

PEAS

Peas thrive in cool weather and tolerate frost. Planting for processing is based on the heat-unit theory. First plantings can be made as soon as soil can be tilled in the spring. Do not attempt plantings after April 30. Inoculation of seed enhances early nodule formation.

Varieties

Varieties ¹	DE	MD	NJ	PA	VA	WV
Processing						
Early Freezer 680	D	M	N	P		
Bolero	D	M	N	P		

Use varieties recommended by processors. Local adaptation and quality needs of processors must be considered. **Consult the Delaware Extension Program website <http://ag.udel.edu/extension/vegprogram/index.htm> for results from recent processing pea variety trials.**

Market

Progress No. 9	D	M	N		V	WV
Knight			M	N	P	V WV
Green Arrow			M	P	V	WV
Mr. Big						WV

Edible Pod: Flat

Dwarf Gray Sugar (FR)				P		WV
Oregon Sugar Pod #2		M		P	V	WV

Edible Pod: Round

Sugar Ann	D			P	V	WV
Sugar Snap (trellis type)(FR)	D	M	N	P		WV
Super Sugar Snap (trellis type)	D	M	N	P		WV

¹ Varieties listed by maturity within types, earliest first.

Letters in parentheses indicate disease resistance possessed by varieties. See the "Abbreviations" section in front portion of this publication.

Recommended Nutrients Based on Soil Tests

Before using the table below, refer to important notes in Plant Nutrient Recommendations in Section B, Soil And Nutrient Information. These notes provide additional suggestions to adjust rate, timing and placement of nutrients depending on soil type cation exchange capacity and existing fertility levels.

Peas	Nitrogen (N) Pounds per Acre	Soil Phosphorus Level			Soil Potassium Level		
		Low	Med	Opt.	Low	Med	Opt.
	40-80 ¹	120 ¹	80 ¹	40 ¹	120 ¹	80 ¹	40 ¹

¹Broadcast and disk-in before seeding.

Seed Treatment

Use seed already treated with an approved seed treatment, or treat seed with a slurry or dust that contains an approved commercial fungicide-insecticide mixture. For disease control, use seed treated with Maxim 4FS (0.08-0.16 fl oz/100 lb seed) for Rhizoctonia & Fusarium control and Apron XL LS (0.16-0.64 fl.oz/100 lb seed) for Pythium control.

Seeding and Spacing

Peas can be planted between February 25 and April 30 when soil conditions are favorable. For processing peas, drill 250 to 275 pounds of seed per acre in rows 6 to 8 inches apart. For market peas, seed 80 to 120 pounds per acre in 30-inch rows. Seed at a depth of no more than 1 inch unless soil is dry. Use press wheel drill or seeder to firm seed into soil.

Harvest

Processing peas are ready between May 20 and June 30.

Weed Control

Identify the weeds in each field and select recommended herbicides that control those weeds. See Tables E-2 and E-3.

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.

Preplant Incorporated or Preemergence

Imazethapyr--0.024-0.032 lb/A. Apply 1.5 to 2.0 fluid ounces per acre Pursuit 2SC. Shallow, thorough incorporation improves consistency of performance when dry weather follows application. Primarily controls broadleaf weeds. Use in combination with another herbicide to control annual grasses. Pursuit residues persist in the soil after harvest and may affect following crops. Incorporation may increase the persistence of soil residues. Do not make more than one application of Pursuit per acre per year. Follow label instructions pertaining to following crops.

Preemergence

Clomazone--0.188-0.38 lb/A. Apply 8 to 16 fluid ounces Command 3ME preemergence to control annual grasses and many annual broadleaf weeds, except pigweed sp. Use the lower rate on coarse-textured soils low in organic matter and higher rates on fine-textured soils and on soils with high organic matter. Some temporary injury, seen as a partial whitening of leaf and/or stem of the crop, may be observed after seedling emergence. Complete recovery from early injury will occur without affecting yield or delaying maturity.

WARNING: Command spray or vapor drift may injure sensitive crops and other vegetation up to several hundred yards from the point of application. DO NOT apply when wind or weather conditions favor spray drift. Avoid preemergence applications when fields are adjacent to horticultural, fruit, vegetable, or other sensitive crops (see label). Drift injury from off-site Command movement is extremely apparent; therefore, do not use Command on fields near sensitive locations.

Herbicide residues may limit subsequent cropping options when Command is used for weed control in peas. See planting restrictions on the label or consult your local Cooperative Extension office for information regarding subsequent cropping options when Command has been used for weed control in peas.

S-metolachlor—0.48-96 lb/A. Apply 0.5 to 1.0 pints per acre Dual Magnum 7.64E (or OLF). Primarily controls annual grasses, suppresses yellow nutsedge, and suppresses or controls certain annual broadleaf weeds including pigweed species and nightshade species. Common lambsquarter and common ragweed will NOT be controlled. Recommended rates may be lower than the labeled rate to reduce the risk of crop injury. The use of less than 1 pint of Dual Magnum

may reduce the duration or level of control of some weeds. Cold wet weather after application increases the risk of crop injury, which may delay maturity. Use the minimum recommended rate, or choose another herbicide when cold wet weather is anticipated after planting. Do NOT use Dual Magnum on peas in Nassau County or Suffolk County, New York. **Other generic versions of metolachlor and s-metolachlor may be available, and may or may not be labeled for use in the crop.**

Postemergence

Bentazon--0.75-1 lb/A. Apply 1.5 to 2 pints per acre Basagran 4SC after peas have more than three pairs of leaves. Do not add oil concentrate. Ground application in a minimum of 20 gallons per acre is preferred. For broadleaf weed control only. See label for weed size for effective control.

Clethodim--0.094-0.125 lb/A. Apply 12 to 16 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 21 days.

Quizalofop-P-ethyl--0.04-0.08 lb/A. Apply 6 to 12 fluid ounces Assure II/Targa 0.88EC per acre postemergence to control most annual and perennial grasses. Add with oil concentrate to be 1 percent of the spray solution (1 gallon per 100 gallons of spray solution) or nonionic surfactant to be 0.25 percent of the spray solution (1 quart per 100 gallons of spray solution). 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 other pesticides 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 14 fluid ounces per acre in one season.

Sethoxydim--0.2-0.3 lb/A. Apply 1 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, or broadleaf weeds will not be controlled. Do not

tank-mix with or apply within one week before or after Basagran or any other pesticide unless labeled. 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 4 pints per acre in one season.

Postharvest

Paraquat--0.6 lb/A. **A Special Local-Needs 24(c) label has been approved for the use of Gramoxone Inteon 2SC for postharvest desiccation of the crop in Delaware, New Jersey and Virginia.** Apply 2.4 pints per acre Gramoxone Inteon 2SC 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

NOTE: Copies of specific insecticide product labels can be downloaded by visiting websites www.CDMS.org or www.Greenbook.org. Also, specific labels can be obtained via web search engines.

Seed Maggots

Seed Applied Treatments:
chlorpyrifos (Lorsban ST) apply as a slurry treatment prior to planting, *plus* Apron XL LS
thiamethoxam (Cruiser 5FS)

Cutworms

See the Chapter E "Cutworms" section in Soil Pests--Their Detection and Control.

bifenthrin (Brigade EC, Sniper or OLF)
carbaryl (Sevin 5%Bait, Sevin 80S or OLF)
esfenvalerate (Asana XL)
gamma-cyhalothrin (Proaxis)
lambda-cyhalothrin (Lambda-cy, LambdaT, Silencer, Warrior, Warrior II, or OLF)
methomyl (Lannate LV or OLF)
zeta-cypermethrin (Mustang MAX)

Pea Aphid

Treat when there are 5 to 10 aphids per plant or 50 or more aphids per sweep in a 15-inch sweep net.

acetamiprid (Assail 30WDG or OLF)
dimethoate (Dimate 4EC or OLF)
endosulfan (Thionex or OLF)
imidacloprid (soil-Admire 2F, Admire PRO; foliar-Nuprid 1.6F, Provado 1.6F or OLF)
methomyl (Lannate LV or OLF)

Armyworm

bifenthrin (Brigade EC, Sniper or OLF)
carbaryl (Sevin 80S or OLF)
esfenvalerate (Asana XL)
gamma-cyhalothrin (Proaxis)
lambda-cyhalothrin (Lambda-cy, LambdaT, Silencer, Warrior, Warrior II, or OLF)
methomyl (Lannate LV or OLF)
spinetoram (Radiant 2SC)
spinosad (Entrust 80W, SpinTor 2SC or OLF)
zeta-cypermethrin (Mustang MAX)

Alfalfa Looper, Alfalfa Caterpillar

bifenthrin (Brigade EC, Sniper or OLF)
carbaryl (Sevin 80S or OLF)

endosulfan (Thionex 3EC or OLF) (**looper only**)
 esfenvalerate (Asana XL)
 gamma-cyhalothrin (Proaxis)
 lambda-cyhalothrin (Lambda-cy, LambdaT, Silencer, Warrior, Warrior II, or OLF)
 methomyl (Lannate LV or OLF)
 spinetoram (Radiant 2SC) (**looper only**)
 spinosad (Entrust 80W, SpinTor 2SC or OLF) (**looper only**)
 zeta-cypermethrin (Mustang MAX, Respect or OLF)

Pesticide	Use Category ¹	Hours to Reentry	Days to Harvest
INSECTICIDE			
acetamiprid	G	12	7
bifenthrin	R	12	3
carbaryl/carbaryl bait	G	12	3
dimethoate	R	48	7
endosulfan	R	24	5
esfenvalerate	R	12	3
gamma-cyhalothrin	R	24	7
imidacloprid (soil/foliar)	G	12	21/7
lambda-cyhalothrin	R	24	7
malathion	G	12	3
methomyl	R	48	1
spinetoram	G	4	3
spinosad	G	4	3
zeta-cypermethrin	R	12	1
FUNGICIDE (FRAC code)			
Contans WG (biological)	G	4	0
Headline (Group 11)	G	12	7
Quadris (Group 11)	G	12	0
Ridomil Gold (Group 4)	G	48	--

See Table D-6.

¹ G = general, R = restricted

Disease Control

Downy Mildew (*Peronospora viciae*)

Plant resistant varieties. Avoid planting next to the previous year's pea fields because the disease can overwinter on old debris. Downy mildew is seed-borne and using seed treatments that are effective for downy mildew such as Allegiance FL or Apron XL can prevent primary systemic infections. Downy mildew development is favored by prolonged cool, wet weather conditions. Control strategies include crop rotations of 3 years or more.

White Mold

Preplant. The following biological fungicide has been tested in some states; however, limited information is available on effectiveness in the Mid-Atlantic region. Apply 3 to 4 months prior to the onset of disease to allow the active agent to reduce inoculum levels of sclerotia in the soil. Following application, incorporate to a depth of 1 to 2 inches but **do not plow** before seeding beans to avoid untreated sclerotia in lower soil layers from infesting the upper soil layer:

Contans—2.0-4.0 lb 5.3WG/A

Fusarium Wilt

Use resistant varieties.

Damping-Off and Root Rot

Rotate and allow 4 to 5 years between pea plantings. Do not double crop with bean of any type. For damping-off and root rot caused by *Pythium*, apply the following as a broadcast treatment at seeding.

Ridomil Gold--0.5-1.0 pt 4E/A (*Pythium* only), or Quadris--0.40-0.80 fl oz 2.08SC/1000 ft row

Viruses

Use resistant varieties when possible and control aphids.

Bacterial Blight

Plant clean seed. Avoid walking through fields when vines are wet.

Ascochyta Blight

Plant fungicide treated seed. Follow a crop rotation that provides at least 2 years between pea plantings. If *Ascochyta* blight has been identified in a field, rotations should be extended to 4-5 years. Deeply incorporate crop debris immediately after harvest before the fungus can be dispersed by wind or rain. In fields with a history of blight apply one of the following FRAC code 11 fungicides preventatively:

Quadris--6.2-15.5 fl oz 2.08SC/A, or
 Headline--6.0-9.0 fl oz 2.1EC/A