Leafy Vegetables

Endive, Herbs, Lettuce, Parsley, and Spinach

### Disease Control

#### Botrytis Gray Mold
In greenhouse production, avoid condensation on foliage by providing adequate ventilation within the enclosure and avoiding overcrowding plants.

#### Recommended Products
- **Botran 75W® or Botran 5F®** at planting. Rate depends on crop and application method. *Lettuce and endive only.*
- **Endura®** at 8-11 oz. per acre. 14-day PHI. *Lettuce only.*
- **Fontelis®** at 14-24 fl. oz. per acre. 3-day PHI.
- **Merivon®** at 8-11 fl. oz. per acre. 1-day PHI.
- **Switch 62.5WG®** at 11-14 oz. per acre. 0-day PHI.

#### Damping-Off
Conditions that favor rapid germination limit damping off severity. Avoid excessive irrigation and poorly drained soils. Good sanitation is critical to avoiding damping-off.

#### Recommended Products
- **Previcur Flex®** See label for rates and greenhouse uses. *For damping-off of lettuce caused by Pythium and Phytophthora.*
- **Ridomil Gold SL®** at 1-2 pts. per acre applied pre-plant, to control damping-off.

#### Downy Mildew, White Rust
Plant downy mildew-resistant varieties.

#### Recommended Products
- **Actigard®** at the following rates:
  - **Spinach**: 0.5-0.75 oz. per acre.
  - **Lettuce**: 0.75-1 oz. per acre. *Downy mildew only.*
  - **Not for herbs.** 7-day PHI.
  - **Agri-Fos 50WP®** at 0.5 gal. per acre in 40 gals. water. *Not for herbs. Downy mildew only.* 0-day PHI.
  - **Aliette®** at 2-5 lbs. per acre. 3-day PHI.
  - **Dithane F-45®** at 1.2-1.6 qts. per acre. Supplemental label required. *Downy mildew on lettuce only.* 10-day PHI for head lettuce. 14-day PHI for leaf lettuce.

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This is a reduced-risk pesticide. See page 34 for details.

### Spacing
These crops can have a common between-row spacing for convenience in cultivating.

#### Spinach: Rows 12 to 18 inches apart. Plants 4 to 6 per foot of row. Seed 12 to 20 pounds per acre.

#### Lettuce and Endive: Rows 12 to 15 inches apart. Plants 10 to 16 inches apart in row. Seed 1 to 2 pounds per acre.

### Fertilizing

#### Lime: To maintain soil pH of 6.5 to 6.8. Spinach is particularly sensitive to soil acidity.

#### Preplant: N: 60 pounds per acre. P₂O₅: 0 to 150 pounds per acre. K₂O: 0 to 200 pounds per acre. Adjust according to soil type, previous management, and soil test results for your state.

#### Sidedress N: for soils with more than 3 percent organic matter and following soybeans, alfalfa, or a grass-legume hay crop, apply 30 pounds N per acre. For soils with less than 3 percent organic matter and the above rotation, apply 45 pounds N per acre. Following corn, rye, oats, wheat, or a vegetable crop, apply 60 pounds N per acre. Use a total of 90 to 120 pounds N per acre for culinary herbs. For herbs grown for seeds, such as coriander, fennel, and dill, use 60 to 90 pounds N acre.

<table>
<thead>
<tr>
<th>Varieties</th>
<th>Endive</th>
<th>Leaf Lettuce</th>
<th>Butterhead</th>
<th>Head Lettuce</th>
<th>Spinach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salad Greens</td>
<td>Full Heart Batavian, Green Curled Ruffoc</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Leaf Lettuce</td>
<td>Tiara, Glossy Green, Green Wave, New Red Fire, Sierra, Vulcan, Tango (oakleaf), Lolla Rossa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butterhead</td>
<td>Buttercunch, Esmeralda, Ermosa (for trial)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head Lettuce</td>
<td>Ithaca, Maverick (for trial), Montello (for trial)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Spinach</td>
<td>Bloomsdale Long Standing (spring), Early Hybrid No. 7 (fall), Early Hybrid No. 10 (fall), Old Dominion (fall), Virginia Savoy (fall), Tyee, Melody, Decatur, Unipak 151 (semi-savoy)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Merivon® at 4-11 fl. oz. per acre. **Downy mildew suppression only.** 1-day PHI.

Phostrol® at 2.5-5 pts. per acre. **Downy mildew only.** 0-day PHI.

Presidio 4SC® at 3-4 fl. oz. per acre. 2-day PHI.

Previcur Flex® at 2 pts. per acre. **Lettuce and downy mildew only.** 2-day PHI.

**Quadris®** at the following rates:

- **Downy mildew:** 12.0-15.5 fl. oz. per acre.
- **White rust:** 6.2-15.4 fl. oz. per acre.
- 0-day PHI.

Ranman® at 2.75 fl. oz. per acre. 0-day PHI.

Revus 2.09SC® at 8 fl. oz. per acre. **Downy mildew only.** 1-day PHI.

**Ridomil Gold SL®** at 0.25 pt. per acre. **Spinach only.** 7-day PHI.

**Satori®** at the following rates:

- **Downy mildew:** 12.0-15.5 fl. oz. per acre.
- **White rust:** 6.2-15.4 fl. oz. per acre.
- 0-day PHI.

Tanos 50WP® at 8-10 oz. per acre. **Not for herbs.** 1-day PHI.

Zampro® at 14 fl. oz. per acre. Downy mildew only. Do not use with herbs except for fennel. 0-day PHI.

**Bottom Rot and Drop (lettuce)**

Bottom rot is caused by *Rhizoctonia*. Lettuce drop is caused by *Sclerotinia*. Avoid poorly drained fields with a history of the disease.

**Recommended Products**

**Botran 75W® or Botran 5F®**. Rate varies by application method. **Lettuce drop only.**

**Endura 70WG®** at 8-11 oz. per acre. **Lettuce only.** Bottom rot is suppression. 14-day PHI.

**Fontelis®** at 16-24 fl. oz. per acre. **Lettuce drop only.** 3-day PHI.

**Merivon®** at 8-11 fl. oz. per acre. **Lettuce drop only.** 1-day PHI.

**Fusarium Wilt (basil)**

Basil varieties with Fusarium wilt resistance are available.

**Powdery Mildew**

**Recommended Products**

**Fontelis®** at 14-24 fl. oz. per acre. 3-day PHI.

**Merivon®** at 4-11 fl. oz. per acre. 1-day PHI.

**Quintec®** at 4-6 fl oz per acre. **Lettuce only.** Supplemental label needed. 1-day PHI.

**Lettuce Mosaic Virus (LMV)**

This virus can be carried in infested seed and is spread by aphids. Sow only mosaic-free indexed seed (sold as MTO). Control aphids and weeds near to production areas. Keep new lettuce planting as far as possible from old lettuce plantings. Disk under lettuce fields as soon as possible after final harvest.

**Weed Control**

Weed control in leafy vegetables often relies heavily on cultivation and hand weeding. These operations are most efficient when planting arrangement is designed with weed control in mind, and is designed to work with available weed control equipment. Specialized weeding equipment for leafy vegetables includes basket weeders, narrow-bladed hoes, and others. Using a stale seedbed is helpful to reduce weed pressure in the crop. For direct-seeded crops, a carefully timed weed-killing operation after the crop is seeded and just before emergence will buy a few weeks of time before cultivation or hand weeding is necessary. Just before the crop emerges, weeds could be killed with a flame weeder, or an approved nonselective herbicide. Using transplants is helpful for weed control because the size difference between weeds and crop early in the season make mechanical control easier. Plastic and paper mulches have been used with success for transplanted crops.

For specific weeds controlled by each herbicide, check Table 26 on page 61.

Rates provided in the recommendations below are given for overall coverage. For band treatment, reduce amounts according to the portion of acre treated.

**Burndown or Directed/Shielded Application Broadleaves and Grasses**

**Recommended Products**

**Gramoxone Inteon 2L®** at 2-4 pts. per acre. **Endive and lettuce only.** Not for spinach, parsley, radicchio, or herbs. Include 1 qt. of COC or 4-8 fl. oz. of nonionic surfactant per 25 gallons of spray solution. Apply before or after seeding but before crop emerges. **RUP.**
**Glyphosate** products at 0.75-3.75 lbs. acid equivalent (ae) per acre. *Basil, endive, Florence fennel, lettuce, parsley, radicchio, and spinach only*. Use formulations containing 3 lbs. ae per gal. (4 lbs. isopropylamine salt per gal.) at 1-5 qts. per acre, or formulations containing 4.5 lbs. ae per gal. (5 lbs. potassium salt per gal.) at 0.66-3.3 qts. per acre. Broadcast before seeding, or apply between crop rows with wipers or hooded or shielded sprayers. Use low rate for annuals and higher rates for perennials. See label for suggested applications volume and adjuvants. 14-day PHI.

**Preemergence Broadleaves and Grasses**

**Recommended Products**

Balan 60DF® at 2.2-5.5 lbs. per acre. *Lettuce only*. Apply and incorporate before seeding or transplanting.

Dual Magnum® at 0.33-1 pt. per acre. *Spinach in Indiana and Ohio only*. Apply after seeding before crop emerges. Incorporation is not recommended. Do not exceed 1 pt. per acre per crop or 1 application per crop. 50-day PHI.

Kerb 50WP® at the following rates:

*Endive only*: 2-3 lbs. per acre.

*Lettuce only*: up to 4 lbs. per acre. Use lower rate on coarse soils. Apply before or after seeding but before crop emerges.

May also be applied postemergence to endive and crisphead lettuce. Mechanical incorporation or rainfall required for effectiveness. Do not exceed 1 application per crop per year. 55-day PHI. *RUP.*

Lorox 50DF® at 1.5-3 lbs. per acre. *Parsley only and east of the Mississippi River only*. Do not use on sand, loamy sand, or soils with less than 1% organic matter. Apply after seeding before crop emerges. On muck soils, may be applied at 1 lb. per acre to control small emerged weeds after parsley has 3 true leaves. Do not exceed 3 lbs. per acre per season. 30-day PHI.

Trifluralin products at 0.5-0.75 lb. a.i. per acre. Apply 4EC formulations at 1-1.5 pts. per acre. *Endive and radicchio only. Not for Florence fennel, herbs, lettuce, spinach, or parsley*. Use lowest rate on coarse soils. Apply and incorporate before planting. Not effective on soils with high organic matter.

**Preemergence Grasses**

**Recommended Products**

Prefar 4E® at 5-6 qts. per acre. *Lettuce, endive, Florence fennel, and radicchio only. Not for herbs or spinach*. Use low rate on soils with less than 1% organic matter. Apply and incorporate before planting, or apply after seeding before crop emerges and irrigate within 24 hours.

**Postemergence Broadleaves and Grasses**

**Recommended Products**

**Glyphosate** products. See details above for Burndown or Directed/Shielded Applications.

**Postemergence Broadleaves**

**Recommended Products**

Aim EC® at 0.5-2 fl. oz. per acre. Apply with hooded sprayers as a directed application between crop rows. Use COC or NIS. Weeds must be actively growing and less than 4 inches tall. Do not allow spray to contact crop. Do not exceed 6.1 fl. oz. per acre per season.

Spin-Aid 1.3E® at 3-6 pts. per acre in 11-22 gals. of water. *For spinach grown for processing or seed only*. Apply to spinach with 4 true leaves to avoid injury. Do not apply if spinach is stressed. Does not control pigweed. 40-day PHI.

Stinger 3L® at 4-8 fl. oz. per acre. *Spinach only*. Controls mainly composites and nightshade. Do not exceed 8 oz. per acre per year. 21-day PHI.

**Postemergence Grasses**

**Recommended Products**

Clethodim products at the following rates:

*Select Max®* at 9-16 fl. oz. per acre. Use Select Max® with 8 fl. oz. of NIS per 25 gals. of spray solution (0.25% v/v). Maximum 64 fl. oz. Select Max® per acre per season.

2EC formulations of clethodim products at 6-8 fl. oz. per acre. Use 2EC formulations with 1 qt. of COC per 25 gals. of spray solution (1% v/v). Maximum 32 fl. oz. Select 2EC® per acre per season.

Herbs may vary in sensitivity. Test on a small area before applying to entire crop. Apply to actively growing grass. Wait at least 14 days between applications. 14-day PHI for lettuce and spinach. 30-day PHI for Florence fennel.

Poast® 1.5E at the following rates:

*Endive, dill, Florence fennel, lettuce, parsley, radicchio, and spinach*: 1-1.5 pts. per acre.

*Dill*: up to 2.5 pts. per acre. Do not exceed 5 pts. per acre per season.

*Not for herbs other than dill*. Use with 1 qt. of COC per acre. Spray on actively growing grass. Do not exceed 3 pts. per acre per season. 14-day PHI for dill. 15-day PHI for leaf lettuce, spinach, endive, and parsley. 30-day PHI for fennel, head lettuce, and radicchio.
## Herbicides for Leafy Vegetables

<table>
<thead>
<tr>
<th>Product (REI/PHI)</th>
<th>Common Name</th>
<th>Timing and Application Location Relative to Crop</th>
<th>Incorporation</th>
<th>Timing Relative to Weeds</th>
<th>Weed Groups Controlled</th>
<th>Crops&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gramoxone Inteon 2L&lt;sup&gt;*&lt;/sup&gt; (12h to 24h)</td>
<td>paraquat</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Roundup&lt;sup&gt;*&lt;/sup&gt;, others (12h/14d)</td>
<td>glyphosate</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Aim EC&lt;sup&gt;*&lt;/sup&gt; (12h)</td>
<td>carfentrazione</td>
<td>X</td>
<td>Yes</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Balan 60DF&lt;sup&gt;*&lt;/sup&gt; (12h/-)</td>
<td>benefin</td>
<td>X</td>
<td>X</td>
<td>Yes</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Dual Magnum&lt;sup&gt;*&lt;/sup&gt; (24h/50d to 60d)</td>
<td>s-metolachlor</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Kerb 50WP&lt;sup&gt;*&lt;/sup&gt; (24h/55d)</td>
<td>pronamide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lorox 50DF&lt;sup&gt;*&lt;/sup&gt; (24h/30d)</td>
<td>linuron</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Treflan&lt;sup&gt;*&lt;/sup&gt;, others (12h/-)</td>
<td>trifluralin</td>
<td>X</td>
<td>Yes</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Spin-Aid&lt;sup&gt;*&lt;/sup&gt; (12h/40d)</td>
<td>phenmediphan</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Stinger&lt;sup&gt;*&lt;/sup&gt; (12h/21d)</td>
<td>clopyralid</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Prefar 4E&lt;sup&gt;*&lt;/sup&gt; (12h/-)</td>
<td>bensulide</td>
<td>X</td>
<td>X</td>
<td>Yes</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Select Max&lt;sup&gt;*&lt;/sup&gt;, others (12h/14d to 32 d)</td>
<td>clethodim</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Poast&lt;sup&gt;*&lt;/sup&gt; (12h/14d to 30d)</td>
<td>sethoxydim</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

<sup>1</sup>For effectiveness against specific weeds, see Table 26 on page 61, and read label. This table does not include all label information. Be sure to read and follow all instructions and precautions on the herbicide label. Herbicides can cause serious crop injury and yield loss if not used properly.

<sup>2</sup>X=may be used for that crop. *=Processing crops only.
Insect Control

Aphids, Leafminers, Mites
Treat when insects reach the economic thresholds described below.

Seedlings
Aphids
2 per plant
Leafminers
50% of plants infested

Established Plants
Aphids
7 per plant

Near Harvest
Leafminers
5% of leaves infested

Recommended Products
- **Actara®** at 1.5-3 oz. per acre. *Aphids only*. Do not exceed 11 oz. per acre per season. 7-day PHI.
- **Admire PRO®** at the following rates:
  - **Soil applications**: 4.4-10.5 fl. oz. per acre. 21-day PHI.
  - **Foliar applications**: 1.3 fl. oz. per acre. 7-day PHI.
  - *Aphids only*. Do not exceed 0.38 lb. a.i. per acre per season.
- **Agri-Mek 0.15EC®** at 8-16 fl. oz. per acre. *Leafminers and mites only*. Do not exceed 2 applications or 48 fl. oz. per acre per season. Use NIS. 7-day PHI. RUP.
- **Ambush 25W®** at 6.4-12.8 oz. per acre. *Leafminers only. Spinach*: Do not exceed 1 lb. a.i. per acre per season. *All others*: Do not exceed 8 lbs. per acre per season. 1-day PHI. RUP.
- **Assail 30SG®** at 2-4 oz. per acre. *Aphids only*. Do not exceed 20 oz. per acre per season. 7-day PHI.
- **Belay 2.13SC®** at 3.4 fl. oz per acre. 7-day PHI.
- **Beleaf 50SG®** at 1.2-2.8 oz per acre. *Aphids only*. 0-day PHI for lettuce, spinach.
- **Closer 2SC®** at 1.5-2 fl. oz. per acre. 3-day PHI.
- **Dimethoate 4E® or Dimethoate 400®** at 0.5 pt. per acre. *Not for parsley, spinach, celery or head lettuce*. 14-day PHI for endive, swiss chard, and leaf lettuce.
- **Endosulfan®** at 1-1.33 qts. per acre. *Lettuce and spinach only*. Do not exceed 2 applications per season. Do not use after July 31, 2015. 14-day PHI.
- **Entrust®** at 2-3 oz. per acre. *Leafminers only*. Do not exceed 9 oz. per acre per season. Observe resistance management restrictions. 1-day PHI.
- **Fulfill®** at 2.75 oz. per acre. *Aphids only*. Do not exceed 5.5 oz. per acre per season. 7-day PHI.
- **Malathion 5EC®** at 2 pts. per acre. 14-day PHI for leaf and head lettuce. 7-day PHI for endive and spinach.
- **Movento®** at 4-5 fl. oz. per acre. *Aphids only*. 3-day PHI.
- **M-Pede®** at 1-2% by volume. *Aphids only*. Must contact aphids to be effective. 0-day PHI.
- **Neemix®** according to label directions. *Aphids and leafminers only*. 0-day PHI.
- **Oberon 2SC®** at 7-8.5 fl. oz. per acre. *Mites only*. Do not exceed 25.5 fl. oz. per acre per season. 7-day PHI.
- **Orthene 97®** at 0.5-1 lb. per acre. *Aphids on head lettuce only*. Do not exceed 2 1/8 lbs. a.i. per acre per season. 21-day PHI.
- **Platinum®** at 5-11 fl. oz. per acre. *Aphids only*. 30-day PHI.
- **Pounce 25WP®** at 6.4-12.8 oz. per acre. *Leafminers only. Spinach*: Do not exceed 4 lbs. per acre per season. *All others*: Do not exceed 8 lbs. per acre per season. 1-day PHI. RUP.
- **Radiant SC®** at 6-10 fl. oz. per acre. *Leafminers only*. Do not exceed 34 fl. oz. per acre per season. 1-day PHI.
- **Torac®** at 17-21 fl. oz. per acre. *Aphids only*. Do not exceed 2 applications per season. 1-day PHI.
- **Trigard®** at 2.66 oz. per acre. *Leafminers only*. Do not exceed 6 applications per acre per season. 7-day PHI.

Carrot Weevil
For parsley, scout plants at the 4-leaf stage, looking for ovipunctures (egg-laying scars) on the stems. Treat if ovipunctures are found on at least 1% of plants.

Recommended Products
**Baythroid XL 1EC®** at 3.2 fl. oz. per acre. 0-day PHI.

This is a reduced-risk pesticide. See page 34 for details.
This is a biopesticide. See page 34 for details.
May be acceptable for use in certified organic production. Check with your certifier before use.
**Caterpillars, Loopers**
Treat when 5% of plants are infested.

**Recommended Products**

**Ambush 25W** at 3.2-12.8 oz. per acre. *Spinach*: Do not exceed 4 lbs. per acre per season. *All others*: Do not exceed 8 lbs. per acre per season. 1-day PHI. **RUP.**

**Avaunt 30WDG** at the following rates:
- *Spinach*: 3.5 oz. per acre. Do not exceed 14 oz. per acre per season.
- *Other labeled crops*: 2.5-6.0 oz. per acre. Do not exceed 24 oz. per acre per season.

3-day PHI.

Various *Bacillus thuringiensis* products (Agree®, Biobit®, Dipel®, Javelin®, Lepinox®, Xentari®) are available in various formulations. Follow label instructions for rates and use. 0-day PHI.

**Baythroid** at the following rates:
- *Cabbageworm and loopers*: 1.6-2.4 fl. oz. per acre.
- *Armyworms, corn earworm, and European corn borer*: 2.4-3.2 fl. oz. per acre.

Do not exceed 12.8 fl. oz. per acre per season. Allow 7 days between applications. 0-day PHI. **RUP.**

**Brigade 2EC** at 2.1-6.4 fl. oz. per acre, or **Brigade WSB** at 5.3-16 oz. per acre. *Head lettuce and spinach only*. *Head lettuce*: Do not exceed 1 qt. of 2EC per acre per season; do not exceed 80 oz. of WSB per acre per season. 7-day PHI. *Spinach*: Do not exceed 25.6 fl. oz. of WSB per acre per season. 40-day PHI. **RUP.**

**Confirm 2F** at 6-8 fl. oz. per acre. 7-day PHI.

**Coragen** at 3.5-5 fl. oz. per acre. 1-day PHI.

**Entrust** at 1-2.0 oz. per acre. Do not exceed 9 oz. per acre per season. Observe resistance management restrictions. 1-day PHI.

**Exirel** at the following rates:
- *Loopers*: 10-17.5 fl. oz. per acre.
- *All others*: 7-13.5 fl. oz. per acre.

1-day PHI.

**Intrepid 2F** at the following rates:
- *Early season applications*: 4-8 fl. oz. per acre.
- *Mid- to late-season applications*: 8-10 fl. oz. per acre.

Do not exceed 64 fl. oz. per acre per season. 1-day PHI. **RUP.**

**Lannate SP** at 0.5-1 lb. per acre. Maximum application amounts and PHIIs vary among vegetables. Read and follow label directions. **RUP.**

**Larvin 3.2** at 16-30 fl. oz. per acre. Do not exceed 60 fl. oz. per acre per season. 14-day PHI. **RUP.**

**Mustang MAX** at 2.24-4.0 fl. oz. per acre. Do not exceed 24 fl. oz. per acre per season. 1-day PHI. **RUP.**

**Orthene 97** at 1 lb. per acre. *Head lettuce only*. Do not exceed 2.2 lbs. per acre per season. 21-day PHI.

**Pounce 25WP** at 3.2-12.8 oz. per acre. *Spinach*: Do not exceed 4 lbs. per acre per season. *All others*: Do not exceed 8 lbs. per acre per season. 1-day PHI. **RUP.**

**Flea Beetles, Leafhoppers**

**Flea Beetle Threshold**
Seedlings: >50% plants infested and defoliation > 30%

**Recommended Products**

**Actara** at 1.5-3.0 oz. per acre. Do not exceed 11 oz. per acre per season. 7-day PHI. **RUP.**

**Admire PRO** at the following rates:
- *Soil applications*: 4.4-10.5 fl. oz. per acre. 21-day PHI.
- *Foliar applications*: 1.3 fl. oz. per acre. 7-day PHI.

*Leafhoppers only*. Do not exceed 0.38 lb. a.i. per acre per season.

**Ambush 25W** at 6.4-12.8 oz. per acre. *Leafhoppers only*. *Spinach*: Do not exceed 4 lbs. per acre per season. *All others*: Do not exceed 8 lbs. per acre per season. 1-day PHI. **RUP.**

**Ammo 2.5EC** at 2.5-5.0 fl. oz. per acre. *Head lettuce only*. Do not exceed 30 fl. oz. per acre per season. 5-day PHI. **RUP.**

**Baythroid** at the following rates:
- *Flea beetles*: 2.4-3.2 fl. oz. per acre.
- *Potato leafhoppers*: 0.8-1.6 fl. oz. per acre.

Do not exceed 12.8 fl. oz. per acre per season. Allow 7 days between applications. 0-day PHI. **RUP.**

**Leafy Vegetables - Insect Control**

This is a reduced-risk pesticide. See page 34 for details.

This is a biopesticide. See page 34 for details.

May be acceptable for use in certified organic production. Check with your certifier before use.
Brigade 2EC* at 2.1-6.4 fl. oz. per acre, or Brigade WSB* at 5.3-16 oz. per acre. *Head lettuce and spinach only.* 7-day PHI for head lettuce. 40-day PHI for spinach. *RUP.*

Dimethoate 4E* or Dimethoate 400* at 0.5 pt. per acre. *Leafhoppers only. Not for parsley, spinach, celery, or head lettuce.* 14-day PHI for endive, swiss chard, and leaf lettuce.

Mustang MAX* at 2.24-4.0 fl. oz. per acre. Do not exceed 24 fl. oz. per acre per season. 5-day PHI. *RUP.*

Neemix* according to label directions. 0-day PHI.

Platinum* at 5-11 fl. oz. per acre. 30-day PHI.

Pounce 25WP* at 6.4-12.8 oz. per acre. *Leafhoppers only.* Spinach: Do not exceed 4 lbs. per acre per season. All others: Do not exceed 8 lbs. per acre per season. 1-day PHI. *RUP.*

Sevin XLR PLUS* at 0.5-1 qt. per acre. Do not exceed 6 qts. per acre per season. 14-day PHI.

Torac* at the following rates:

*Leafhoppers:* 14-21 fl. oz. per acre.

*All others:* 17-21 fl. oz. per acre.

Do not exceed 2 applications per season. 1-day PHI.

Warrior II* at 1.28-1.92 fl. oz. per acre. *Lettuce only.* Do not exceed 19.2 fl. oz. per acre per season. 1-day PHI. *RUP.*

This parsley transplant will have an advantage over plants that are direct seeded.