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PROCESSING LIMA BEAN
INTEGRATED WEED MANAGEMENT FIELD GUIDE

Year Prior to Planting Lima Beans

Season Prior to Planting Lima Beans:

Procedure	HOW TO SAMPLE	USE OF THIS INFORMATION	ADDITIONAL NOTES
Analysis of Soil Texture, Organic Matter, and pH	Using a county soil map, identify the different soils in the field. Take a sample from each area where soil types differ. Submit to lab for analysis of texture by mechanical analysis and for analysis of Cation Exchange Capacity (CEC), organic matter (OM), and pH.	With this information an integrated weed management program can be designed using cultural and/or chemical controls for each soil type in a field. Soil type and pH differences within a field affect rate of application, carryover and other interactions.	Mechanical analysis generally only needs to be done once unless there is significant erosion or changes in cropping patterns. CEC and pH should be analyzed annually. Organic matter analysis should be done every 5 - 10 years.

Scout once prior to harvest to determine weed potential for next season's lima beans.

Weeds	Sampling	Threshold	Notes
Horsenettle **Ground Cherry** **Yellow Nutsedge** **(277, 1326)***	Scout field in a zigzag pattern. Sample 10 random locations 1 square yard in size or 10 ft. of row, whichever pattern best suits existing conditions. Map the location of these weeds.	Presence	The fruit or seeds of these weeds are contaminants in the raw and processed product. Select control measures to eradicate these perennials for the next cropping season. See "Postharvest Perennial Weed Control" for treatment options. **(292)**
Summer Annuals, Black Nightshade, Hairy Nightshade, Common Cocklebur, Jimsonweed **(277, 1326)**	Scout as outlined above for the presence of existing weeds, especially the nightshades. Potential weed problems are best identified by a non-treated weedy check. Identify the weeds, count # of each species. Note whether specific weeds are scattered throughout the field or predominate in one area of the field.	**Nightshades:** presence **Others:** Number of weeds per 10 ft. of row or 1 sq. yd. < 1 weed = very light 1-4 weed = light 4-10 weeds = medium 10-100 weeds = heavy > 100 weeds = very heavy	Untreated check provides most reliable information for planning the weed control strategy for the coming season. Nightshades must be controlled because of the toxicity of their berries, a contaminant in the raw & processed product and the potential for staining the light skinned lima beans. Jimsonweed fruit are hallucinogenic. Common cocklebur is very competitive.

Pre-planting Decisions:

1. Use information obtained from past season's scouting to plan weed control program. Match preplant incorporated and preemergence herbicide rates to soil type and percent organic matter in each field. **(292)**

Emergence to Third Trifoliate (three weeks after planting)

Weeds	How to Sample	When	Threshold
Zero Tolerance Weeds (ZTW) = Nightshades, Horsenettle, Yellow Nutsedge, Morning Glory, Jimsonweed, Common Cocklebur, Canada Thistle, Common Milkweed, Hemp Dogbane, Bindweed spp., Johnsongrass, Bermudagrass, Quackgrass **Summer Annuals**	In a zigzag pattern, scout 1 sq. yd. in 5 random locations and 10 ft. of row in another 5 random locations. Identify species, count # of each weed species. Map location of zero tolerance weeds. Determine whether weeds are predominantly within the row or between rows.	Once approximately 3 weeks after planting.	**# weeds/10 ft. row or 1 sq. yd.** — **Action** ZTW: Presence — Control required. Summer annuals: < 0.25 weed — None 0.25 - 1 weed — Control may be required. > 1 weed — Control required **Note:** zero tolerance weed seeds or fruits are a contaminant in raw & processed product or are highly competitive. Nightshade species: berries toxic plus have the potential to stain light skinned lima beans. Jimsonweed fruit are hallucinogenic. Common cocklebur is very competitive Whether weeds are within the row or between the row determines if cultivation will be an effective control. Cultivate in a way that leaves the field as flat as possible to improve harvest recovery of limas.
All Weeds	Same as above.	1 week after control measures are implemented from the 3 week scouting.	This information is used to evaluate how well controls worked.

Flowering Stage (five to six weeks after planting)

WEEDS	Sampling	Frequency	Threshold
Zero Tolerance Weeds (ZTW) see above **Summer Annuals**	Sample 1 sq. yd. and 10 ft. of row in 10 locations. Note whether these weeds are predominantly within the row or between rows.	Once 5- 6 weeks after planting	**# weeds/10 ft. row or 1 sq. yd.** — **Action** ZTW: Presence — Control required. Summer Annuals: < 0.25 weed — None 0.25 - 1 weed — Control may be required. > 1 weed — Control Cultivate if weeds are predominantly between the rows. Cultivate in a way that leaves the field as flat as possible to improve harvest recovery of limas.

Pre-harvest

(approximately nine weeks after planting)

Weeds	Sampling	Frequency	Threshold	Notes
Horsenettle, Ground Cherry, Black Nightshade, Hairy Nightshade, Yellow Nutsedge, Morning Glory, Jimsonweed	Scout one square yard and 10 ft. of row in 10 locations in the field. Map location of these weeds.	Once prior to harvest.	Presence	The fruits or seeds of these weeds are contaminants in the raw & processed product causing economically significant grade reductions. Nightshade berries are toxic & can cause staining of limas.
Perennial Weeds	Scout for these weeds while scouting for the above mentioned weeds.	Once prior to harvest.	Presence	This information is used to determine if a fall treatment is required to control perennial weeds.

***Bolded numbers in parenthesis indicate sources of additional information found in the Mid-Atlantic IPM Database by this special reference number.**

Scouting procedures, thresholds, and crop management recommendations have been compiled from a number of sources and may not be valid for all areas within the Mid-Atlantic Region. They are meant to be used as guidelines. As such, they should be validated on small acreages before relying on them. No guarantee of their validity, success, or failure to perform in the field is implied or expressed. Consult your local Cooperative Extension for additional information or assistance.