

This is a section from the

## 2011 Commercial Vegetable Production Recommendations for New Jersey

Publication E001

The manual, which is published annually, is NOT for home gardener use.

The full manual, containing recommendations specific to New Jersey,  
can be found on the Rutgers NJAES website in the Publications section  
[njaes.rutgers.edu](http://njaes.rutgers.edu)

The label is a legally-binding contract between the user and the manufacturer.

The user must follow all rates and restrictions as per label directions.

The use of any pesticide inconsistent with the label directions is a violation of Federal law.

# PARSLEY

## Varieties

### Flat Leaf

Giant of Italy  
Italian Flat Leaf  
Italian Plain Leaf

### Curly Leaf

Banquet (Overwintering)  
Champion Moss  
Darki  
Forest Green (Semi-curved)  
Krausa  
Lisette  
Moss Curled II  
Titan

Varieties listed alphabetically. All varieties are open pollinated

## Recommended Nutrients Based on Soil Tests

Before using the table below, refer to important notes in the Soil and Nutrient Management chapter in Section B and your soil test report. These notes and soil test reports provide additional suggestions to adjust rate, timing, and placement of nutrients. Your state's soil test report recommendations and/or your farm's nutrient management plan supercede recommendations found below.

Parsley	Pounds N per Acre	Soil Phosphorus Level				Soil Potassium Level				Nutrient Timing and Method
		Low	Med	High		Low	Med	High		
				(Opt.)	High			(Opt.)	High	
		Pounds P <sub>2</sub> O <sub>5</sub> per Acre				Pounds K <sub>2</sub> O per Acre				
	150-175	200	150	100	0	200	150	100	0	Total nutrient recommended.
	50-75	200	150	100	0	200	150	100	0	Broadcast and disk-in.
	25-50	0	0	0	0	0	0	0	0	Sidedress after first cutting.
	25-50	0	0	0	0	0	0	0	0	Sidedress after each additional cutting.

## Seeding and Spacing

Seed is sown 1/3 inch deep in a well-prepared seedbed beginning April 5. Later plantings can be seeded through July 10. Spacing between rows is 15 to 18 inches. Usual seeding rate is 20 to 40 pounds per acre. with plants spaced 4 to 8 inches apart in each row. Seed is slow to germinate. If seed is more than 1 year old, have germination checked and adjust seeding rate accordingly.

## Harvest and Post Harvest Considerations

Parsley may be harvested by cutting a few leaves at a time from each plant, or the entire bunch of leaves may be removed for sale. Although parsley leaves are used most commonly in the fresh green condition, their characteristic flavor and green color can be retained if the leaves are dehydrated for dried herb markets. Store fresh parsley at 32°F and 95 to 100% relative humidity. Parsley should keep 2 to 2.5 months at 32°F. High humidity is essential to prevent desiccation. Packaging in perforated polyethylene bags and using top ice are often beneficial. A controlled atmosphere of 10 % oxygen and 11 % carbon dioxide can help retain green color and salability.

## Weed Control

Section 18 Emergency Label requests may be submitted to supplement weed control recommendations in parsley.

Identify the weeds in each field and select recommended herbicides that control those weeds. See Tables E-3 and E-4.

Match preplant incorporated and preemergence herbicide rates to soil type and percent organic matter in each field.

Apply postemergence herbicides when crop and weeds are

within the recommended size and/or leaf stage.

Find the herbicides you plan to use in the Herbicide Resistance Action Committee's (HRAC) **Herbicide Site of Action Table E-8** and follow the recommended good management practices to minimize the risk of herbicide resistance development by weeds in your fields.

## Preplant Incorporated or Preemergence

Bensulide--5.0 to 6.0 lb/A. Apply 5.0 to 6.0 quarts per acre Prefar 4E before planting and incorporate 1 to 2 inches deep with power-driven rotary cultivators, or apply preemergence and activate with one-half inch of sprinkler irrigation within 36 hours to control most annual grasses. Use the maximum recommended rate preemergence followed by irrigation to suppress certain annual broadleaf weeds including common lambsquarters, smooth pigweed, and common purslane.

## Preemergence

Linuron--0.5 to 1.0 lb/A. Apply 1.0 to 2.0 pounds per acre Lorox 50DF or 1.0 to 2.0 pints Lorox 4L immediately after seeding. Follow with irrigation if rainfall does not occur. Primarily controls broadleaf weeds. Annual grasses may only be suppressed

Prometryn--0.5 lb/A. Apply 1.0 pint per acre Caporol 4L after seeding, but before crop emergence. Follow with overhead irrigation if rainfall does not occur. Primarily controls annual broadleaf weeds. Annual grasses may only be suppressed. Additional postemergence and postharvest treatments may be applied, but DO NOT exceed 3 pints per

acre per crop cycle. DO NOT use on sand or loamy sand soils, or crop injury may occur.

### Postemergence

Clethodim--0.094 to 0.125 lb/A. Apply 12.0 to 16.0 fluid ounces of Select Max 0.97EC with nonionic surfactant to be 0.25% of the spray solution (1 quart per 100 gallons of spray solution) postemergence to control many annual and certain perennial grasses, including annual bluegrass. Select will not consistently control goosegrass. Control may be reduced if grasses are large or if hot, dry weather or drought conditions occur. For best results, treat annual grasses when they are actively growing and before tillers are present. Repeated applications may be needed to control certain perennial grasses. Yellow nutsedge, wild onion, or broadleaf weeds will not be controlled. Do not tank-mix with or apply within 2 to 3 days of any other pesticide unless labeled, as the risk of crop injury may be increased, or reduced control of grasses may result. Observe a minimum preharvest interval of 14 days.

Prometryn--0.5 lb/A. Apply 1 pint per acre Caporol 4L after the crop has developed 3 true leaves. Primarily controls seedling annual broadleaf weeds less than two inches tall. Annual grasses may only be suppressed. An additional treatment can be applied to regrowth after the first harvest, but do NOT exceed 3 pints per acre per crop cycle. Do NOT use on sand or loamy sand soils, or crop injury may occur. Do NOT tank-mix Caporol with any other pesticide. Do NOT use spray additives such as nonionic surfactant or oil concentrate. Do NOT apply within two weeks of any herbicidal oil such as "carrot oil" or Stoddard Solvent. Observe a minimum preharvest interval of 40 days.

Sethoxydim--0.2 to 0.3 lb/A. Apply 1.0 to 1.5 pints per acre Poast 1.5EC with oil concentrate to be 1 percent of the spray solution (1 gallon per 100 gallons of spray solution) postemergence to control annual grasses and certain perennial grasses. The use of oil concentrate may increase the risk of crop injury when hot or humid conditions prevail. To reduce the risk of crop injury, omit additives or switch to nonionic surfactant when grasses are small and soil moisture is adequate. Control may be reduced if grasses are large or if hot dry weather or drought conditions occur. For best results, treat annual grasses when they are actively growing and before tillers are present. Repeated applications may be needed to control certain perennial grasses. Yellow nutsedge, wild onion, and broadleaf weeds will not be controlled. Do not tank-mix with or apply within 2 to 3 days of any other pesticide unless labeled, as the risk of crop injury may be increased, or reduced control of grasses may result. Observe a minimum preharvest interval of 15 days and apply no more than 3.0 pints per acre in one season. Labeled for use in Parsley and Cilantro.

### Postharvest

Paraquat--0.6 lb/A. A **Special Local-Needs 24(c) label has been approved for the use of Gramoxone SL 2.0 or OLF for postharvest desiccation of the crop in Delaware, New Jersey and Virginia.** Apply 2.4 pints per acre Gramoxone SL 2.0 or OLF as a broadcast spray after the last harvest. Add nonionic surfactant according to the labeled instructions. See the label for additional information and warnings.

## Insect Control

### THE LABEL IS THE LAW. PLEASE REFER TO THE LABEL FOR UP TO DATE RATES AND RESTRICTIONS

**NOTE:** Copies of specific insecticide product labels can be downloaded by visiting websites [www.CDMS.net](http://www.CDMS.net) or [www.greenbook.net](http://www.greenbook.net). Also, specific labels can be obtained via web search engines.

### Aphids

Apply one of the following formulations:

acetamiprid--2.0 to 4.0 oz/A Assail 30G (or OLF)  
 azadirachtin--1.0 to 2.0 pts/A Aza-Direct (Azatin or OLF)  
 clothianidin--**soil** 9.0 to 12.0 fl oz/A Belay 2.13SC, **foliar** 3.0 to 4.0 fl oz/A Belay 2.13SC  
 flonicamid--2.0 to 2.8 oz/A Beleaf 50SG  
 imidacloprid--**soil** 4.4 to 10.5 fl oz/A Admire Pro (or OLF), **foliar** 1.3 fl oz/A Admire PRO (or OLF)  
 imidacloprid + beta-cyfluthrin--3.0 fl oz/A Leverage 360  
 malathion--1.0 to 2.0 pts/A Malathion 57EC (or OLF)  
 pymetrozine--2.75 oz/A Fulfill 50WP  
 spirotetramat--4.0 to 5.0 fl oz/A Movento  
 sulfloxafor--1.5 to 2.0 fl oz/A Closer SC  
 thiamethoxam--**soil** 1.66 to 3.67 oz/A Platinum 75SG; **foliar** 1.5 to 3.0 oz/A Actara 25WDG

### Armyworms

Apply one of the following formulations:

*Bacillus thuringiensis*--1.0 to 2.0 lbs/A Dipel DF (or OLF)  
 cyfluthrin--2.4 to 3.2 fl oz/A Tombstone (or OLF)  
 emamectin benzoate--2.4 to 4.8 oz/A Proclaim 5SG  
 flubendiamide--1.5 fl oz/A Belt SC  
 flubendiamide + buprofezin--12.0 to 17.0 fl oz/A Vetica  
 imidacloprid + beta-cyfluthrin--3.0 fl oz/A Leverage 360  
 indoxacarb--3.5 to 6.0 oz/A Avaunt 30WDG  
 methoxyfenozide--4.0 to 8.0 fl oz/A Intrepid 2F (early season); 8.0 to 10.0 fl oz/A Intrepid 2F (mid to late season)  
 spinetoram--5.0 to 10.0 fl oz/A Radiant SC  
 spinosad--4.0 to 8.0 fl oz/A Entrust SC  
 zeta-cypermethrin--3.2 to 4.0 fl oz/A Mustang Maxx (or OLF)

### Flea Beetles, Leafhoppers, Tarnished Plant Bugs

Apply one of the following formulations:

beta-cyfluthrin--2.4 to 3.2 fl oz/A Baythroid XL  
 carbaryl--(**FB,LH**) 0.5 to 1.0 qt/A, (**TPB**) 1 to 2 qt/A Sevin XLR Plus (or OLF)  
 clothianidin--**soil** 9.0 to 12.0 fl oz/A, **foliar** 3.0 to 4.0 fl oz/A Belay 2.13SC  
 cyfluthrin--2.4 to 3.2 fl oz/A Tombstone (or OLF)  
 dinotefuran--(**FB, LH**) **soil** 5.0 to 6.0 oz/A, **foliar** 1.0 to 3.0 oz/A Venom 70SG, or, **soil** 9.0 to 10.5 fl oz/A, **foliar** 2.0 to 5.25 fl oz/A Scorpion 35SL (or OLF)  
 flonicamid--(**TPB only**) 2.0 to 2.8 oz/A Beleaf 50SG  
 imidacloprid--**soil (LH only)** 4.4 to 10.5 fl oz/A Admire Pro (or OLF); **foliar (FB, LH only)**--1.3 fl oz/A Admire PRO (or OLF)  
 imidacloprid + beta-cyfluthrin--(**FB, LH**) 3.0 fl oz/A Leverage 360  
 permethrin--(**LH only**) 2.0 to 8.0 fl oz/A Perm-Up 3.2 (or OLF)  
 thiamethoxam--(**FB, LH**) **soil** 1.66 to 3.67 oz/A Platinum 75SG; **foliar** 1.5 to 3.0 oz/A Actara 25WDG

zeta-cypermethrin--(FB, LH) 2.4 to 4.0 fl oz, (TPB) 3.2 to 4.0 fl oz/A Mustang Maxx (or OLF)

Pesticide	Use Category <sup>1</sup>	Hours to Reentry	Days to Harvest
<b>INSECTICIDE</b>			
acetamiprid	G	12	7
azadirachtin	G	4	0
<i>Bacillus thuringiensis</i>	G	4	0
beta-cyfluthrin	R	12	0
carbaryl	G	12	14
clothianidin	G	12	21
cyfluthrin	R	12	0
dinotefuran (soil/foliar)	G	12	21/7
emamectin benzoate	R	12	7
flonicamid	G	12	0
flubendiamide	G	12	1
flubendiamide+buprofezin	G	12	7
imidacloprid (soil/foliar)	G	12	21/7
imidacloprid + beta-cyfluthrin	R	12	7
indoxacarb	G	12	3
malathion	G	24	7
methoxyfenozide	G	4	1
permethrin	R	12	1
pymetrozine	G	12	7
spinetoram	G	4	1
spinosad	G	4	1
spirotetromat	G	24	3
sulfloxafor	G	12	3
thiamethoxam (drip/foliar)	G	12	7
zeta-cypermethrin	R	24	1
<b>FUNGICIDE (FRAC code)</b>			
Cabrio (Group 11)	G	12	0
copper, fixed (Group M1)	G	24	0
Fontelis (Group 7)	G	12	3
MetaStar (Group 4)	G	48	45
Quadris (Group 11)	G	4	0
Ridomil Gold (Group 4)	G	48	21
Tilt (Group 3)	G	12	14
Ultra Flourish (Group 4)	G	48	--
Uniform (Groups 4 + 11)	G	0	AP

See Table D-6.

<sup>1</sup> G = general, R - restricted

## Nematode Control

Nematode control is essential for satisfactory parsley production. See Chapter E "Nematodes" section of Soil Pests-Their Detection and Control. Before planting, soil should be fumigated with metam-sodium (Busan or Vapam HL) according to directions in the "Soil Fumigation" section.

## Disease Control

### Seed Treatment

See Table E-14 for seed treatment options.

### Damping-off

Apply one of the following as a soil surface spray immediately after seeding:

mefenoxam (Ridomil Gold 4SL/A--1.0 to 2.0 pt or 2.0 to 4.0 pt Ultra Flourish 2E/A)

metalaxyl (MetaStar)--4.0 to 8.0 pt 2E/A

Uniform--0.34 fl. oz 3.66SE/1000 row. See label for restrictions

## Bacterial leaf blight and Septoria leaf spot

To help reduce disease pressure from bacterial and fungal diseases, do not plant parsley continually in the same field. Rotate with non-related crops for at least 2 years. Space successive plantings in the same year as far apart as possible. Heavy winds and rain may damage leaves and predispose leaves to bacterial infections.

**Bacterial leaf blight:** Prevention is key to reducing spread of the pathogen. Avoid working in the fields while the foliage is wet to help reduce spread. Scout fields on a regular basis for early symptoms, apply the following and repeat every 7 days:

fixed copper at labeled rates.

Tank-mixing a fixed copper with Quadris will also help control Septoria leaf spot.

**Septoria leaf spot:** The disease has caused serious problems in past years. Severe losses will occur if not controlled properly, especially if field or farm has a history of the disease. Grow parsley in areas of farm without history of disease. Plant blocks as far part as possible. **Early detection and prevention is key to controlling septoria leaf spot.** Scout daily, and apply fungicides preventatively, (before first leaf spots appear), tank-mix or rotate the following every 7 days. Early season infections (i.e., prior to first cutting) will severely reduce subsequent harvests.

**Rotate the following every 7 days prior to the onset of the disease**

Tilt--3.0 to 4.0 fl oz 3.6F/A plus fixed copper at labeled rates (do not apply Tilt within 14 days of harvest)

Fontelis--14.0 to 24.0 fl oz 1.67SC/A

**with one of the following FRAC code 11 fungicides:**

Quadris--6.0 to 15.5 fl oz 2.08F/A plus fixed copper at labeled rates

Cabrio--12.0 to 16.0 oz 20WG/A fixed copper at labeled rates

**Note:** Do not make more than 2 applications of Tilt, Cabrio, or Quadris per growing season. Applications of Tilt, Cabrio and/or Quadris will also help control other leaf spots.

Tank-mixing Tilt, Cabrio, Fontelis, or Quadris with a fixed copper may also help reduce bacterial infections.