F. Commodity Recommendations

Pesticide Use Disclaimer

THE LABEL IS THE LAW

Before using a pesticide, check the labeling <u>distributed with the product at the point of sale</u> for legally enforceable rates and use restrictions and precautions. Although labels are available on the Internet from electronic label services such as CDMS (*http://www.cdms.net/*), Greenbook (*https://www.greenbook.net*), or Agrian (*https://www.agrian.com/labelcenter/results.cfm*) the information contained in these electronic labels may not be identical to the labeling distributed with the product. Please be advised that these electronic label services provide use disclaimers, and in some cases legally binding User Agreements assigning all liability to user of service. (See section D 3.1. Labels and Labeling for more detail.)

Guide to the Recommended Pesticide Tables in the Following Crop Sections:

- Pesticides are listed by group number or code based on chemical structure and mechanism of action, as classified by the Herbicide Resistance Action Committee (HRAC, https://hracglobal.com/) for herbicides, the Insecticide Resistance Action Committee (IRAC, https://irac-online.org/) for insecticides, and the Fungicide Resistance Action Committee (FRAC, https://www.frac.info/⁸) for fungicides. In this guide, if the group number or code is in bold font, there are resistance concerns for the product.
- 2. Restricted use pesticides are marked with a * in the Tables. These products may only be used by certified and/or licensed pesticide applicators, and when stated on the label, those making applications under their direct supervision. Some labels may restrict use solely to certified and/or licensed applicators. (See section D 3.2.1 Restricted Use Classification Statement for more detail).
- 3. In addition to the pesticide products listed in the Commodity Recommendations below, other formulations or brands with the same active ingredient(s) may be commercially available. ALWAYS CHECK THE INDIVIDUAL PRODUCT LABELING:
 a) to ensure a pesticide is labeled for the same intended use,
 - b) to ensure the pesticide is labeled for the desired crop,
 - c) for differences in application rates and % active ingredient(s), and
 - d) additional restrictions.
- 4. All pesticide recommendations contained in this document are prescribed for spray applications to a broadcast area of 1 acre (43,560 square feet). Adjust the rate accordingly for banded applications (See section E 1.3. Calibrating Granular Applicators) or for chemigation (check labels for amounts per 1,000 feet).
- **5.** Check the label for and do not exceed the maximum amount of pesticide per application and the maximum number of applications per year.
- 6. Bee Toxicity Rating (Bee TR): N=nontoxic; L=minimum impact on bees; M=moderately toxic, can be used if dosage, timing, and method of application are correct, but should NOT be applied directly to the crop if bees are present; H=highly toxic, severe losses expected, -- = data not available.
- 7. In accordance with the USDA National Organic Program, the Organic Materials Research Institute (OMRI) maintains a directory of all products that OMRI has determined are allowed for use in organic production, processing, and handling. These products are catalogued online in the **OMRI Products List** (see *https://www.omri.org/omri-lists*).

Varietv¹ Color² Length Sieve Use⁴ Days Heat **Reported Disease Resistance⁶** Snap Tol.⁵ Size³ (inch) Beans BCMV BCTV Cl Ua Pss Psp Xap (Bush) DG Green Annihilator 6.0 4 F,P 53 Х R R Barron DG 5.5 3-4 F,P 54 Round R R R I R Bowie MDG 5.5 3-4 F,P 56 R Podded R Bridger MDG 5.5 4-5 F.P 52 Х R R Ι I Types Bronco DG 5.3 3-4 F 53 R Caprice MDG 5.5 3-4 F,P 56 R R R R T 5.5 F 53 R R Colter MDG 4 R Crockett DG 5.25 2-3 F,P 58 R R R R R R Dominator DG 6.0 4 F.P 53 Х R R Hickok MDG 5.5 3-4 F 54 R R R Jade II DG 4 F 60 6.5 R Ι Jaguar DG 5.5 3-4 F.P 56 Х R R Ι Lewis MDG 5.5 3-4 F.P 53 R R R R I Maxibel MG 7.0 2.3 F 60 3-4 F R Momentum DG 5.8 56 Nickel 2-3 F MG 4.25 53 I Pike MDG 5.25 F 55 R I 3 R T T Prevail DG 3-4 F 54 R 5.5 I Provider MG 5.5 4-5 F 55 PV857 DG 5.5 4-5 F 54 Х R I Strike MG 5.5 3-4 F 55 R SV1137GF 5.5 3-4 F 53 R R MG Sybaris 3-4 F.P Ι DG 5.8 56 R Tema DG 53 R 5.5 3 F Valentino F R DG 5.75 3 53 R Wyatt DG 5.75 3-4 Р 54 R R R R R MG 5.5 F.P 54 R Furano Green MG 6.5 F 55 Flat Greencrop MDG 5.5-6 Р Navajo 55 R Podded MG F,P 58 Roma II 5.5 R Types F,P 54 Tapia MG 6 R Ι Usambara MG 5.5 Р 54 Х R Ι Р Velero MDG 6.25 56 R R Y 5.5 Yellow Carson 4-5 F,P 56 R R R 5.5 4-5 (Wax) Eureka Y F 56 R R Gold Mine Y 5.3 4-5 Р Round 56 R R MY F Podded Gold Rush 6.0 4 55 R Rocdor Υ 6.0 4 F 53 R R R Types SV1003GF MY 5.2 3-4 F 56 R I

Recommended Snap Beans (Bush) Varieties

¹Listed alphabetically within type.

²G=Green, Y=Yellow, M=Medium and D=Dark.

³Bean diameter category for majority of beans at harvest, 2=14.5/64 to 18.5/64 inch, 3=18.5/64 to 21.0/64 inch, 4=21.0/64 to 24.0/64 inch, 5=24.0/64 to 27.0/64 inch.

⁴F=fresh, P=processing Not all processing beans that perform well in the region are listed; consult with your processor for variety recommendations.

⁵Heat Tol.=Heat Tolerance. Heat tolerant varieties produce a high yield and a high percent of marketable pods when plants are exposed to high temperatures during flowering and pod set.

⁶Disease resistance reported from source seed companies. R=Resistant; I=Intermediate/partial resistance; BCMV=Bean Common Mosaic Virus; BCTV=Beet Curly Top Virus; Ua=rust caused by *Uromyces appendiculatus*; Cl=Anthracnose caused by *Colletotrichum lindemuthianum*; Psp=Halo Blight caused by *Pseudomonas savastanoi pv. phaseolicola*; Xap=Common Blight caused by *Xanthomonas axonopodis pv. phaseoli*; Pss=Bacterial Brown Spot caused by *Pseudomonas syringae pv. syringae*.

Туре	Variety ¹	Comments and Downy Mildew Resistance ²
Lima Beans,	Concentrated Fordhook	94 days, no resistance to current races of Downy Mildew, variable yields
Fordhook Types ³	Fordhook 242	77 days, no resistance to current races of Downy Mildew
Lima Beans,	C-elite Select	84 days, resistant to Downy Mildew race E
Baby Types ³	Cypress	77 days, cold soil tolerance, resistant to Downy Mildew race E
	Dixie Butter Pea	75 days, no resistance to current races of Downy Mildew
	Jackson Wonder	85 days, no resistance to current races of Downy Mildew, speckled type
	Maestro	77 days, resistant to Downy Mildew race E
	Maffei-15	80 days, resistant to Downy Mildew race F
	Meadow	77 days, resistant to Downy Mildew race E
	184-85	86 days, resistant to Downy Mildew race E
Lima Beans,	Big 6	No resistance to Downy Mildew
Pole Types	Big Mama	No resistance to Downy Mildew
	Dr. Martin	No resistance to Downy Mildew
	King of the Garden	No resistance to Downy Mildew
	Locally Selected Heirlooms	No resistance to Downy Mildew

Recommended Lima Beans Varieties

¹Listed alphabetically within type. ²Based on results from University of DE tests. ³Use varieties recommended by processors. Consult the University of DE Extension at: *http://extension.udel.edu/ag/vegetable-fruit-resources/vegetable-small-fruits-program/variety-trial-results/* for variety trial results.

Variety Selection and Seed Treatment

Marketability, adaptability to the area, disease resistance and consistency in production should be considered when selecting snap bean types and varieties. Snap beans varieties can be bush types (can be harvested mechanically), or pole types (usually hand harvested). Pole types yield better in long season areas. Use seeds treated with fungicides to prevent diseases; see the Disease Control section below. Rough handling of seed greatly reduces germination.

Poor Pod Set, Deformed Pods, Split Set

High night temperatures during bloom (> $75^{\circ}F$, > $24^{\circ}C$) cause diminished pollen production and result in poor pod set, deformed pods with missing seeds, and "split set". Varieties differ in their heat susceptibility; choose only heat tolerant varieties for summer flowering plantings. Consult the variety recommendations table above or your seed supplier for information on heat tolerant varieties for your area.

Recommended Nutrients Based on Soil Tests

Before using the table below, check the suggestions on rate, timing, and placement of nutrients in your soil test report and chapter B Soil and Nutrient Management. Your state's soil test report recommendations and/or your farm's nutrient management plan supersede recommendations found below.

	<u> </u>									
		Soi	l Phosp	horus Lo	evel	So	il Potas	sium Le	vel	
		Low	Med	High	Very	Low	Med	High	Very	
Beans ^{1,2}				(Opt)	Hig			(Opt)	Hig	
					h				h	
	N (lb/A)		P2O5	(lb/A)			K ₂ O	(lb/A)		Nutrient Timing and Method
Snon Boons	40-80	80	60	40	0 ³	80	60	40	0 ³	Total nutrient recommended
Shap beans	20-40	80	60	40	0 ³	80	60	40	0 ³	Broadcast and disk-in
Single Crop	20-40	0	0	0	0	0	0	0	0	Sidedress 4 weeks after planting
Span Boons	20-40	80	60	40	03	80	60	40	03	Total nutrient recommended
After Dees	0-20	80	60	40	0 ³	80	60	40	0 ³	Broadcast and disk-in
Alter Peas	0-20	0	0	0	0	0	0	0	0	Sidedress 4 weeks after planting
Lima Boons	60-90	100	60	20	0 ³	140	100	60	0 ³	Total nutrient recommended
Linia Dealis	30-40	100	60	20	0 ³	140	100	60	0 ³	Broadcast and disk-in
Single Crop	20	0	0	0	0	0	0	0	0	Band place with planter
	20	0	0	0	0	0	0	0	0	Sidedress 3-5 weeks after emergence
Lima Baans	30-40	0	0	0	0	0	0	0	0	Total nutrient recommended
After Dees	20	0	0	0	0	0	0	0	0	Band place with planter
Alter Peas	20	0	0	0	0	0	0	0	0	Sidedress 3-5 weeks after emergence

¹Apply 1-2 lb/A of boron (B) every 3 yr on most soils; see also Table B-7. in chapter B Soil and Nutrient Management. **Do not** place B in starter fertilizers due to sensitivity problems. ²Apply 25-30 lb/A of sulfur (S) for most soils. ³In VA, crop replacement values of 20 lb/A of P₂O₅ and 40 lb/A of K₂O are recommended on soils testing Very High.

Plant Tissue Testing

Plant tissue testing can be a valuable tool to assess crop nutrient status during the growing season to aid with inseason fertility programs or to evaluate potential deficiencies or toxicities. Critical snap bean tissue test values for most recently matured leaves up to first bloom: N 3-4%, P 0.3-0.5%, K 2.0-3.0%, Ca 0.8-1.5%, Mg 0.25-0.45% and S 0.2-0.4%. For additional nutrients and other growth stages consult with a tissue testing laboratory or this web link at the University of Florida: *https://edis.ifas.ufl.edu/publication/ep081*.

Site selection, soil, and fertilization

Well-drained friable sandy loams to clay loams are well suited for legumes. Avoid compacted soils that can flood. Slightly acid soils (pH 6-6.5) are preferred. If lime is needed, apply it several months before planting. All P and K can be applied before planting. Beans respond to N applications, especially bush types.

Planting and Harvesting Dates

Note: In PA and normally cooler areas, delay the start of planting by 10 days and stop planting 14 days sooner than indicated below. In the southern part of the region, plantings that will result in pod set at temperatures above 90°F (commonly mid-July to early August) are at risk of blossom drop, split set, high cull percentage, and reduced yield.

Variety	Planting Dates	Harvesting Dates
Market Snap	April 10 - August 10	June 20 - October 20
Processing Snap	April 20 - August 10	July 1 - October 20
Fordhook Lima	May 15 - July 10	August 1 - October 20
	(June 20 - July 10 in the southern part of the region)	-
Baby Lima	May 15 - July 20	August 1 - October 30
Pole Lima	May 15 - June 15	July 15 - October 30

Spacing Snap Beans.

Rows 30-36 inches apart, 6-10 plants/ft. Plant 50-75 lb/A of seed depending on seed size (lower rate for lighter seeds). Narrow rows increase yields but render late-season tillage difficult. Plant in rows 18-24 inches apart with 5-7 plants/ft. Plant 75-120 lb/A of seed, depending on seed size. Calibrate planter according to seed size. Sow $1-1\frac{1}{2}$ inches deep in light sandy soil; shallower in heavier soil.

Lima Beans, Fordhook Type.

Rows 30-36 inches apart, 2 plants/ft. Plant 85 lb/A of seed, 1¹/₂ inches deep.

Lima Beans, Baby Types.

Rows 30-36 inches apart, 3-4 plants/ft. Plant 50 lb/A of seed, 1½ inches deep (deeper if soil is dry). For irrigated fields: Rows 18-30 inches apart, 4-5 inches between plants; plant 96 lb/A of seed at close spacing and 78 lb/A at wider spacing.

Lima Beans, Pole Types.

Large-seeded pole lima beans are often started in a cold frame or greenhouse which results in higher germination percentages and earlier crops. Plant 1 seed per cell at a depth of 1 inch in containers or plug flats with cells that are at least 1.5 inches in diameter and 2 inches deep. Use a sterile commercial greenhouse medium. Bottom heat will stimulate growth and help produce transplants quicker. Transplant to the field once plants have the first true leaves. Do not allow transplants to become completely root bound. Do not disturb roots during the transplanting process or stunting may occur. Pole lima beans are very vigorous and should not be planted too close together or excessive vine growth may reduce yields. Space plants at a distance of 3-6 ft in the row (less vigorous types closer, more vigorous types further apart) with a minimum of 5 ft between rows.

Irrigation

Snap and lima beans are grown under irrigated and dryland conditions. Bean crops respond to irrigation and highest yields are obtained when soil moisture is maintained at 50% of field capacity or higher, from the 2 trifoliate leaf stage through pod sizing. Water use during flowering and pod sizing can be over 0.25 inches/day and water deficit during this period will have the greatest negative impact on yield and pod quality. However, a balance must be struck between maintaining adequate moisture for pod growth and minimizing wetness in the canopy which promotes White Mold in all beans and Downy Mildew and Pod Blight in lima beans.

Trellising Pole Lima Beans

Sturdy wooden or metal posts should be spaced every 15-20 ft in the row. Additional smaller spacer stakes may be needed in between posts. At least 5 ft, preferably 6 ft, of the posts or stakes should be above ground. Tightly stretch a 10-12 gauge wire and nail it to the tops of the stakes. Stretch a smaller wire or twine and nail it to the posts halfway up above the ground. Then tie the twine in a crisscross fashion to the top wire and to the bottom wire (or twine) on which the beans will climb. An individual stake or line should be placed at each plant for initial climbing to the trellis. Bean supports should be put up before the bean plants begin producing "runners" and falling over. A ground wire may also be used and then twine is woven in a V fashion over the top wire and under the bottom wire. An alternative system would use 6 ft plastic netting attached to the posts and a top and bottom wire. Trellises have to be sturdy enough to support the heavy lima bean vines.

No-Till / Conservation Tillage

Snap and lima beans have been successfully grown in no-till and conservation tillage systems, though lima bean yields are often lower, and residues can make harvest more difficult. In no-till systems, bean seeds are usually drilled into the stubble/plant residue of a small grain crop. Consider bean variety, date of planting, soil fertility practices, insect control, planting equipment, mulch, residue at harvest, and weed species in the field. For more information on this production method, see section A 6. Conservation Tillage Crop Production.

Harvest and Post-Harvest Considerations

<u>Processing snap beans</u> are usually harvested when 50% of the beans are sieve size 4 or smaller, but this percentage will depend on processor needs and variety. Yield of processing snap beans ranges from 4 to 6 ton/A. Processing should occur soon after harvest and transport times should be minimized. Washing and precooling shelled beans is recommended for distance transport.

<u>Fresh market snap beans</u> are either hand harvested multiple times at the desired size or machine harvested when the highest percentage of marketable beans can be obtained. Yield of fresh market snap beans ranges from 150 to 250 bushel/A. Beans for fresh market shipping should meat US No. 1 standards or higher.

Baby lima beans for mechanical picking are harvested when the highest percentage of full pods can be obtained and when plants have approximately 10% dry pods. Hand-picked lima beans are picked at the full green seed stage. **Fordhook lima beans** are harvested when the highest percentage of full pods can be obtained but before any pods have dried.

Grading and Packing

A grading line will typically have offloading and conveying belts, a gravity separator to remove soil, rocks, and heavy field trash, an air blast trash remover for leaves, stems, and other light field trash, a rotating drum tumbler to remove pin beans and immature pods through slots, a broken bean eliminator, vibrating tables where good pods are further segregated from field trash, a sizer for processing beans, vibrating washers where pods are rinsed with water to remove soil particles and to remove some of the field heat, grading tables where pods are manually inspected to remove overmature, blemished, decayed, or other defective pods, and for fresh market beans, a box filler. Beans are moved by vibration into wire bound crates or waxed cartons, which are weighed and unloaded onto a box closing machine after which boxes go to a cold storage area. In smaller operations, many of these tasks will be done by hand at a sorting table. Field packing is practical mainly for direct market and local sales. Beans may also be harvested directly by consumers or local wholesalers as U-pick.

Cooling and Storage

Fresh market snap beans are highly perishable and should be cooled rapidly after harvest, preferably to 40-43°F (4-6°C). Vacuum or forced-air cooling can be effective, but the preferred method is hydrocooling as the cold water cools beans rapidly and the free moisture helps prevent wilting or shriveling. Use chlorinated water with a 55-70 ppm free chlorine concentration and pH of 6.5-7 (neutral) for washing and hydrocooling.

Beans should be stored at 39-45°F (4-7°C) and 95% relative humidity. Under these conditions, beans will maintain quality for 7-10 days. Temperatures of 38°F (3°C) and lower may cause significant chilling injury. Beans lose moisture rapidly if not properly protected by packaging or by a relative humidity of 95% or above. When the relative humidity approaches saturation, as in consumer packages, temperatures above 45°F (7°C) must be avoided to prevent serious decay within a few days. Beans should not be stored or shipped with ethylene generating fruits and vegetables.

Weed Control

THE LABEL IS THE LAW-see the Pesticide Use Disclaimer on the first page of chapter F. Recommended Herbicides

- 1. Identify the weeds in each field and select recommended herbicides. More information is available in the "Herbicide Effectiveness on Common Weeds in Vegetables" (Table E-3) in chapter E Pest Management.
- 2. Minimize herbicide resistance development. Identify the herbicide mode of action group number and follow recommended good management practices; **bolded group numbers in tables below are herbicides at higher risk for selecting resistant weed populations.** Include non-chemical weed control whenever possible.

1. Non-	selective or Burndown					
Group	Product Name	Product Rate	Active Ingredient	Active Ingredient Rate	PHI	REI
_	(*=Restricted Use)				(d)	(h)
9	Roundup PowerMax 4.5L	16 to 32 fl oz/A	glyphosate	0.75 to 1.13 lb acid		24
	"Generic" glyphosate 3L	24 to 48 fl oz/A		equivalent/A	<u> </u>	
-Apply pre	e-plant or preemergence.					
-Some gly	phosate formulations may rec	juire an adjuvant, refer to la	abel. Tank mix with appropri	riate herbicides for residual	veed cor	itrol.
-Glyphosa	te controls many perennial w	eeds as well as annuals if a	pplied when the weed is act	ively growing and has reach	ed the st	age of
growth lis	sted on the labelRepeat ap	plications are allowed, with	maximum application of 5.	3 qt/A per year.		10
22	Gramoxone SL 2.0*	2.5 to 4 pt/A $1.7 \pm 2.7 \text{ mt/A}$	paraquat	0.6 to 1 lb/A		12
Apply pr	Gramoxone SL 3.0*	1./ 10 2./ pl/A	onionia surfactant ar aran a	il concentrate). Tenk mix w	ith onny	
-Apply plo	s for residual weed control	Paraguat may not control e	stablished grasses Spray co	verge is essential for optim	um cont	rol
-Rainfastn	$e_{\rm ss}$ 30 min Δ maximum of 3	applications per year are a	stablished grasses. Spray co llowed	verage is essential for optim		101.
-Restricted	d-use nesticide Only certifie	d applicators who success	fully complete the paraqua	t-specific training can mix	load or	annly
paraquat.	Application of paraguat "un	der the direct supervision"	of a certified applicator is	no longer allowed. Require	d trainir	o link
(http://usi	paraquattraining.com): certif	ied applicators must repeat	training every three years.	ne tenger and teat trequire		
	1 0 //	11 1				
2. Soil-A	Applied (Pre-plant Inco	orporated or Preeme	rgence)			
Group	Product Name	Product Rate	Active Ingredient	Active Ingredient Rate	PHI	REI
oroup	(*=Restricted Use)		i i i i gi valoni		(d)	(h)
2	Pursuit 2L	1.5 to 2.0 fl oz/A	imazethanyr	0.024 to 0.031 lb/A	30	4
- -Lima bea	ns: labeled for snan bean i	n NJ only	pj1		20	
-Apply as	pre-plant incorporated or to	the soil surface, but shallow	v. thorough incorporation ir	nproves consistency of perfo	ormance	when
drv weath	her follows application. Prima	rilv controls broadleaf wee	ds. Combine with another h	erbicide to control annual g	asses.	
-Pursuit re	sidues persist in the soil after	harvest and may affect fol	lowing crops. Follow label i	nstructions.		
-Pursuit is	an ALS inhibitor, Group 2 h	erbicide, and there is wides	pread resistance in the regio	n to this family of herbicide	5.	
-Maximun	n Pursuit application at planti	ng: 2 fl oz/A for lima bean	s and 1.5 fl oz for snap bean	s.		
-Maximun	n number of applications per	year: 1.				
2	Sandea 75DF	0.5 to 1.0 oz/A	halosulfuron	0.024 to 0.047 lb/A	30	12
-Apply aft	er seeding but before crackin	g. Controls or suppresses y	ellow nutsedge and many a	nnual broadleaf weeds. Res	ults have	e been
most cons	sistent when the application v	vas followed by rainfall or	irrigation.			
-Use the lo	ower rate on coarse-textured (sandy) soils low in organic	matter, and the higher rate	on fine -textured (silt and cla	ıy) soils	•
-Heavy rai	nfalls before crop emergence	can result in crop stunting				
-Do not ap	oply Sandea to crops treated w	ith a soil-applied organoph	osphate insecticide, or use a	toliar applied organophosph	ate inse	cticide
Within 21	days before or / days after	a Sandea applicationSa	ndea is an ALS inhibitor, C	froup 2 herbicide, and there $1 = \sqrt{4}$	1s wide:	spread
2	Provid H2O 2 8CS	$\frac{1}{10}$ to $\frac{2}{0}$ nt/A	sandea application per seaso	0.48 to 1.1b/A		24
5	Provel 3 3 EC	1.0 to 3.6 pt	pendimethann	0.46 to 1.6/A		24
-I abeled o	nly for pre-plant incorporate	1.2 to 5.0 pt	nlanting and incorporate the	roughly within the top $2-3$ i	nches of	fsoil
-Eabered C	r rates are recommended for e	a application, apply before arly planted fields or coarse	-textured soils -Primarily of	ontrols annual grasses and ce	rtain bro	adleaf
weedsl	Do not use when soils are col	d and/or wet soil condition	s are anticipated during eme	rgence, or crop injury may r	esult.	uuicui
-Do not ar	oply more than once per crop	oing season. Not recomme	nded in NJ.	igenee, or erop injury may i		
3	Treflan 4E	1 to 1.5 pt/A	trifluralin	0.5 to 0.75 lb/A		12
-Labeled f	or pre-plant incorporation on	ly: incorporate into 2-3 incl	nes of soil within 8 h after a	pplication.	I	
-Primarily	controls annual grasses and a	a few broadleaf weeds (wea	k on ragweed). Poor incorp	oration can reduce overall w	eed con	trol.
-Treflan m	ay be applied up to 4 weeks	prior to plantingDo not u	ise or reduce the rate used w	hen cold, wet soil condition	s are exp	ected,
or crop in	jury may resultMaximum	application not addressed of	on label.		^	-
8	Eptam 7E	3 to 3.5 pt/A	EPTC	2.5 to 3 lb/A		12
-Snap bea	ns only. Pre-plant incorporat	ed applications only; incor	porate by disking twice into	3-4 inches of soil immediate	ly after	
applicatio	n. Useful for nutsedge contro	l, annual grasses, and some	broadleaf weeds.			

2. Soil-Applied (Pre-plant Incorporated or Preemergence) Eptam - continued next page

2. Soil-Applied (Pre-plant Incorporated or Preemergence) Eptam - continued

		of Treemergenee) Bplan							
-Combinii	ng Eptam with Dual Magnu	n may improve weed contro	l but may increase the risk of	of crop injury when weather	conditio	ons are			
adverse.	Do not exceed 9 pt/A per ye	ar (3.5 pt/A on coarse-textur	red soils).			-			
13	Command 3ME	4 to 6 fl oz/A	clomazone	0.094 to 0.14 lb/A	45	12			
-Lima be	-Lima beans only. Special Local Needs Label 24(c) has been approved for the use of Command in DE, MD, NJ, and VA (expires								
4/29/202	5 in DE; 12/31/2025 in MD	; 12/31/2024 in VA; 12/31/2	2022 in NJ).						
-Apply to	o suppress annual grasses a	and certain broadleaf weed	s including common lamb	squarters, velvetleaf, spurre	ed anod	a, and			
jimsonwo	eed. Use the lower rate on c	oarse-textured soils low in c	rganic matter and higher rat	tes on fine-textured soils and	d on soil	ls with			
high orga	anic matter. Some temporary	r crop injury (partial whitening	ng of leaf or stem tissue) ma	y be apparent after crop em	ergence;	beans			
recover f	rom minor early injury with	out affecting yield or earline	SS.						
-Observe	all precautions. Maximum n	umber of applications per se	ason: 1.		-				
13	Command 3ME	6.4 to 10.7 fl oz/A	clomazone	0.15 to 0.25 lb/A	45	12			
-Snap be	ans only. Apply to control	annual grasses and many b	roadleaf weeds including co	ommon lambsquarters, velv	etleaf, s	purred			
anoda, ar	nd jimsonweed. Command w	vill not control yellow nutsed	lge, mustards, morningglory	species, or pigweed species					
-Use the l	ower rate on coarse-textured	l soils low in organic matter	and higher rates on fine-tex	stured soils and on soils wit	h high o	organic			
matter. S	ome temporary crop injury (partial whitening of leaf or s	tem tissue) may be apparent	after crop emergence; bean	s recove	r from			
minor ea	rly injury without affecting y	/ield or earliness.							
-WARNI	NGS: Command spray or va	por drift may injure sensitive	e crops and other vegetation	up to several hundred yards	from the	e point			
of applic	ation. Do not apply adjacen	nt to sensitive crops (see lat	bel) or vegetation, or under	unfavorable wind or weath	ner cond	litions.			
Comman	d may limit subsequent crop	ping options, see the label.	-Maximum number of appl	ications per season: 1.	-				
14	Reflex 2SL	1 to 1.5 pt/A	fomesafen	0.25 to 0.375 lb/A	30	24			
-Snap bea	ans only. Controls several co	ommon broadleaf weeds. Tar	nk mix for control of annual	grasses.					
-Maximur	n of 1.25-1.5 pt/A may be ap	plied either preemergence or	postemergence in one year.	Maximum rates vary by state	e (see Re	gional			
Use Map	on herbicide label for detail	s).							
-Do not a	pply more than once in a 2-y	ear period (alternate year ap	plications). Rotational restri	ctions for most vegetables is	s 18 mor	nths.			
14+14	Spartan Charge 3.5EC	3 to 3.75 fl oz/A	sulfentrazone +	0.082 to 0.103 lb/A		24			
			carfentrazone						
-Lima bea	ans onlyA Special Local	Needs Label 24(c) has been	carfentrazone approved for the use of SI	oartan Charge for lima bea	ins in D	E only			
-Lima bea (expired	ans onlyA Special Local in 2021, check if it has be	 Needs Label 24(c) has been een renewed before use). I	carfentrazone approved for the use of Sp Labeled for ALS-resistant p	oartan Charge for lima bea igweed (Group 2 herbicide	n s in D s). Do n	E only ot use			
-Lima bea (expired Spartan (ans onlyA Special Local in 2021, check if it has be Charge if temporary crop inju	Needs Label 24(c) has been een renewed before use). I ary is not acceptable.	carfentrazone approved for the use of S _I Labeled for ALS-resistant p	partan Charge for lima bea igweed (Group 2 herbicide:	n s in D s). Do n	E only ot use			
-Lima bea (expired Spartan C -Combine	ans onlyA Special Local in 2021, check if it has be Charge if temporary crop inju- with another herbicide to c	Needs Label 24(c) has been een renewed before use). I ury is not acceptable. ontrol annual grasses. Appl	carfentrazone approved for the use of Sp Labeled for ALS-resistant p y no later than 3 days after	Dartan Charge for lima bea igweed (Group 2 herbicide seeding, but do not apply	n s in D s). Do n after cra	E only ot use acking.			
-Lima bea (expired Spartan C -Combine Expect se	ans onlyA Special Local in 2021, check if it has be Charge if temporary crop inju- with another herbicide to c ome temporary crop injury a	Needs Label 24(c) has been een renewed before use). I ury is not acceptable. ontrol annual grasses. Appl fter emergence.	carfentrazone approved for the use of Sp Labeled for ALS-resistant p y no later than 3 days after	bartan Charge for lima bea igweed (Group 2 herbicide seeding, but do not apply	a ns in D s). Do n after cra	E only ot use acking.			
-Lima be: (expired Spartan (-Combine Expect so 15	ans onlyA Special Local in 2021, check if it has be Charge if temporary crop inju- with another herbicide to c ome temporary crop injury a Dual Magnum 7.62E	Needs Label 24(c) has been een renewed before use). I ury is not acceptable. control annual grasses. Appl fter emergence.	carfentrazone approved for the use of Sp Labeled for ALS-resistant p y no later than 3 days after s-metolachlor	Dartan Charge for lima bea igweed (Group 2 herbicide seeding, but do not apply 0.95 to 1.91 lb/A	n s in D s). Do n after cra	E only ot use acking.			
-Lima bea (expired Spartan (-Combine Expect so 15 -Pre-plant	ans onlyA Special Local in 2021, check if it has be Charge if temporary crop inju- with another herbicide to c ome temporary crop injury a Dual Magnum 7.62E	Needs Label 24(c) has been een renewed before use). I ury is not acceptable. control annual grasses. Appl fter emergence. 1 to 2 pt/A ce; incorporated application	carfentrazone approved for the use of Sp Labeled for ALS-resistant p y no later than 3 days after s-metolachlor s should be worked into the	bartan Charge for lima bea igweed (Group 2 herbicide seeding, but do not apply 0.95 to 1.91 lb/A soil 2-3 inches deep by disk	ans in Di s). Do n after cra ing twic	E only tot use tocking. 24 the with			
-Lima bea (expired Spartan C -Combine Expect so 15 -Pre-plant blades se	ans onlyA Special Local in 2021, check if it has be Charge if temporary crop inju- with another herbicide to come temporary crop injury a Dual Magnum 7.62E incorporated or preemergen et 4-6 inches deep. Primarily	Needs Label 24(c) has been een renewed before use). I ury is not acceptable. control annual grasses. Appl fter emergence. 1 to 2 pt/A ce; incorporated application controls annual grasses and	carfentrazone approved for the use of Sp Labeled for ALS-resistant p y no later than 3 days after s-metolachlor s should be worked into the nutsedge; nutsedge control	bartan Charge for lima bea igweed (Group 2 herbicide: seeding, but do not apply 0.95 to 1.91 lb/A soil 2-3 inches deep by disk is improved with pre-plant	s). Do n after cra ing twic incorpo	E only not use acking. 24 we with ration.			
-Lima bea (expired Spartan C -Combine Expect so 15 -Pre-plant blades se Dual wil	ans onlyA Special Local in 2021, check if it has be Charge if temporary crop inju- with another herbicide to come temporary crop injury a Dual Magnum 7.62E incorporated or preemergen et 4-6 inches deep. Primarily not control emerged weeds	Needs Label 24(c) has been een renewed before use). I ury is not acceptable. control annual grasses. Appl fter emergence. 1 to 2 pt/A ce; incorporated application controls annual grasses and A postemergence herbicide	carfentrazone approved for the use of Sp Labeled for ALS-resistant p y no later than 3 days after s-metolachlor s should be worked into the nutsedge; nutsedge control may be required for adequ	bartan Charge for lima bea igweed (Group 2 herbicide: seeding, but do not apply 0.95 to 1.91 lb/A soil 2-3 inches deep by disk is improved with pre-plant ate broadleaf weed control.	ans in D s). Do n after cra ing twic incorpo	E only ot use acking. 24 ce with ration.			
-Lima bea (expired Spartan C -Combine Expect so 15 -Pre-plant blades se Dual will -Do not a	ans onlyA Special Local in 2021, check if it has be Charge if temporary crop inju- with another herbicide to come temporary crop injury a Dual Magnum 7.62E incorporated or preemergen et 4-6 inches deep. Primarily not control emerged weeds pply more than 2 pt/A during	Needs Label 24(c) has been een renewed before use). I ury is not acceptable. control annual grasses. Appl fter emergence. 1 to 2 pt/A ice; incorporated application controls annual grasses and A postemergence herbicide g any one crop year.	carfentrazone approved for the use of Sp Labeled for ALS-resistant p y no later than 3 days after s-metolachlor s should be worked into the nutsedge; nutsedge control o, may be required for adequ	bartan Charge for lima bea igweed (Group 2 herbicide seeding, but do not apply 0.95 to 1.91 lb/A soil 2-3 inches deep by disk is improved with pre-plant ate broadleaf weed control.	s). Do n after cra ing twic incorpo	E only ot use acking. 24 ee with ration.			

3. Postemergence

Group	Product Name (*=Restricted Use)	Product Rate	Active Ingredient	Active Ingredient Rate	PHI (d)	REI (h)
1	Select 2EC Select Max 0.97EC	6 to 8 fl oz/A 9 to 16 fl oz/A	clethodim	0.07 to 0.125 lb/A	21	12
	Assure II/Targa 0.88EC	6 to 14 fl oz/A	quizalofop	0.04 to 0.10 lb/A	15	12
	Poast 1.5EC	1 to 2 pt/A	sethoxydim	0.2 to 0.5 lb/A	15	12
~						

-Select Max and Poast can be applied to snap beans and lima beans; Assure II/Targa labeled for snap beans only. -Select 2EC: use crop oil concentrate (COC) at 1% v/v (1 gal/100 gal spray solution). Select Max: use nonionic surfactant (NIS) at 0.25% v/v (1 gt/100 gal spray solution). Poast: use COC at 1% v/v. Assure II/Targa: use COC at 1% v/v.

-The use of COC may increase the risk of crop injury under hot or humid conditions. To reduce this risk, omit additives or switch to NIS when grasses are small and soil moisture is adequate.

-Use lower labeled rates for annual grass control and higher labeled rates for perennial grass control.

-Addition of nitrogen is not recommended.

-Yellow nutsedge, wild onion, wild garlic, and broadleaf weeds will not be controlled. -Controls many annual and certain perennial grasses, including annual bluegrass, but Poast is preferred for goosegrass control. For best results, treat annual grasses when they are actively growing and before tillers are present. Control may be reduced if grasses are large or under hot or dry weather conditions.

-Repeated applications may be necessary to control certain perennial grasses. If repeat applications are necessary, allow 14 days between applications. -Do not tank mix with or apply within 2 to 3 days of any other pesticide, unless labeled, as this may increase the risk of crop injury or reduce the control of grasses. -Rainfastness is 1 h.

-Do not apply more than 8 fl oz of Select 2EC in a single application and do not exceed 2 pt/A for the season; do not apply more than 16 fl oz of Select Max in a single application and do not apply more than 1 application per season.

-Do not apply Assure II/Targa within 7 days of another Assure II/Targa application. Do not make more than 2 applications per season, and do not exceed 14 fl oz/A for the season.

-Do not apply more than 2.5 pt/A Poast in a single application and do not exceed 4 pt/A for the season.

3. Postemergence - continued next page

3. Postemergence - continued

2	Raptor 1L	4 fl oz/A	imazamox	0.031 lb/A		4		
-Apply to	control annual broadleaf we	eds when the crop has 1-2 fu	Illy expanded trifoliate leave	es but before bloom stage of	bean gr	owth		
-Add noni	-Add nonionic surfactant to be 0.25% of the spray solution (1 qt/100 gal of spray).							
-Add 0.5	-Add 0.5 to 1 pt/A of bentazon (Basagran) to reduce the expression of injury symptoms or use Varisto 4.18L which is a prepackaged							
mixture of	of Raptor plus Basagran; 21	fl oz of Varisto = 4 fl oz of I	Raptor and 21 fl oz of Basag	ran 4L				
-Strictly o	bserve all plant back restrict	tions.						
-Raptor is	an ALS inhibitor, Group 21	nerbicide, and there is wides	pread resistance in the region	n to this family of herbicides	š.			
-Rainfastn	ess is 1 h. Do not apply mo	re than 4 fl oz/A per year and	d more than one application	per growing season.				
2	Sandea 75DF	0.50 to 0.66 oz/A	halosulfuron	0.023 to 0.031 lb/A	30	12		
-Apply wi	ith nonionic surfactant at 0.2	25% of the spray solution (1	l qt/100 gal of spray solution	on) to control yellow nutsed	ge and	certain		
annual bi	roadleaf weeds. Use only the	e lower rate when treating sn	ap beans.					
-Applicati	ions should be sprayed when	the crop has 2-3 trifoliate le	eaves and annual weeds are	less than 2 inches tall. (Trea	tments a	upplied		
when bea	ans are younger increases the	e risk of temporary stunting,	and applications after the 3	trifoliate leaf stage increase	es the ri	sk of a		
split set.)	Occasionally, slight yellow	ing of the crop may be obser	rved within a week of Sande	ea application. When observ	ed, reco	very is		
rapid wit	h no effect on yield or matur	rity.						
-Sandea p	rovides both residual and po	stemergence control of susc	eptible weed species. Provi	des control of yellow nutsed	ge and	certain		
annual bi	roadleaf weeds. Control of w	veeds taller than 3 inches ma	y not be adequate.		• •	. 11		
-Sandea is	s an ALS inhibiting herbicide	and resistant weed population	ons are common in the region	a. Do not use Group 2 herbic	ides repe	atedly		
In the sar	ne neid.	with a sail annliad anonanh	ambata incasticida, anusa a	falian annial anaan anh anh	ata inaa	atiaida		
-Do not ap	by sandea to crops treated	a Sandea application	osphate insecticide, or use a	Ionar applied organophosph	ate mse	cucide		
Painfactr	a days before of 7 days after	a Sandea application.	re than 2 az af product per y	100 r				
-Kaimasu	Basagrap 41	$\frac{1}{1}$ to 2 pt/A	bontazon	$0.5 \text{ to } 1.1\text{ b}/\Lambda$	30	18		
A nnly wi	bon boong boyo fully ownerd	ad first trifeliate leaves. Ha	bentazon	0.5 to 1 10/A	JU	40		
-Apply wi	higher rate to control vellow	nutsedge common lambag	uarters common raqueed	and Canada thistle (2 applic	ations r	nav be		
needed to	control nutsedge and thistle	Basagran will not control	nigweed species	and Canada thistic (2 applie	ations n	lay be		
-Tempora	ry, pronounced crop injury r	nav be observed that can res	ult in delayed maturity.					
-The use of	of oil concentrate may increa	se the risk and severity of cr	op injury. To reduce the risk	of crop injury, omit additiv	es or sw	vitch to		
a nonioni	ic surfactant when weeds are	small and soil moisture is a	dequate. Do not spray when	temperatures are over 90°F	(32°C)			
-Rainfastr	ness is 4 h.		1 1 5	1				
14	Reflex 2SL	Rates vary, refer to the	fomesafen	0.125 to 0.375 lb/A	30	24		
		specific label			1	1		
-Snap bea	ans only. Apply when snap b	beans have 1-2 fully expande	ed trifoliate leaves.					
-The record	mmended rate is 0.5 to 0.75	pt/A based on local research	. This is lower than the label	led rate to reduce the risk of	crop inj	ury.		
-Use the l	ower recommended rate wh	en weeds are small or when	there is good soil moisture,	high humidity, and warm c	loudy w	reather		
causing "	'soft" growing conditions. A	dd nonionic surfactant to be	0.25% of the spray solution	(1 qt/100 gal of spray).				
-Tank miz	x with bentazon to improve	the control of common lar	nbsquarters, smartweed, vel	lvetleaf, cocklebur, galinsog	;a, and j	yellow		
nutsedge	. Use of crop oil can improv	e weed control but may sligh	tly reduce crop tolerance.					
Do not us	se urea ammonium nitrate (U	JAN) or ammonium sulfate ((AMS) on snap beans or sev	ere injury may occur.				
-Lima bea	ins and most other vegetable	s are sensitive to tomesaten.						
-Reflex pr	ovides both residual and pos	stemergence control of susce	ptible weed species.					
-Be sure to	o consider rotational crops w	when deciding to apply fomes 1.5 mt/A IN ALTEDNATE	saien. Kainfastness is 1 h.					
-waximur	in Kenex application: 1.25 to	1.5 PUA IN ALTEKNATE	I LAKS.					
3 Posth	arvest							

0.1 0.501						
Group	Product Name	Product Rate	Active Ingredient	Active Ingredient Rate	PHI	REI
	(*=Restricted Use)				(d)	(h)
22	Gramoxone SL 2.0*	2.25 to 3 pt/A	paraquat	0.56 to 0.75 lb/A		24
	Gramoxone SL 3.0*	1.5 to 2 pt/A				

-A Special Local Needs 24(c) label has been approved for Gramoxone SL 2.0 in VA (expires 12/31/2022) and a Supplemental Label in DE for the use of Gramoxone SL 2.0 and Gramoxone SL 3.0 for postharvest application to desiccate the crop.

-Apply after the last harvest for bareground or plasticulture. Always include an adjuvant.

-Spray coverage is essential for optimum effectiveness. See the label for additional information and warnings.

-Rainfastness 30 min. A maximum of 2 applications for crop desiccation are allowed.

-Restricted-use pesticide. Only certified applicators, who successfully complete the paraquat-specific training, can mix, load or apply paraquat. Application of paraquat "under the direct supervision" of a certified applicator is no longer allowed. Required training link (http://usparaquattraining.com); certified applicators must repeat training every three years.

4. Other Labeled Herbicides These products are labeled but limited local data are available; and/or are labeled but not recommended in our region due to potential crop injury concerns.

Group	Product Name (*=Restricted Use)	Active Ingredient
14	Aim	carfentrazone

Insect Control

THE LABEL IS THE LAW-see the Pesticide Use Disclaimer on the first page of chapter F. Recommended Insecticides

Soil Pests

Seed Maggots Seed maggots are mostly a problem in soils high in organic matter, under moist conditions, and when cool springs delay seed germination. For the best control, plant seeds commercially treated with thiamethoxam (Cruiser 5FS) - commercially applied seed treatment only.

Above-ground Pests

Aphids

Treat only if aphids are well distributed throughout the field (50% or more of terminals with 5 or more aphids), when weather favors population increase, and if beneficial species are lacking.

Apply on	e of the following formulatio	ns:				
Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee
	(*=Restricted Use)			(d)	(h)	TR
1A	Lannate LV*	1.5 to 3.0 pt/A	methomyl	see label	48	Н
1B	Dimethoate 400	0.5 to 1.0 pt/A	dimethoate	01	48	Н
4A	Neonicotinoid insecticides r	registered for use on Beans	s: see table at the end of Insect Control.			
4C	Transform WG	0.75 to 1.0 oz/A	sulfoxaflor	7	24	Н
4D	Sivanto Prime or 200SL	7.0 to 14.0 fl oz/A	flupyradifurone	7	4	М
23	Movento	4.0 to 5.0 fl oz/A	spirotetramat	1	24	L
23	Movento HL	2.0 to 2.5 fl oz/A	spirotetramat	1	24	L
23 + 7C	Senstar	8.0 to 10.0 fl oz/A	spirotetramat + pyriproxyfen	7	24	L
29	Beleaf 50SG	2.8 oz/A	flonicamid	7	12	L

¹Mechanical Harvest only

Bean Leaf Beetles (BLB) and Mexican Bean Beetles (MBB)

Bean leaf beetle adults, which are similar in size to spotted cucumber beetles, and Mexican bean beetle adults (copper-colored ladybeetles with black spots), and larvae (yellow with spines) chew holes in leaves, but also may cause direct injury to pods. Early control measures are recommended to reduce yield loss from defoliation and reduce population levels later in the season. Begin spraying at 20% defoliation or 1 beetle per plant.

Apply one	e of the following formulation	ns:				
Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee
-	(*=Restricted Use)		and Crop Restrictions	(d)	(h)	TR
1A	Sevin XLR Plus	0.5 to 1.0 qt/A	carbaryl - snap beans only	3	12	Η
1B	Dimethoate 400	0.5 to 1.0 pt/A	dimethoate	01	48	Н
3A	Pyrethroid insecticides regis	tered for use on Beans: see	e table at the end of Insect Control.			
4A	Neonicotinoid insecticides re	egistered for use on Beans	: see table at the end of Insect Control.			
1 Marthaniar	1 11					

¹Mechanical Harvest only

Cutworms See also section E 3.1. Soil Pests - Detection and Control.

Apply one	e of the following formulation	ns:				
Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee
	(*=Restricted Use)		and Crop Restrictions	(d)	(h)	TR
1A	Lannate LV*	1.5 pt/A	methomyl	1	48	Н
1A	Sevin XLR Plus	1.0 to 1.5 qt/A	carbaryl	3	12	Н
1B	Diazinon AG500*1	2.0 to 4.0 qt/A	diazinon	45	72	Н
3A	Pyrethroid insecticides regis	tered for use on Beans: se	e table at the end of Insect Control.			
28	Coragen 1.67SC	3.5 to 7.5 fl oz/A	chlorantraniliprole - foliar	1	4	L
Drandaast i	ust hafara planting and imma	liately incomparete into the	, soil			

Broadcast just before planting and immediately incorporate into the soil.

Leafminers

Apply one of the following formulations:							
Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee	
_	(*=Restricted Use)		(*=Restricted Use)	(d)	(h)	TR	
1B	Dimethoate 400	0.5 to 1.0 pt/A	dimethoate	01	48	Н	

Leafminers - continued next page

Leafminers - continued	
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5	Blackhawk 36WG ²	2.5 to 3.3 oz/A	spinosad	3	4	М
5	Radiant SC ²	5.0 to 8.0 fl oz/A	spinetoram	3	4	М
6	Agri-Mek SC*	1.75 to 3.5 fl oz/A	abamectin	7	12	Η
17	Trigard 75WSP	2.66 oz/A	cyromazine	7	12	Η
28 + 6	Minecto Pro*	7.5 to 10.0 fl oz/A	cyantraniliprole + abamectin	7	12	Η
28	Exirel	10.0 to 20.5 fl oz/A	cyantraniliprole	1	12	Η
28	Verimark	6.75 to 13.5 fl oz	cyantraniliprole	n/a	4	Η

¹Mechanical Harvest only; ² Control may be improved by addition of an adjuvant

Mites

Spot-treat areas along edges of fields when white stippling along veins on the underside of leaves is first noticed. Broadspectrum insecticides (Groups 1B, 3) will provide initial knockdown, but continued use may result in outbreaks.

Apply one of the following formulations:								
Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee		
	(*=Restricted Use)		and Crop Restrictions	(d)	(h)	TR		
1B	Dimethoate 400	0.5 to 1.0 pt/A	dimethoate	01	48	Н		
6	Agri-Mek SC*	1.75 to 3.5 fl oz/A	abamectin	7	12	Н		
20B	Kanemite 15SC	31.0 fl oz/A	acequinocyl	7	12	L		
20D	Acramite 50WS	1.0 to 1.5 lb/A	bifenazate	3	12	М		
21A	Magister SC	32.0 to 36.0 fl oz/A	fenazaquin	7	12	Н		
21A	Portal	2.0 pt/A	fenpyroximate - snap beans only	1	12	L		
28 + 6	Minecto Pro*	7.5 to 10.0 fl oz/A	cyantraniliprole + abamectin	7	12	Н		

¹Mechanical Harvest only

Potato Leafhoppers (PLH)

PLH can cause hopperburn on leaves, which can reduce photosynthesis and yield. Seeds treated commercially with thiamethoxam (Cruiser 5FS) are protected from PLH for about 3 weeks post-planting. Sweep netting can help determine if pest densities warrant control. Treat if the number of adults plus nymphs exceeds 100 per 20 sweeps.

Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee
•	(*=Restricted Use)		and Crop Restrictions	(d)	(h)	TR
1A	Sevin XLR Plus	1.0 qt/A	carbaryl - snap beans only	3	12	Н
1A	Lannate LV*	0.75 to 3.0 pt/A	methomyl	see label	48	Н
1B	Dimethoate 400	0.5 to 1.0 pt/A	dimethoate	01	48	Н
3A	Pyrethroid insecticides regis	tered for use on Beans:	see table at the end of Insect Control.			
4A	Neonicotinoid insecticides registered for use on Beans: see table at the end of Insect Control.					
4D	Sivanto Prime or 200SL	7.0 to 14.0 fl oz/A	flupyradifurone	7	4	Μ

¹Mechanical Harvest only

Stink Bugs Sweep netting can be useful to detect stink bugs. Treatment is recommended if adults and nymphs exceed 7 per 50 sweeps during pod development.

Apply one	Apply one of the following formulations:								
Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee			
_	(*=Restricted Use)			(d)	(h)	TR			
3A	Pyrethroid insecticides regis	tered for use on Beans: se	e table at the end of Insect Control.						

Tarnished Plant Bugs

Treat only if the number of adults and/or nymphs exceeds 15 per 50 sweeps from the pin pod stage until harvest.

Apply one	e of the following formulation	ns:				
Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee
	(*=Restricted Use)			(d)	(h)	TR
1A	Lannate LV*	1.5 to 3 pt/A	methomyl	see label	48	Η
1A	Sevin XLR Plus	1.0 to 1.5 qt/A	carbaryl	3	12	Н
1B	Dimethoate 400	0.5 to 1.0 pt/A	dimethoate	01	48	Η
3A	Pyrethroid insecticides regis	tered for use on Beans: se	e table at the end of Insect Control.			
4C	Transform WG	1.5 to 2.25 oz/A	sulfoxaflor	7	24	Н
29	Beleaf 50SG	2.8 oz/A	flonicamid	7	12	L

¹Mechanical Harvest only

Thrips

Treatments should be applied if thrips are present from cotyledon stage to when the first true leaves are established and/or when first blossoms form.

Apply on	e of the following formulatio	ns:				
Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee
_	(*=Restricted Use)			(d)	(h)	TR
1A	Lannate LV*	1.5 to 3 pt/A	methomyl	see label	48	Н
3A ¹	Pyrethroid insecticides regis	tered for use on Beans: se	e table at the end of Insect Control.			
4A ²	Neonicotinoid insecticides r	egistered for use on Beans	s: see table at the end of Insect Control.			
5	Radiant SC ³	5.0 to 8.0 fl oz/A	spinetoram	3	4	М
5	Blackhawk 36WG ³	2.5 to 3.3 oz/A	spinosad	3	4	М

¹Resistance concerns with western flower thrips; ²Resistance concerns with tobacco thrips

³Control may be improved by addition of an adjuvant

Whiteflies

Apply on	Apply one of the following formulations:								
Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee			
	(*=Restricted Use)			(d)	(h)	TR			
4A	Neonicotinoid insecticides r	egistered for use on Beans	: see table at the end of Insect Control.						
4D	Sivanto Prime or 200SL	10.5 to 14.0 fl oz/A	flupyradifurone	7	4	М			
21A	Magister SC	32.0 to 36.0 fl oz/A	fenazaquin	7	12	Η			
21A	Portal	2.0 pt/A	fenpyroximate - snap beans only	1	12	L			
23	Movento	4.0 to 5.0 fl oz/A	spirotetramat	1	24	L			
23	Movento HL	2.0 to 2.5 fl oz/A	spirotetramat	1	24	L			
23 + 7C	Senstar	8.0 to 10.0 fl oz/A	spirotetramat + pyriproxyfen	7	24	L			
28	Exirel ¹	10.0 to 20.5 fl oz/A	cyantraniliprole	1	12	Η			
28	Verimark	6.75 to 13.5 fl oz	cyantraniliprole	n/a	4	Η			
28 + 6	Minecto Pro*	10.0 fl oz/A	cyantraniliprole + abamectin	7	12	Н			

¹ Control may be improved by addition of an adjuvant

"Worm" Pests, Including: Corn Earworms (CEW), Beet Armyworms (BAW), European Corn Borers (ECB), Yellow-Striped Armyworms, and Loopers

There are several species of lepidopteran "worm" pests that can attack beans. These pests feed on leaves and also attack pods. An action threshold of 30 larvae per 3 ft of row or about 20% defoliation is often used pre-pod. Once bean pods form, control measures are often needed weekly to protect the crop from direct damage or infestation of the pods. In processing snap beans, treat every 5-7 days if CEW catches in local blacklight traps average 20 or more per night and most corn in the area is mature. For lima beans, treat when CEW populations exceed 1 per 6 ft of row. Note that some localized CEW, BAW, and soybean looper populations have developed resistance to pyrethroids (Group 3A), and that these insecticides should be used with caution and rotated to other insecticide classes within a season

Apply o	apply one of the following formulations:							
Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee		
	(*=Restricted Use)		and Crop Restrictions	(d)	(h)	TR		
1A	Lannate LV*	1.5 to 3 pt/A	methomyl	see label	48	Н		
3A	Pyrethroid insecticide	es registered for use on Bean	s: see table at the end of Insect Control.					
5	Blackhawk 36WG	2.2 to 3.3 oz/A	spinosad	3	4	М		
5	Radiant SC	4.0 to 8.0 fl oz/A	spinetoram - except yellow striped armyworm	3	4	М		
11A	XenTari (OMRI)	0.5 to 2.0 lb/A	Bacillus thuringiensis aizawai	0	4	Ν		
11A	Dipel DF,	0.5 to 2.0 lb/A	Bacillus thuringiensis kurstaki	0	4	Ν		
	others (OMRI)							
18	Intrepid 2F	4.0 to16.0 fl oz/A	methoxyfenozide	7	4	L		
		10.0 to 16.0 fl oz/A CEW						
22	Avaunt eVo	3.5 to 6.0 oz/A	indoxacarb (CEW, ECB only)	3	12	Н		
28	Coragen 1.67SC	5.0 to 7.5 fl oz/A	chlorantraniliprole - soil	1	4	L		
28	Coragen 1.67SC	3.5 to 7.5 fl oz/A	chlorantraniliprole - foliar	1	4	L		
28	Exirel	10.0 to 20.5 fl oz/A	cyantraniliprole (CEW, ECB only)	1	12	Н		
28	Vantacor	1.7 to 2.5 fl oz/A	chlorantraniliprole - soil	1	4	L		
28	Vantacor	1.2 to 2.5 fl oz/A	chlorantraniliprole - foliar	1	4	L		
28 + 6	Minecto Pro*	7.5 to 10.0 fl oz/A	cyantraniliprole + abamectin (CEW, ECB only)	7	12	Н		

Group 3A Pyrethroid Insecticides Registered for Use on Beans								
Apply one of the following formulations (check if the product label lists the insect you intend to spray; the label is the law):								
Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee			
(*=Restricted Use)			(d)	(h)	TR			
Asana XL*1	2.9 to 9.6 fl oz/A ¹	esfenvalerate - snap beans only	3	12	Н			
Brigade 2EC*, others	1.6 to 6.4 fl oz/A	bifenthrin	3	12	Н			
Declare*	0.77 to 1,54 fl oz/A	gamma-cyhalothrin	7	24	Н			
Hero EW*	4.0 to 10.3 fl oz/A	zeta-cypermethrin + bifenthrin	3	12	Н			
Lambda-Cy 1EC*,	1.92 to 3.84 fl oz/ A^1	lambda-cyhalothrin	7	24	Н			
others ¹								
Mustang Maxx ^{*1}	1.28 to 4.0 fl oz/ A^1	zeta-cypermethrin	1	12	Н			
Warrior II*1	0.96 to 1.92 fl oz/A ¹	lambda-cyhalothrin	7	24	Н			
Combo products conta	ining a pyrethroid							
Besiege*	5.0 to 10.0 fl oz/ A^1	lambda-cyhalothrin + chlorantraniliprole (Group 28)	7	12	Н			
Brigadier*1	3.8 to 5.6 fl oz/A	bifenthrin + imidacloprid (Group 4A) - foliar only	7	12	Н			
Ethos XB*	6.8 to 8.5 fl oz/A	bifenthrin + Bacillus amyloliquefaciens - soil	3	12	Н			
Ethos XB*1	2.1 to 8.5 fl oz/A	bifenthrin + Bacillus amyloliquefaciens - foliar	3	12	Н			
Elevest*	4.8 to 9.6 fl oz/A (see label)	bifenthrin + chlorantraniliprole (Group 28)	3	12	Н			

'Not recommended for BAW or soybean looper due to resistance issues.

Group 4A Neonicotinoid Insecticides Registered for Use on Beans									
Apply one of the follow	Apply one of the following formulations (check if the product label lists the insect you intend to spray; the label is the law):								
Product Name (*=Restricted Use)	Product Rate	Active Ingredient(s)	PHI (d)	REI (h)	Bee TR				
Admire Pro	7.0 to 10.5 fl oz/A	imidacloprid - soil	21	12	Н				
Admire Pro	1.2 fl oz/A	imidacloprid - foliar	7	12	Н				
Assail 30SG	2.5 to 5.3 oz/A	acetamiprid	7	12	М				
Combo products conta	Combo products containing a neonicotinoid								
Brigadier*	3.8 to 5.6 fl oz/A	imidacloprid + bifenthrin (Group 3A) - foliar only	7	12	Н				
Dirgadier	5.0 to 5.0 ft 02/A	mildaciopria - orientarim (Group SA) - Ionar only	'	14	11				

Disease Control

THE LABEL IS THE LAW-see the Pesticide Use Disclaimer on the first page of chapter F. Recommended Fungicides

<u>Nematodes</u> See also sections E 1.5. Soil Fumigation and E 1.6. Nematode Control. Use fumigants listed in the Pest Management chapter or Mocap 15G at 13 to 20 lb/A (0.9 to 1.4 lb/1000 linear feet of row) in a 12-in. band over the row. Do not use as an in-furrow treatment. A Special Local Needs Label 24(c) is available for use of Mocap EC (2.0 to 3.9 fl oz/1000 linear feet of row or 1.33 to 2.75 qt/A broadcast) on lima and snap beans in DE and MD.

Taking soil samples in the fall for soybean cyst nematode (SCN) and root knot nematode determinations from fields to be planted the following season is highly recommended. Growers who rotate snap beans with soybeans should be alert for problems caused by SCN in infested fields. Snap beans are susceptible, where baby lima beans are resistant to SCN. Snap beans and lima beans are very susceptible to root knot nematode.

Seed Treatment

Use treated seed and avoid rough handling of seed as it greatly reduces germination.

IMPORTANT: Do not use treated seed for food or feed!									
Code	Product Name	Product Rate	Active Ingredient(s)	PHI(d)	REI(h)	Bee			
	(*=Restricted Use)					TR			
For Rhiz	For Rhizoctonia and Fusarium:								
12	Maxim 4FS	0.08 to 0.16 fl oz/100 lb seed	fludioxonil	AP	12	L			
For Rhiz	zoctonia:								
11	Dynasty	0.15 to 0.76 fl oz/100 lb seed	azoxystrobin	AP	4	Ν			
For Pyth	ium/Phytophthora:								
4	Apron XL	0.16 to 0.64 fl oz/100 lb seed	mefenoxam	AP	48	Ν			
For Rhizoctonia, Fusarium, Pythium, and Phytophthora: (additional Apron XL may be needed under high pressure)									
4 + 12	Apron Maxx RFC	0.15 oz/100 lb seed	mefenoxam + fludioxonil	AP	48	N			

Damping-off caused by Phytophthora, Pythium, and Rhizoctonia

Damping-off and root rots are caused by a complex of soilborne fungi including *Rhizoctonia*, *Pythium*, *Phytophthora*, and *Fusarium* spp. In the mid-Atlantic region, the primary cause of root rot in bean are *Pythium* spp., which often cause extensive damage during periods of warm, wet, humid weather in July and August. On snap beans, *Pythium* spp. can also cause extensive pod rot.

Rotate beans with non-legume crops. Avoid fields with low lying areas, poorly drained soils, and minimize soil compaction. Plow under previous crop residue rather than disking. Select cultivars that set pods high in the plant, are more upright in architecture and use a close row spacing to help avoid pod contact with the soil surface.

Code	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee			
	(*=Restricted Use)			(d)	(h)	TR			
Apply one of the following at-planting (see label for application methods and restrictions):									
Pythium	root rot								
4	Ridomil Gold 4SL	0.5 to 1.0 pt/A	mefenoxam	AP	48	Ν			
Pythium	and Rhizoctonia root rot								
4 + 11	Uniform 3.66SE	0.34 fl oz/1000 ft row ¹	mefenoxam + azoxystrobin	AP	0	Ν			
Rhizoctor	nia root rot								
7	Fontelis 1.67SC	1.2 to 1.6 fl oz/1000 ft row	penthiopyrad	AP	12	L			
11	azoxystrobin 2.08F	0.4 to 0.8 fl oz/1000 ft row	azoxystrobin	AP	4	Ν			

¹Avoid direct seed contact, which may cause delayed emergence.

Bacterial and Fungal Diseases

Anthracnose (Colletotrichum sp.) and Web Blight (Rhizoctonia sp.)

Use western-grown, certified seed and rotate to allow 2 years between bean plantings.

Code	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee			
	(*=Restricted Use)			(d)	(h)	TR			
Apply one of the following formulations on a 7 to 14-day schedule and rotate between different fungicides:									
3 + 11	Quilt Xcel 2.2SE	10.5 to 14.0 fl oz/A	propiconazole + azoxystrobin	7	12	Ν			
11	azoxystrobin 2.08F	6.2 to 15.5 fl oz/A	azoxystrobin	14	4	Ν			
11	Headline 2.09EC	6.0 to 9.0 fl oz/A	pyraclostrobin	7/21	12	Ν			
7 + 11	Priaxor 4.17SC	4.0 to 8.0 fl oz/A	fluxapyroxad + pyraclostrobin	7/21	12	Ν			

Bacterial Blight

Use western-grown, certified seed. Apply copper as a preventative prior to the onset of disease and on a weekly basis under favorable conditions for disease development to help mitigate the spread of the pathogen. Avoid harvesting during wet conditions.

Code	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee			
	(*=Restricted Use)			(d)	(h)	TR			
When incidence is low, apply the following on a 7 to 10-day schedule:									
M01	copper (OMRI) ¹	at labeled rates	copper	0	48	Ν			

¹There are several OMRI listed copper-based products; see labels for specifics. Copper applications for bacterial disease management may also help suppress some fungal pathogens in organic production systems.

Bacterial Brown Spot

Use certified pathogen-free seed. Bacterial Brown Spot occurs primarily on lima beans and is more troublesome in irrigated fields and during wet seasons. Apply copper as a preventative prior to the onset of disease and on a weekly basis under favorable conditions for disease development to help mitigate the spread of the pathogen. Avoid harvesting during wet conditions.

Code	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee			
	(*=Restricted Use)			(d)	(h)	TR			
When incidence is low, apply the following on a 7to 10-day schedule:									
M01	copper (OMRI) ¹	at labeled rates	copper	0	48	Ν			

¹ There are several OMRI listed copper-based products; see labels for specifics. Copper applications for bacterial disease control may help suppress some fungal pathogens in organic production systems.

Common Bean Rust (Uromyces appendiculatus) on Snap Bean

Rust is often a problem during late summer and early fall. Plant resistant cultivars whenever possible. For susceptible cultivars, start fungicide applications when the disease symptoms first appear.

Code	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee			
	(*=Restricted Use)			(d)	(h)	TR			
Apply one of the following formulations on a 7 to14-day schedule and rotate between fungicides with different modes of action:									
M05	chlorothalonil 6F	2.0 to 4.0 pt/A	chlorothalonil	14	12	Ν			
3	Rally 40WSP	4.0 to 5.0 oz/A	myclobutanil	0	24	Ν			
3	tebuconazole 3.6F	4.0 to 6.0 fl oz/A	tebuconazole	7	12	Ν			
3 + 11	Quilt Xcel 2.2SE	10.5 to 14.0 fl oz/A	propiconazole + azoxystrobin	7	12	Ν			
7	Fontelis 1.67SC	14.0 to 30.0 fl oz/A	penthiopyrad	0	12	L			
11	Headline 2.09EC	6.0 to 9.0 fl oz/A	pyraclostrobin	7/21	12	Ν			
11	azoxystrobin 2.08F	6.2 to 15.5 fl oz/A	azoxystrobin	0	4	Ν			

Lima Bean Downy Mildew (Phytophthora phaseoli)

Races B, D, E, and F of the pathogen have been found in the mid-Atlantic area over the past 15 years. **Race F has been the only race detected in Delaware since 2006.** Plant resistant varieties when possible (see varieties table above). Avoid excessive irrigation and poorly drained soils.

Code	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee			
	(*=Restricted Use)			(d)	(h)	TR			
When weather conditions are favorable for disease development, apply and rotate between the following fungicides with									
different	modes of action:								
4 + M01	Ridomil Gold Copper 65WP	2.0 lb/A	mefenoxam + copper	3	48	Ν			
11	Headline 2.09EC	6.0 to 9.0 fl oz/A	pyraclostrobin	7/21	12	Ν			
21	Ranman 400SC	2.75 fl oz/A	cyazofamid	0	12	L			
29	Omega 500F	0.5 to 0.85 pt/A	fluazinam	14/30	12	Ν			
40	Forum 4.17SC (seed only)	6.0 fl oz/A	dimethomorph	0	12	Ν			
If lima bean Downy Mildew is observed in the field, apply one of the following:									
4 + M01	Ridomil Gold Copper 65WP	2.0 lb/A	mefenoxam + copper	3	48	Ν			
P07	Phosphite	4.0 to 6.0 pt/A	phosphite	0	4	Ν			

Lima Bean Pod Blight (Phytophthora capsici)

P. capsici has a very broad host range and can survive in the soil for several years. Avoid heavy irrigation and irrigating at night, especially after pod set. Avoid planting on poorly drained or compacted soils and in fields with rotations of cucurbits and peppers that are also hosts.

Code	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee			
	(*=Restricted Use)			(d)	(h)	TR			
When weather conditions are favorable for disease development, apply and rotate between the following fungicides with									
different	modes of action:			-					
4 + M01	Ridomil Gold Copper 65WP	2.0 lb/A	mefenoxam + copper	3	48	Ν			
7	Endura 70W	8.0 to 11.0 oz/A	boscalid	7	12				
21	Ranman 400SC	2.75 fl oz/A	cyazofamid	0	12	L			
29	Omega 500F ^{1,2}	8.0 fl oz/A	fluazinam	14/30	12	Ν			
40	Forum 4.17SC	6.0 fl. oz/A	dimethomorph	0	12	Ν			
P07	Phosphite	4.0 to 6.0 pt/A	phosphite	0	4	Ν			

¹Applied for Downy Mildew management may also control *P. capsici*. ²Not labeled for aerial applications.

Pythium blight (Cottony leak)

Cottony leak can be a serious problem during prolonged periods of hot, humid, wet weather. Select cultivars with good plant architecture that keep the pods off the soil surface. Pods in contact with the soil surface are more prone to infection. Using a narrower row spacing may help keep plants more erect and pods from contacting the soil. Select fields with good drainage and avoid planting in low-lying areas. Avoid overhead watering.

Code	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee				
	(*=Restricted Use)			(d)	(h)	TR				
Apply one	Apply one of the following formulations at disease onset and rotate between different modes of action:									
4 + M01	Ridomil Gold Copper 65WP	2.5 to 5.0 lb/A	mefenoxam + copper	3	48	Ν				
21	Ranman 400SC	2.75 fl oz/A	cyazofamid	0	12	L				
P07	Phosphite	4.0 to 6.0 pt/A	phosphite	0	4	Ν				

Southern Blight (Sclerotium rolfsii)

Southern Blight can be a serious disease of snap and lima beans in the southern most areas of the region. The pathogen may survive in the soil for many years so avoid planting in fields with a known history of the pathogen. Disease development is favored by high temperatures and wet weather conditions. Rotations will not eliminate the pathogen, but rotations with corn, sorghum, small grains or grasses may help reduce disease severity. Avoid overhead irrigation. Apply the following in a preventative manner, especially in fields with a history of the disease.

Code	Product Name	Product Rate	Active Ingredient(s)	PE	II REI	Bee
	(*=Restricted Use)			(d)) (h)	TR
11	azoxystrobin 2.08F	15.5 fl oz/A	azoxystrobin	0	4	Ν

Tan Spot on Lima Bean (Didymella americana)

Tan Spot was recently confirmed on lima bean in DE and MD although its occurrence is sporadic. Lesions are tan and irregular in shape with reddish borders. The products listed below are labeled for use on the crop but do not specifically list Tan Spot as a target disease.

Code	Product Name (*=Restricted Use)	Product Rate	Active Ingredient(s)	PHI (d)	REI (h)	Bee TR
3 + 11	Quilt Xcel 2.2SE	10.5 to 14.0 fl oz/A	propiconazole + azoxystrobin	7	12	Ν
7	Endura 70W	6.0 oz/A	boscalid	7	12	
7+3+11	Miravis Neo	13.7 fl oz/A	pydiflumetofen + propiconazole + azoxystrobin	14	12	N

White Mold (Sclerotinia) and Gray Mold (Botrytis)

White Mold is caused by *Sclerotinia* which has a broad host range and can persist in the soil for over 5 years. Avoid poorly drained soils and excessive overhead irrigation, especially preceding and during flowering. Rotation to nonhosts (such as corn or small grains) for at least 3 years may help reduce disease levels but will not completely eliminate the pathogen. Always harvest infested fields **after** non-infested fields to help minimize potential spread.

Code	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee			
	(*=Restricted Use)			(d)	(h)	TR			
Pre-plant	: For White Mold only. Apply	3-4 months prior to dise	ease onset to allow the active agent to reduce	levels of scl	erotia in	the			
soil. Incor	soil. Incorporate 1-2 in. deep but do not plow before seeding to avoid spreading of untreated sclerotia from lower to upper soil layers.								
44	Contans 5.3WG (OMRI)	1.0 to 4.0 lb/A	Coniothyrium minitans			Ν			
Post seed	ing: Close spacing of snap bean	s may increase the poter	tial for White Mold.						
Fungicide	e sprays are needed <i>only</i> when	the soil has been wet f	or 6-10 days before or during bloom. This	causes sclere	otia to				
germinate	and eject spores.								
For snap b	eans, a fungicide should be app	lied at 10-20% bloom.							
A second	spray should be made 7-10 days	after the first spray if the	ne soil remains wet and blossoms are still pres	sent.					
Check lab	els for details on fungicide timi	ng.							
For lima b	eans, later fungicide application	ns have been beneficial i	f favorable environmental conditions persist.						
Apply on	e of the following:								
1	Topsin M WSB	1.5 to 2.0 lb/A	thiophanate-methyl	14	24	Ν			
2	iprodione 4F	1.5 to 2.0 pt/A	iprodione	see label	24	Ν			
7	Endura 70W	8.0 to 11.0 oz/A	boscalid	7	12				
7	Fontelis 1.67SC	16.0 to 30.0 fl oz/A	penthiopyrad	0	12	L			
7 + 11	Priaxor 4.17SC	4.0 to 8.0 fl oz/A	fluxapyroxad + pyraclostrobin	7	12	Ν			
9 + 12	Switch 62.5WG	11.0 to 14.0 oz/A	cyprodinil + fludioxonil	7	12	L			
29	Omega 500F	$80 \text{ fl} \text{ oz} / \Delta$	fluazinam	14/30	12	N			

If you are having a medical emergency after using pesticides, call 911 immediately.

If you have any of the following symptoms during or shortly after using pesticides: headache, blurred vision, pinpoint pupils, weakness, nausea, cramps, diarrhea, and discomfort in the chest, call a physician and the National Poison Control Center hotline (1-800-222-1222).

Your call will be routed to your State Poison Control Center.

Anyone with a pesticide exposure poisoning emergency can call the toll-free telephone number for help. Personnel at the Center will give you first-aid information and direct you to local treatment centers if necessary.

For immediate medical attention call 911. Prompt action and treatment may save a life.



In Case of an Accident

- Remove the person from exposure.
- Get away from the treated or contaminated area immediately.
- Remove contaminated clothing.
- Wash with soap and clean water.
- Call a physician and the Poison Control Center (1-800-222-1222) or agency in your state.
- Have the pesticide label with you! Follow the First Aid Precautionary Statements.
- Be prepared to give the EPA registration number to the responding center/agency.