 | | X | X14 | X10 | X7 | |
| Lettuce | | | X1 | X3 | X | X2 | X1 | | X ^a | | | | |
| Muskmelons | | | X3 | X | X | X14 | X | | X | X | X5 | X5 | |
| Okra | | | | X | X | X14 | X | | | | | | |
| Onions, dry | X14 | X14 | | | | X7 | X7 | | X | X7 | X10 | X7 | |
| Onions, green | X | X | | | | X7 | X7 | | X | X14 | X7 | | |
| Parsley | | | | | X | X2 | X1 | | X | | | | |
| Parsnips | | | | | | X14 | | | X | | | | |
| Peas | | | | | | | | | X ^b | | | | |
| Peppers | | | X3 | X | X | X14 | X | | X | | X7 | | |
| Potatoes | | | | | X7 | X14 | | X14 | X | X14 | X14 | X14 | |
| Pumpkin/winter squash | | | X3 | X | X | X14 | X | | X | X | X5 | | |
| Radish | | | | | | X14 | | | X | | X7 | | |
| Spinach | | | | | X | X2 | X1 | | X | | X3 | | |
| Squash, summer | | | | X | X | X14 | X | | X | X | X5 | X5 | |
| Strawberries | | X | X1 | X | | | | | X | | | | |
| Sweet corn | X14 | X14 | | | | | | | | | | | |
| Sweet potatoes | | | | | X7 | X14 | | | X | | | | |
| Tomatoes | | | X3 | X | X | X14 | | X1 | X | X5 | X14 | X5 | |
| Watermelon | | | X3 | X | X | X14 | X | | X | X | X5 | X5 | |

Superscripts: a=seed treatment or soil use only, b=Ultra Flourish is not labeled on these crops, c=Sulfur rates above 4 lb/A applied during high temperatures may cause crop injury, d=Only in DE, PA, MD, and VA, e=See label for PHI.

Table E-9. Commonly Used Fungicides Registered for Vegetables - *continued*

X=fungicide is registered for the crop. The number next to X=PHI (days to harvest); if no number is present PHI=0 days. XGH=labeled for greenhouse use (see also Table E-11 Selected Fungicides and Bactericides Labeled for Greenhouse Use).

| | Scala (pyrimethanil) | Stratego (propiconazole+trifloxystrobin) | Sulfur ^{c,e} | Switch (cyprodinil+fludioxonil) | Tanos (famoxadone+cymoxanil) | tebuconazole | Terraclor (PCNB) | thiophanate-methyl | Torino (cyflufenamid) | Uniform (mefenoxam+azoxystrobin) | Vivando (metrafenone) | Zampro (ametoctradin+dimethomorph) | Zing! (zoxamide+chlorothalonil) |
|-----------------------|----------------------|--|-----------------------|---------------------------------|------------------------------|--------------|------------------|--------------------|-----------------------|----------------------------------|-----------------------|------------------------------------|---------------------------------|
| FRAC CODE(S) | 9 | 3 + 11 | M02 | 9 + 12 | 11 + 27 | 3 | 14 | 1 | U06 | 4 + 11 | 50 | 45+ 40 | 22+ M05 |
| Asparagus | | | X | | | X180 | | | | | | | |
| Beans, snap | | | X | X7 | | X14 | X14 | X14 | | X | | | |
| Beans, lima | | | X | X7 | | X14 | X14 | X14 | | X | | | |
| Beets | | | X | X7 | | X7 | | | | X | | | |
| Broccoli | | | X | X7 | | X7 | X | | | | | X | |
| Carrots | | | X | X7 | | | | | | | | | |
| Celery | | | X | X | | | | X7 | | X | | X | |
| Chinese cabbage | | | | X7 | | X7 | X | | | X | | X | |
| Cole crops | | | X | X7 | | X7 | X | | | X | | X | |
| Cucumbers | | | X | X1 | X3 | X7 | | X1 | X | X | X | X | X |
| Eggplants | | | X | X | | X7 | | | | | X | X4 | |
| Garlic | X7 | | X | X7 | X3 | X7 | X | Xa | | X | | X | X7 |
| Greens, mustard | | | X | X7 | | X7 | | | | X | | X | |
| Greens, turnip | | | X | X7 | | X7 | | | | | | | |
| Horseradish | | | X | X7 | | | | | | | | | |
| Leeks | X7 | | | X7 | X3 | X7 | | | | X | | X | |
| Lettuce | | | X | X | X1 | | | | | X | | X | |
| Muskmelons | | | X | X1 | X3 | X7 | | X1 | X | X | X | X | X |
| Okra | | | X | X | | X3 | | | | | X | | |
| Onions, dry | X7 | | X | X7 | X3 | X7 | | Xa | | X | | X | X7 |
| Onions, green | X7 | | X | X7 | X3 | X7 | | Xa | | X | | X | |
| Parsley | | | | X7 | X1 | | | | | X | | X | |
| Parsnips | | | X | X7 | | | | | | | | | |
| Peas | | | X | | | | | | | X | | | |
| Peppers | | | X | X | X3 | X7 | X | | | | X | X4 | |
| Potatoes | X7 | | X | X7 | X | | | X21 | | | | X4 | X7 |
| Pumpkin/winter squash | | | X | X1 | X3 | X7 | | X1 | X | X | X | X | X |
| Radish | | | X | X7 | | | | | | X | | | |
| Spinach | | | X | X | X1 | | | | | X | | X | |
| Squash, summer | | | X | X1 | X3 | X7 | | X1 | X | X | X | X | X |
| Strawberries | X1 | | X | X | | | | X1 | X | | | | |
| Sweet corn | | X14 | | | | X7 | | | | | | | |
| Sweet potatoes | X7 | | X | X7 | | | X | | | X | | | |
| Tomatoes | X1 | | X | X | X3 | X7 | X | | | | X | X4 | X5 |
| Watermelon | | | | X1 | X3 | X7 | | X1 | X | X | X | X | X |

Superscripts: a=seed treatment or soil use only, b=Ultra Flourish is not labeled on these crops, c=Sulfur rates above 4 lb/A applied during high temperatures may cause crop injury, d=Only in DE, PA, MD, and VA, e=See label for PHI.