

## Legumes — Snap Bean, Dry Bean, Lima Bean

Snap Bean Varieties	Use	Pod Color	Seed Color	Comments
<b>Bush Snap Bean Varieties-Green Pod</b>				
Benchmark	market	medium-dark green	white	excellent quality
Bronco	market	dark green	white	excellent quality, mechanical harvest
Daytona	market	medium green	white	
Envy	processing			
Evergreen	processing			
Flo	processing			
Hialeah	market	green	white	excellent quality
Hystyle	market, processing	dark green	white	mechanical harvest
Labrador	market, processing	dark green	white	
Opus	market	medium-light green	white	rust tolerant
Rushmore	market	medium green	brown	early
Strike	market	medium-light green	white	mechanical harvest
Tema	market	medium-dark green	brown	
Venture	market, processing	dark green	white	early
<b>Yellow Pod</b>				
Eureka	market	yellow	white	
Gold Mine	market	yellow	white	susceptible to brown spot
Gold Rush	market, processing	yellow	white	susceptible to brown spot
Kinghorn Wax	market	yellow	white	excellent quality
Klondyke	market	yellow	white	mechanical harvest
Nugget	market, processing	yellow	white	

Lima Bean Varieties	Use	Seed Color	Comments
Bridgeton	processing	greenish	Bush, late, medium size
Fordhook 242	market & home	white	Bush, midseason, medium size, variable yield
Henderson Bush	market & home	white	Bush, very early, small seed, high yield
King of the Garden	home garden	greenish-white	Pole, midseason to late, large seed

## Legumes — Pea and Cowpea

“Pea” has been commonly used to describe two distinctly different legume crops. English and Snow peas, both *Pisum sativum*, are cool-season crops grown for their immature edible seeds or pods. Snap peas are a type of English pea with tender, edible pods. Southern peas, or cowpeas, are *Vigna unguiculata* and include black-eyed peas, cream peas and crowder peas. These heat-loving crops are more commonly grown in southern states, although they can be grown in the north. They are grown for their immature shelled seeds and are well-accepted in markets where customers are familiar with them.

Pea Varieties	Season	Comments
<b>English Shell Peas</b>		
Spring	early	
Knight	early	Short vines
Bolero	mid	
Green Arrow	mid-late	Long holding in field
Lincoln	mid-late	Very sweet, home garden variety

## Legumes (continued)

Pea Varieties	Season	Comments
<b>Snap peas (edible-podded)</b>		
Sugar Bon	early	Short vines
Sugar Ann	early	Short vines
Cascadia	main	
Supersnappy	main	Large pods
<b>Snow peas (edible-podded)</b>		
Oregon Giant	mid-late	Large pods
Snowflake	late	Dark green
Super Sugar Pod	late	Long vines
<b>Southern Peas or Cowpeas</b>		
Brown Crowder		
Mississippi Silver (crowder)		
Purple Crowder		
Texas Cream Cowpea		
Zipper Cream Cowpea		

## Spacing

**Beans:** Rows 18 to 36 inches apart, 5 to 7 seeds per foot of row. Larger inter-row spacing helps limit white mold development. Seed 70 to 100 pounds per acre.

**Peas and Cowpeas:** Rows 32 to 36 inches apart, 6 to 8 seeds per foot of row. Seed 100 to 150 pounds per acre.

## Fertilizing

**Lime:** To maintain a soil pH of 6.0 to 6.8.

**Preplant N:** for soils with more than 3 percent organic matter and following soybeans, alfalfa or a grass-legume hay crop no N is needed. For soils with less than 3 percent organic matter and the above rotation apply 20 pounds N per acre for peas, and 30 pounds N per acre for beans. Following corn, rye, oats, wheat, or a vegetable


crop apply 40 pounds N per acre for peas, and 40 to 60 pounds N per acre for beans.  $P_2O_5$ : 0 to 100 pounds per acre.  $K_2O$ : 0 to 100 pounds per acre. Adjust according to soil type, previous management, and soil test results for your state. Micronutrients: beans are prone to zinc deficiency. If the soil test shows zinc below 0.7 ppm, then prior to planting broadcast and incorporate 5 pounds of zinc per acre, or include 1 pound zinc per acre in the fertilizer band at planting.


**At Planting:** Apply 12 pounds N and 48 pounds  $P_2O_5$  per acre in bands at least 2 inches below and 2 inches to the side of the row. Potassium (K) is not recommended in the band because peas and beans are sensitive to injury from fertilizer salts.


**Sidedress N:** None needed.


## Disease Control

Diseases Controlled	Treatment	Comments
Ascochyta Blight (pea only)	Use pathogen-free seed. 3-year rotation.	
	Amistar® at 2-5 oz. per acre.	Do not apply Amistar® more than once before alternating to a fungicide with a different mode of action. 0-day PHI.
	Quadris 2.08SC® at 6.0-15.5 fl. oz. per acre.	Do not apply more than once before alternating to a fungicide with a different mode of action. 0-day PHI.
Rust, Anthracnose (dry beans)	Follow 2-3 year rotation schedules.	
	Rust resistant varieties are available.	

Diseases Controlled	Treatment	Comments
Rust, Anthracnose (dry beans) (continued)	Amistar® at the following rates: <b>Anthracnose:</b> 2.0-5.0 oz. per acre. <b>Rust:</b> 2.0 oz. per acre.	Do not make more than 1 application before alternating to a fungicide with a different mode of action. 0-day PHI.
	Several chlorothalonil formulations (e.g., Bravo®, Echo®, Equus®) are labeled for use at various rates.	Begin applications during early bloom or when disease threatens. 14-day PHI.
	Folicur 3.6F® at 4-6 fl. oz. per acre.	14-day PHI.
	Headline® at 6.9 oz. per acre.	Start applications at the beginning of flowering. Do not make more than 2 applications of Headline® or other group 11 fungicides per year. 21-day PHI.
	Manex® at 1.2-1.6 qts. per acre, or Maneb 75DF® or Maneb 80WP® 1.5-2.0 lbs. per acre.	30-day PHI.
	Quadris® at the following rates: <b>Anthracnose:</b> 15.5 fl. oz. per acre. <b>Rust:</b> 6 fl. oz. per acre.	Do not make more than 2 applications before alternating to a fungicide with a different mode of action. 0-day PHI.
	Quadris Opti® at 1.6-2.4 pts. per acre.	Do not make more than 2 applications of Quadris Opti® before alternating to a non-group 11 fungicide. 14-day PHI.
	Topsin 70W®, or Topsin 4.5L®. See labels for rates. <b>Anthracnose only.</b>	The rate of Topsin® depends on timing, number of applications to be made, and percentage of plants in bloom. See product labels for details. 28-day PHI.
Rust (snap beans)	Follow 2-3 year rotation schedules.	Rotate with non-host crops.
	Rust-resistant varieties are available. Planting date may be adjusted to minimize exposure to long dew periods.	Note that several races of rust are known.
	Amistar® at 2.0 oz. per acre.	Do not make more than 1 application before alternating to a fungicide with a different mode of action. 0-day PHI.
	Several chlorothalonil formulations (e.g., Bravo®, Echo®, Equus®) are labeled for use at various rates.	7-day PHI.
	Folicur 3.6F® at 4-6 fl. oz. per acre.	7-day PHI.
	Headline® at 6-9 oz. per acre.	Start applications at the beginning of flowering. Do not make more than 2 applications of Headline® or other group 11 fungicides per year. 7-day PHI.
	Quadris® at 6 fl. oz. per acre.	Do not make more than 2 applications before alternating to a fungicide with a different mode of action. 0-day PHI.
	Rally 40WSP® at 4-5 oz. per acre.	0-day PHI.
Asian Soybean Rust	Headline® at 6-9 fl. oz. per acre mixed with an adjuvant and a non-group 11 fungicide.	Vegetable legumes do not appear to be very susceptible to Asian soybean rust, however, growers should monitor the epidemic and scout their fields. 21-day PHI.
Bacterial Blights, Brown Spot, Halo Blight, Common Blight	Follow 2-3 year crop rotation schedules.	
	 Field applications of fixed copper fungicides. Application rates vary widely with product and formulation. <b>Do not use copper on fresh market lima bean.</b>	Repeat at 7-10 day intervals. Copper sprays will slow the spread of bacterial blights in the field.
Fusarium Wilt	Use resistant cultivars.	Rotate away from legumes for several years to avoid build up of the Fusarium fungus.
Seed Rot and Damping Off	Use pathogen-free seed. Treat seeds with Captan® or Thiram®.	Apply seed treatment just before planting. Follow label directions.

 May be acceptable for use in certified organic production. Check with your certifier before use.

Diseases Controlled	Treatment	Comments
White Mold and Gray Mold	Avoid fields with a history of white mold or with poor drainage.	
	Several chlorothalonil formulations (e.g., Bravo®, Echo®, Equus®) are labeled for use at various rates. <b>Gray mold on snap bean only.</b>	Apply at weekly intervals as needed. 7-day PHI.
	 Contans WG® at 1-4 lbs. per acre for white mold on snap beans.	Contans® is applied with conventional spray equipment directly to the soil surface at planting. See label for additional treatment information.
	Endura 70 WG® at 8-11 oz. per acre.	7-day PHI for snap bean. 21-day PHI for dry beans.
	Rovral 75WG® at 1.5-2 pts. per acre for flowable formulations.	Apply at first bloom, when 10% of the plants have one open bloom, and again at peak bloom. Observe restrictions on feeding of forage. Do not treat after full bloom. 0-day PHI.
	Switch® at 11-14 oz. per acre.	Do not make more than 2 applications before applying a fungicide with a different mode of action. 7-Day PHI.
	Topsin 70W®, or Topsin 4.5L®. See labels for rates.	The rate of Topsin® depends on timing, number of applications to be made, and percentage of plants in bloom. See product labels for details. 14-day PHI for snap beans. 28-day PHI for dry and lima beans.
Seedling Diseases and Root Rots	Plant only western-grown certified seed in warm, well-drained seedbeds.	
	Ridomil Gold SL® at 0.5-1 pt. per acre, or Ridomil Gold PGGR® at 0.75 lb. per 1,000 ft. of row. <b>Apply at planting.</b>	Fungicides containing mefanoaxam (Ridomil Gold®) may help control early season seedling diseases caused by pythium. Ridomil PC® GR or PCNB may be used to help control rhizoctonia. Applications may be made preplant incorporated, or as a soil surface spray after planting.
Soybean Cyst Nematode (SCN)	Rotate at least 2-3 years with corn, small grains, alfalfa, or other non-host crops.	Do not include soybeans in the rotation.
Mosaic Virus Diseases	Plant varieties with resistance when available.	Controlling aphids may lessen the impact of some virus diseases.

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## Weed Control

Weeds Controlled <sup>1</sup>	Treatment <sup>2</sup>	Comments
Annuals and Perennials (emerged) — crop not present or protected from spray	Glyphosate products at 0.75-3.75 lbs. acid equivalent (ae) per acre. Use formulations containing 3 lbs. ae/gal. (4 lbs. isopropylamine salt/gal.) at 1-5 qts. per acre, or formulations containing 4.5 lbs. ae/gals. (5 lbs. potassium salt/gal.) at 0.66-3.3 qts. per acre.	Broadcast before seeding or apply between crop rows with wipers or hooded or shielded sprayers. Use low rate for annuals and higher rates for perennials. See label for suggested application volume and adjuvants. 14-day PHI.
Annuals (emerged) — treatment applied before crop emergence	Gramoxone Inteon 2L® at 2-4 pts per acre. <b>Lima beans, snap beans, and peas only.</b>	Use 1 qt. of COC or 4-8 fl. oz. of nonionic surfactant per 25 gallons of spray solution. Apply before seeding or after seeding but before crop emergence. <b>RUP.</b>
Broadleaves (emerged) — crop not present or protected from spray	Aim EC® at 0.5-2 fl. oz. per acre.	Apply prior to or within 24 hours after seeding, or apply between crop rows with hooded sprayer. Do not allow spray to contact crop. Use COC or nonionic surfactant. Weeds must be actively growing and less than 4 inches tall. Do not exceed 6.1 fl. oz. per acre per season.

Weeds Controlled <sup>1</sup>	Treatment <sup>2</sup>	Comments
Broadleaves and Grasses (not emerged)	Command 3ME <sup>®</sup> at the following rates: <b>Peas and cowpeas:</b> 1.3 pts. per acre. <b>Succulent lima beans and snap beans:</b> 0.4-0.67 pt. per acre.	Broadcast before planting, or after planting before crop emerges. Not effective on muck soil. 45-day PHI for succulent and snap beans.
	Dual Magnum <sup>®</sup> , or Dual II Magnum <sup>®</sup> at 1-2 pts. per acre.	Use lower rates on coarse soils. <b>Peas:</b> apply prior to planting. Do not incorporate in English peas. <b>Beans:</b> apply and incorporate before planting, or apply after seeding but before crop emerges. Can be tank-mixed preplant incorporated with Eptam <sup>®</sup> or trifluralin. Do not use on muck soils.
	Eptam 7E <sup>®</sup> at 3.5 pts. per acre, or Eptam 20G <sup>®</sup> at 15 lbs. per acre. <b>Dry beans and snap beans only.</b>	Apply before planting and incorporate immediately, and/or apply as a directed spray at last cultivation. Check label for sensitive varieties. <b>Snap beans and navy beans on coarse soils:</b> do not exceed 3.5 pts. per acre. <b>All other labeled crops:</b> do not exceed 9.75 pts. per acre.
	Frontier <sup>®</sup> at 1.25-2 pts. per acre. <b>Dry beans only.</b>	Use lower rate on coarse soils that low in organic matter. Apply before planting and incorporate, apply after planting before emergence, or apply after planting when beans have 1-3 trifoliolate leaves. Do not exceed 20 fl. oz. on coarse soils prior to emergence. 70-day PHI.
	Lasso 4E <sup>®</sup> at 2.5-3 qts. per acre. <b>Lima beans in Indiana only.</b>	Apply before planting and incorporate. <b>RUP.</b>
	MicroTech <sup>®</sup> at the following rates: <b>Lima beans:</b> 2.5-3 qts. per acre. <b>Red kidney types of dry bean in Illinois only:</b> 2.5-3 qts. per acre.	Apply before planting and incorporate. <b>RUP.</b>
	Outlook <sup>®</sup> at 10-21 fl. oz. per acre. <b>Dry beans only.</b>	Use lower rate on coarse soils that low in organic matter. Apply before planting and incorporate, apply after planting before emergence, or apply after planting when beans have 1-3 trifoliolate leaves. Do not exceed 12 fl. oz. on coarse soils prior to emergence. 70-day PHI.
	Pendimethalin products. Use 3.3EC formulations at 1.2-3.6 pts. per acre, or Prowl H <sub>2</sub> O <sup>®</sup> at 1.5-3 pts. per acre.	Use low rates on coarse soils. Broadcast and incorporate before planting. Not effective on soils with high organic matter.
	Pursuit Plus <sup>®</sup> at 20-30 fl. oz. per acre. <b>Dry beans, lima beans, and peas in Illinois, Iowa, and Minnesota only.</b> In Minnesota, use only 20 fl. oz. per acre on sandy loams and soils with less than 2% organic matter.	Apply and incorporate before planting. Apply before June 30. See label for specific bean types. 60-day PHI for dry beans. 30-day PHI for lima beans and peas.
	Sonalan <sup>®</sup> at 1.5-4.5 pts. per acre. <b>Dry beans only.</b>	Apply and incorporate before planting. Use higher rates to suppress eastern black nightshade. Not for muck soils.
Trifluralin products at 0.5-0.75 lb. a.i. per acre. Use 4EC formulations at 1-1.5 pts. per acre.	Use lowest rate on coarse soils. Apply and incorporate before planting. Not effective on soils with high organic matter.	
Grasses (not emerged)	Dacthal W-75 <sup>®</sup> at 6-14 lbs. per acre, or Dacthal Flowable <sup>®</sup> at 6-14 pts. per acre. <b>Cowpeas, dry beans, and snap beans only.</b>	Apply at seeding. May be incorporated.

**Legumes (continued)**  
Weed Control (continued)

Weeds Controlled <sup>1</sup>	Treatment <sup>2</sup>	Comments
Broadleaves (not emerged or emerged)	Permit <sup>®</sup> at 0.5-0.66 oz. per acre. <b>Dry beans only.</b>	Use 0.5-1 pt. of nonionic surfactant per 25 gallons of spray solution if emerged weeds are present. Apply after planting but prior to soil cracking. Row-middle applications with no crop contact may be used after crop emergence. Do not exceed 1 oz. per acre per crop cycle, or 2 oz. per acre per 12-month period.
	Pursuit <sup>®</sup> products at the following rates: <b>Cowpeas:</b> Pursuit 2L <sup>®</sup> at 4 fl. oz. per acre, or Pursuit DG <sup>®</sup> at 1.44 oz. per acre. <b>Dry beans, lima beans, and peas:</b> Pursuit 2L <sup>®</sup> at 3 fl. oz. per acre, or Pursuit DG <sup>®</sup> at 1.08 oz. per acre. <b>Snap beans in Illinois and Minnesota:</b> Pursuit 2L <sup>®</sup> at 1.5 fl. oz. per acre. <b>All labeled crops in Minnesota north of Highway 210:</b> use only 2 fl. oz. of Pursuit 2L <sup>®</sup> , or 0.72 oz. of Pursuit DG <sup>®</sup> .	Use 8 oz. of nonionic surfactant per 25 gallons of spray solution if emerged weeds are present. <b>Snap beans in Illinois and Minnesota:</b> Apply and incorporate within 1 week of planting, or apply within 1 day after planting. Apply before July 31. <b>All other labeled crops:</b> Apply and incorporate within 1 week of planting, or apply within 3 days after planting before crop emerges, or apply after beans have 1 fully expanded trifoliolate leaf. Do not apply to fields treated with trifluralin or injury may occur. If N fertilizer is added to postemergence application, Basagran <sup>®</sup> also must be added to minimize crop injury. Refer to Basagran <sup>®</sup> label for rates. 30-day PHI for succulent peas and snap beans. 60-day PHI for all others.
	Sanda <sup>®</sup> at the following rates: <b>Dry beans:</b> 0.5-0.67 oz. per acre. <b>Snap beans and lima beans preemergence:</b> up to 1 oz. per acre.	Use 0.5-1 pt. of nonionic surfactant per 25 gallons of spray solution if emerged weeds are present. Use lower rates on coarse soils with low organic matter. Apply after planting but prior to cracking. Or, apply to snap beans or lima beans after the crop has 2-4 trifoliolate leaves (directed spray recommended). Not recommended when temperatures are cool due to potential for crop injury. Row-middle applications with no crop contact may be used after crop emergence. Do not exceed 0.67 oz. per acre per crop-cycle for dry beans, or 1 oz. per acre per crop-cycle for snap beans. Do not exceed 2 oz. per acre per 12-month period. 30-day PHI.
Broadleaves (emerged)	Basagran 4L <sup>®</sup> at 1.5-2 pts. per acre.	Apply when weeds are small and after peas have 3 pairs of leaves or first trifoliolate leaf of beans is fully expanded. Do not add COC for peas. Do not exceed 4 pts. per acre per season. 30-day PHI.
	Reflex <sup>®</sup> at the following rates: <b>Extreme southeast Missouri:</b> 1.5 pts. per acre per year. <b>Indiana and Illinois south of I-70:</b> 1.5 pts. per acre in alternate years. <b>Indiana, Illinois north of I-70, and rest of Missouri:</b> 1.25 pts. per acre in alternate years. <b>Kansas east of U.S. highway 281 and Minnesota south of I-94:</b> 1 pt. per acre in alternate years. <b>Minnesota south of Highway 2 and north of I-94:</b> 0.75 pt. per acre in alternate years. See label for map. <b>Dry beans and snap beans only.</b> <b>Not for lima beans.</b>	If dry beans have at least 4 fully expanded trifoliolate leaves, or snap beans have at least 1 fully expanded trifoliolate leaf, use nonionic surfactant, COC, or other additive following label instructions. Do not use liquid nitrogen as an additive. 30-day PHI for snap beans. 45-day PHI for dry beans.

Weeds Controlled <sup>1</sup>	Treatment <sup>2</sup>	Comments
Broadleaves and Grasses (emerged)	Raptor® at the following rates: <b>Succulent peas in Illinois and Minnesota only:</b> 3 fl. oz. per acre. <b>Dry peas in Illinois and Minnesota only:</b> 4 fl. oz. per acre. <b>Snap beans in Illinois, Indiana, Iowa, and Minnesota only:</b> 4 fl. oz. per acre.	Use 1-2 qts. of COC or 8-16 fl. oz. of nonionic surfactant per 25 gallons of spray solution. Apply to peas after they are 3 in. tall but before they have 5 nodes or begin to flower. Apply to beans after first trifoliolate is fully expanded. Do not apply to snap beans that are flowering. To minimize crop injury, Basagran® must be added if COC or N fertilizer is used. Refer to Basagran® label for rates. Using Raptor® on fields treated with trifluralin may increase the risk of injury. Do not exceed 1 application per year.
Grasses (emerged)	Assure II® at 5-12 fl. oz. per acre. <b>Dry beans, snap beans, and peas only.</b>	Use 1 qt. of COC per acre. Apply to actively growing grass. Do not exceed 14 fl. oz. per acre. 30-day PHI for succulent peas, dry beans, and succulent peas. 15-day PHI for snap beans. 60-day PHI for dry peas.
	Poast 1.5E® at 1-2.5 pts. per acre.	Use 1 qt. of COC per acre. Spray on actively growing grass. Use high rate on quackgrass. Do not exceed 4 pts. per acre per season. 15-day PHI for succulent beans and peas. 30-day PHI for dry beans and dry peas.
	Select Max® at 12-16 fl. oz. per acre, or Select 2EC® at 6-8 fl. oz. per acre for annual grasses. Use high rate for perennial grasses. <b>Dry beans only.</b>	Use 1 qt. COC per 25 gals. spray solution. Apply to actively growing grass. Do not exceed 64 fl. oz. Select Max® or 32 fl. oz. Select 2EC® per acre per season. 30-day PHI.
	Targa® at 5-12 fl. oz. per acre. <b>Dry beans, snap beans, and peas only.</b>	Use 1 qt. of COC per acre. Apply to actively growing grass. Do not exceed 14 fl. oz. per acre. 30-day PHI for succulent peas, dry beans, and succulent peas. 15-day PHI for snap beans. 60-day PHI for dry peas.

<sup>1</sup>For specific weeds controlled by each herbicide, check Table 19 on page 37.

<sup>2</sup>Rates given are for overall coverage. For band treatment, reduce amounts according to the portion of acre treated.

## Insect Control

Insects Controlled	Treatment	Comments
Seed Corn Maggots	Plant seed that has been treated with a product containing diazinon, a lindane-diazinon combination, or Cruiser®.	Flies are attracted to rotting organic material and freshly plowed soil. Plow winter cover crop under early in the spring and thoroughly cover. Handle seeds carefully to prevent cracking.
	Cruiser 5FS® or Cruiser Maxx®. Rates vary by seeding rate and spacing. See labels.	Cruiser® provides against early season injury by pests.
Wireworms	Cruiser 5FS® or Cruiser Maxx®. Rates vary by seeding rate and spacing. See labels.	Cruiser® provides against early season injury by pests.
Aphids and Leafhoppers	Admire 2F® at 16-24 fl. oz. per acre, or Admire PRO® at 7-10.5 fl. oz. per acre.	Do not exceed 0.38 lb. a.i. or 1 application per season. 21-day PHI.
<b>Potato Leafhopper Threshold</b> <b>Seedlings:</b> 0.5 per sweep, or 2 per row foot <b>3rd trifoliolate:</b> 1 per sweep, or 5 per row foot <b>Bud stage:</b> 5 per row foot	Asana XL® at 5.8-9.6 fl. oz. per acre.	Do not exceed 0.2 lb. a.i. per acre per season. Do not feed or graze livestock on treated vines. 3-day PHI for succulent legumes. 21-day PHI for dry legumes. <b>RUP.</b>
	Assail 70WP® at 1.0-2.3 oz. per acre.	Do not exceed 3 applications per season. 7-day PHI.
	Brigade 2EC® at 1.6-6.4 fl. oz. per acre, or Brigade WSB® at 4-16 oz. per acre.	Do not exceed 12.8 fl. oz. per acre per season. 3-day PHI for succulent legumes. 14-day PHI for dry legumes. <b>RUP.</b>

**Legumes (continued)**  
**Insect Control (continued)**

Insects Controlled	Treatment	Comments
Aphids and Leafhoppers (continued)	Cruiser 5FS® or Cruiser Maxx®. Rates vary by seeding rate and spacing. See labels.	Cruiser® provides against early season injury by pests.
<b>Potato Leafhopper Threshold</b> <b>Seedlings:</b> 0.5 per sweep, or 2 per row foot <b>3rd trifoliolate:</b> 1 per sweep, or 5 per row foot <b>Bud stage:</b> 5 per row foot	Dimethoate 4E® or Dimethoate 400® at 0.5-1 pt. per acre, or Dimethoate 2.67EC® at 0.75-1.5 pts. per acre.	Do not feed treated plants to livestock. Do not apply during bloom. 0-day PHI for Diamethoate 400® (mechanical harvest only). 2-day PHI for Dimethoate 4E®.
	Di-Syston 8E® at 0.9-1.9 fl. oz. per 1,000 linear ft. of row for any row spacing, or at 1-2 pts. per acre. <b>Succulent legumes only.</b>	Do not use treated vines for feed. Do not exceed 1 application per season. 60-day PHI. <b>RUP.</b>
	Endosulfan 3EC® at 0.66-1.33 qts. per acre. <b>Not for succulent beans.</b>	Do not exceed 2 lbs. a.i. or 2 applications per season. Do not feed treated threshings to livestock or allow livestock to graze in treated fields. 3-day PHI.
	Lannate SP® at the following rates: <b>Aphids:</b> 0.5-1 lb. per acre. <b>Leafhoppers:</b> 0.25-1 lb. per acre.	Do not feed hay to livestock for 7 days. 1-day PHI for succulent beans at 0.75-1.5 pts. 3-day PHI for succulent beans at high rate. 14-day PHI for dry beans. <b>RUP.</b>
	M-Pede® at 1-2% by volume. <b>Aphids only.</b>	Must contact aphids to be effective. 0-day PHI.
	Mustang MAX® at the following rates: <b>Aphids:</b> 3.2-4.0 oz. per acre. <b>Leafhoppers:</b> 2.72-4.0 fl. oz. per acre.	Do not exceed 0.15 lb. a.i. per acre per season. 1-day PHI for succulent beans. 21-day PHI for dry beans.
	Orthene 97® at 0.5-1 lb. per acre.	Do not feed treated vines to livestock. 14-day PHI for snap beans and dry beans. 1-day PHI for lima beans.
	PennCap-M® at 2 pts. per acre. <b>Dry beans only.</b>	Do not exceed 12 pts. per acre per season. 15-day PHI. <b>RUP.</b>
	Provado 1.6F® at 3.5 fl. oz. per acre.	Do not exceed 10.5 fl. oz. per acre per season. 7-day PHI.
	Sevin XLR PLUS® at 0.5-1 qt. per acre. <b>Not for aphids.</b>	Do not exceed 6 qts. per acre per season. 3-day PHI for succulent legumes. 14-day PHI for forage. 21-day PHI for dry legumes.
Thimet 20G® at 4.5-7.0 oz. per 1,000 linear feet of row at any spacing.	Drill granules to the side of the seed. Do not place granules in direct contact with seed. Do not feed bean foliage to livestock. 60-day PHI. <b>RUP.</b>	
Warrior® at 2.56-3.84 fl. oz. per acre.	Do not exceed 0.96 pt. per acre per season for succulent and dried shelled peas and beans. 7-day PHI for succulent legumes. 21-day PHI for dry legumes. <b>RUP.</b>	
Mexican Bean Beetles, Bean Leaf Beetles	Asana XL® at 2.9-5.8 fl. oz. per acre. <b>Mexican bean beetle only. Not for bean leaf beetles.</b>	Do not exceed 0.2 lb. a.i. per acre per season. Do not feed or graze livestock on treated vines. 3-day PHI for succulent legumes. 21-day PHI for dry legumes. <b>RUP.</b>
<b>Bean Leaf Beetle Threshold</b> 1 beetle per foot of row	Baythroid® at 2.4-3.2 fl. oz. per acre. <b>Dry beans and peas only.</b>	Do not exceed 6.4 fl. oz. or 4 applications per acre per season. Allow 14 days between applications. 3-day PHI for southern peas. 7-day PHI for dry beans. <b>RUP.</b>
<b>Mexican Bean Beetle Threshold</b> 0.5 beetles per plant	Brigade 2EC® at 1.6-6.4 fl. oz. per acre, or Brigade WSB® at 4-16 oz. per acre. <b>Not for Mexican bean beetles.</b>	Do not exceed 12.8 fl. oz. per acre per season. 3-day PHI for succulent legumes. 14-day PHI for dry legumes. <b>RUP.</b>
	Cruiser 5FS® or Cruiser Maxx®. Rates vary by seeding rate and spacing. See labels.	Cruiser® provides against early season injury by pests.
	Dimethoate 4E® or Dimethoate 400® at 0.5-1 pt. per acre, or Dimethoate 2.67EC® at 0.75-1.5 pts. per acre.	Do not feed to livestock. Do not apply during bloom. 0-day PHI for Diamethoate 400® (mechanical harvest only). 2-day PHI for Dimethoate 4E®.



Insects Controlled	Treatment	Comments
Mexican Bean Beetles, Bean Leaf Beetles (continued)	Di-Syston 8E® at 0.9-1.9 fl. oz. per 1,000 linear ft. of row for any row spacing, or 1-2 pts. per acre. <b>Not for bean leaf beetles.</b>	Do not use treated vines for feed. Do not exceed 1 application per season. 60-day PHI. <b>RUP.</b>
	Endosulfan 3EC® at 0.66-1.33 qts. per acre. <b>Not for succulent beans.</b>	Do not exceed 2 lbs. a.i. or 2 applications per season. Do not feed treated threshings to livestock or allow livestock to graze in treated fields. 3-day PHI.
<b>Bean Leaf Beetle Threshold</b> 1 beetle per foot of row	Lannate SP® at 0.25-1 lb. per acre. <b>Not for bean leaf beetles.</b>	Do not feed hay to livestock for 7 days. 1-day PHI for succulent beans at 0.75-1.5 pts. 3-day PHI for succulent beans at high rate. 14-day PHI for dry beans. <b>RUP.</b>
	Mustang MAX® at 2.72-4.0 fl. oz. per acre.	Do not exceed 0.15 lb. a.i. per acre per season. 1-day PHI for succulent beans. 21-day PHI for dry beans.
<b>Mexican Bean Beetle Threshold</b> 0.5 beetles per plant	Orthene 97® at 0.5-1 lb. per acre.	Do not feed treated vines to livestock. 14-day PHI for snap beans and dry beans. 1-day PHI for lima beans.
	Pennacap-M® at 2 pts. per acre. <b>Dry beans only. Not for bean leaf beetles.</b>	Do not exceed 12 pts. per acre per season. 15-day PHI. <b>RUP.</b>
	Sevin XLR PLUS® at 0.5-1 qt. per acre.	Do not exceed 6 qts. per acre per season. 3-day PHI for succulent legumes. 14-day PHI for forage. 21-day PHI for dry legumes.
	Thimet 20G® at 4.5-7.0 oz. per 1,000 linear feet of row at any spacing .	Drill granules to the side of the seed. Do not place granules in direct contact with seed. Do not feed bean foliage to livestock. 60-day PHI. <b>RUP.</b>
	Warrior® at the following rates: <b>Mexican bean beetles:</b> 1.92-3.20 fl. oz. per acre. <b>Bean leaf beetles:</b> 2.56-3.84 fl. oz. per acre.	Do not exceed 0.96 pt. per acre per season for succulent and dried shelled peas and beans. 21-day PHI for dry beans. <b>RUP.</b>
	Asana XL® at 5.8-9.6 fl. oz. per acre.	Do not exceed 0.1 lb. a.i. per acre per season. Do not feed treated vines to livestock. 3-day PHI for succulent legumes. 21-day PHI for dry legumes. <b>RUP.</b>
	Baythroid® at 2.4-3.2 fl. oz. per acre. <b>Dry beans and peas only.</b>	Do not exceed 6.4 fl. oz. per acre per season. Allow 14 days between applications. 3-day PHI for southern peas. 7-day PHI for dry beans. <b>RUP.</b>
Caterpillars (Alfalfa Caterpillars, Armyworms, Corn Earworms, Cutworms, European Corn Borers, and Loopers)	Brigade 2EC® at 1.6-6.4 fl. oz. per acre, or Brigade WSB® at 4-16 oz. per acre.	Do not exceed 12.8 fl. oz. per acre per season. 3-day PHI for succulent legumes. 14-day PHI for dry legumes. <b>RUP.</b>
	Lannate SP® at 0.5-1 lb. per acre.	Do not exceed 2.7 lbs. a.i. per are per crop. 1-day PHI for peas. 5-day PHI for forage. 14-day PHI for hay. <b>RUP.</b>
	Mustang MAX® at 1.28-4.0 fl. oz. per acre.	Do not exceed 0.15 lb. a.i. per acre per season. 1-day PHI for succulent legumes. 21-day PHI for dry legumes. <b>RUP.</b>
	Orthene 97® at 0.75-1 lb. per acre.	Do not feed treated vines to livestock. 14-day PHI for snap beans and dry beans. 1-day PHI for lima beans.
	Pennacap-M® at 2-4 pts. per acre. <b>European corn borer in dry beans only.</b>	Do not exceed 12 pts. per acre per season. 15-day PHI. <b>RUP.</b>
	Sevin XLR PLUS® at 1-1.5 qts. per acre.	Do not exceed 6 qts. per acre per season. 3-day PHI for fresh beans. 14-day PHI for forage. 21-day PHI for dry beans.
	Warrior® at 2.56-3.84 fl. oz. per acre.	Do not exceed 0.96 pt. per acre per season for succulent and dried shelled peas and beans. 7-day PHI for succulent legumes. 21-day PHI for dry legumes. <b>RUP.</b>

**Legumes (continued)**  
**Insect Control (continued)**

Insects Controlled	Treatment	Comments
Cowpea Curculios, Pea Weevils (cowpeas)	Asana XL® at 4.8-9.6 fl. oz. per acre. <b>Dry legumes only.</b>	Do not exceed 0.2 lb. a.i. per acre per season. Do not feed treated vines to livestock. 21-day PHI. <b>RUP.</b>
	Baythroid® at the following rates: <b>Cowpea curculios:</b> 1.6-2.4 fl. oz. per acre. <b>Pea weevils:</b> 2.4-3.2 fl. oz. per acre. <b>Dry beans and peas only.</b>	Do not exceed 6.4 fl. oz. or 4 applications per acre per season. Allow 14 days between applications. 3-day PHI for southern peas. 7-day PHI for dry beans. <b>RUP.</b>
	Brigade 2EC® at 2.1-6.4 fl. oz. per acre.	Do not exceed 12.8 fl. oz. per acre per season. 3-day PHI. <b>RUP.</b>
	Endosulfan 3EC® at 1-2 qts. per acre.	Do not exceed 2 applications per season. 3-day PHI.
	Mustang MAX® at 2.72-4.0 fl. oz. per acre.	Do not exceed 0.15 lb. a.i. per acre per season. 1-day PHI for succulent legumes. 21-day PHI for dried. <b>RUP.</b>
	Sevin XLR PLUS® at 1.5 qts. per acre.	Do not exceed 6 qts. per acre per season. 3-day PHI for succulent legumes. 21-day PHI for dry legumes.
	Warrior® at 2.56-3.84 fl. oz. per acre.	Do not exceed 0.96 pts. per acre per season. 7-day PHI for succulent legumes. 21-day PHI for dry legumes. <b>RUP.</b>
Seed Corn Maggots	Plant seed that has been treated with diazinon or a lindane-diazinon combination.	Adult flies are attracted to rotting organic matter or freshly plowed soil.
Stink Bugs	Baythroid® at 2.4-3.2 fl. oz. per acre. <b>Dry beans and peas only.</b>	Do not exceed 6.4 fl. oz. or 4 applications per acre per season. Allow 14 days between applications. 3-day PHI for southern peas. 7-day PHI for dry beans. <b>RUP.</b>
	Brigade 2EC® at 2.1-6.4 fl. oz. per acre.	Do not exceed 12.8 fl. oz. per acre per season. 3-day PHI. <b>RUP.</b>
	Mustang MAX® at 3.2-4.0 fl. oz. per acre.	Do not exceed 0.15 lb. a.i. per acre per season. 1-day PHI for succulent legumes. 21-day PHI for dry legumes.
	Sevin XLR PLUS® at 1.5 qts. per acre.	Do not exceed 6 qts. per acre per season. 3-day PHI for succulent legumes. 21-day PHI for dried. <b>RUP.</b>
	Warrior® at 2.56-3.84 fl. oz. per acre.	Do not exceed 0.96 pts. per acre per season. 7-day PHI for succulent legumes. 21-day PHI for dry legumes.
Thrips (cowpeas)	Admire 2F® at 16-24 fl. oz. per acre, or Admire PRO® at 7-10.5 fl. oz per acre.	1 application per season. 21-day PHI.
	Brigade 2EC® at 2.1-6.4 fl. oz. per acre.	Do not exceed 12.8 fl. oz. per acre per season. 3-day PHI. <b>RUP.</b>
	Mustang MAX® at 3.2-4.0 fl. oz. per acre.	Do not exceed 0.15 lb. a.i. per acre per season. 1-day PHI for succulent legumes. 21-day PHI for dry legumes. <b>RUP.</b>
	Sevin XLR PLUS® at 1 qt. per acre.	Do not exceed 6 qts. per acre per season. 3-day PHI for succulent legumes. 21-day PHI for dried.
	SpinTor 2SC® at 4.5-6.0 fl. oz. per acre.	<b>Succulent legumes:</b> Do not exceed 29 fl. oz. per acre per season. 3-day PHI. <b>Dry legumes:</b> Do not exceed 12 fl. oz. per acre per season. 28-day PHI.
	Warrior® at 2.56-3.84 fl. oz. per acre.	Do not exceed 0.96 pts. per acre per season. 7-day PHI for succulent legumes. 21-day PHI for dry legumes. <b>RUP.</b>