

## LOUISIANA RECOMMENDATIONS FOR CONTROL OF SWEETPOTATO INSECTS

Sweet potatoes are subject to attack by soil and foliage insect species throughout the growing season. Sweetpotato weevils may be a problem in storage. Insect damage causes economic losses in quality, overall yield; growers sustain significant losses due to root-feeding soil insects.

### **Root-feeding Insects:**

**Banded cucumber beetles, Whitefringed beetles, and some kinds of Flea beetles** – The larvae chew shallow holes in the growing root which affects the grade of the harvested root. Foliar applied insecticides are applied to control the adult stages of these pests in order to prevent them from laying eggs in the soil. Insecticide applications should be made only when the pests are present in sufficient numbers to warrant control (see IPM section).

Control – Spray foliage with 0.5 lb technical Carbaryl or Thiodan per acre. Imidan 70-W may be sprayed on the foliage at 1 1/3 lbs per acre. This product must be applied in water adjusted to pH near 5.0 to 5.5. A maximum of five applications of Imidan may be made during the growing season. Begin applications about three weeks after plant set if the banded cucumber beetle is present. Continue applications at weekly intervals until one week before harvest. Shorten spray intervals if necessary to keep the numbers of banded cucumber beetles to a low level. PennCap-M may be sprayed on foliage for whitefringed beetles at 2-3 pts per acre. Do not exceed 24 pts per season and do not apply to seedbeds. Capture 2 EC may be used to control the banded cucumber beetle, whitefringed beetle, and some kinds of flea beetles. Application to foliage should be made at 0.05 lb. active per acre (3.2 ozs formulated chemical). Put chemical in 10 gallons water per acre or more for best results. Do not apply within 30 days of harvest. Follow label restrictions.

**Wireworms, Grubs, and Rootworms** – These are larvae of click beetles, June bugs, and banded cucumber beetles, respectively, that tunnel or chew large holes in the developing sweet potato roots. Preplant, soil incorporated insecticides are applied to control the immature stages of these pests that are present in the soil at the time of application. These chemicals provide a residual control of 4 to 6 weeks.

**Suppression** – Mocap or Lorsban: apply 30 lbs of 10% Mocap granules per acre (or 0.5 gallon of 6 lbs/1 gal EC) or 13.3 lbs of 15% Lorsban granules per acre (or 0.5 gallon of Lorsban 4E) as a preplant application. For Mocap open rows to a 15- 18-inch furrow, apply Mocap to cover furrow, then row up using a “hipping ridger.” Apply Lorsban on a broadcast basis, disk, and row up. Capture may be used as an in-furrow application as a planting time treatment. Apply Capture at a rate of 0.3 lb active per acre as an in-furrow spray or T-band at planting.

### **Foliage-feeding Insects:**

**Aphids, Flea Beetles, and Whiteflies** – Apply Admire 2F to the soil and incorporate to control aphids and whiteflies (vectors of virus diseases). Rates per application range from 13-19 fl ozs/acre. Using a row spacing of 42 inches translates to 16 fl ozs/acre or 0.25 lb active ingredient per acre.

Use Platinum 2F (thiamethoxam) applied in-furrow at planting or as a lay-by- shanked application to control aphids, whiteflies, and flea beetles. Recommended rates per application range from 5-8 fl. ozs/acre. Do not apply Platinum as a broadcast foliar spray with ground or aerial equipment. Follow mixing directions and read the label carefully.

**Foliage feeding loopers, Beet armyworms, and other Lepidoptera species** – When defoliation reaches 35% or higher apply SpinTor 2Sc for control of loopers and armyworms. Recommended rates range from 4-6 ozs formulated product per acre. This rate equals 0.062-0.094 lb active ingredient per acre. A new insecticide recommended for control of lepidopterous larvae is Rimon 0.83 EC at 9.0 fl ozs/acre. Rimon is a third generation Chitin inhibitor and an excellent IPM material due to its safety to beneficial insects.

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## CULTURAL AND CHEMICAL MEASURES TO CONTROL SWEETPOTATO WEEVILS

Sweetpotato weevil larvae attack the roots of the sweet potato plant, tunneling through the root as they feed. Sweet potatoes are susceptible to attack by the sweetpotato weevil at any time during the growing period as well as in storage.

All cultural and sanitation practices for control of the sweetpotato weevil should be followed. This includes acquiring weevil-free seed, cutting vines or slips (rather than pulling), destroying all potatoes left in fields, controlling weevils in the seedbed, and destruction of the seedbed when plant production is finished. Also, if infestation is bad, spray fields with 0.5 lb Thiodan and 1.0 lb Carbaryl per acre. Pheromone traps should be placed in fields to help determine weevil population levels. If several weevils are caught per trap per night then foliar spray applications should be made.

## **LOUISIANA RECOMMENDATIONS FOR CONTROL OF SWEETPOTATO INSECTS (cont'd)**

**In the Field** – Rotate field plantings. Plant the new crop as far away as possible from the plantings of the previous year. Apply weekly applications of PennCap-M at 2-3 pints/acre, 0.5 lb Thiodan, 1 1/3 lbs Imidan 70 WSB, or 1.0 lb Carbaryl to suppress sweetpotato weevil populations in the field.

In the field for sweetpotato weevil control, apply Capture at a rate of 0.05 lb (3.2 ozs formulated chemical) to foliage in 10 gallons of water or more per acre. Do not apply more than 5 foliar applications per acre per season. Do not apply more than 7 total applications per crop season. Do not apply within 21 days of harvest. Observe label restrictions.

**At Harvest** – Seed sweet potatoes should be selected at harvest from fields apparently free of sweetpotato weevil. Destroy all vines and roots left in the field. If seed potatoes appear to be heavily infested consider purchasing weevil-free seed from a weevil-free area.

**In Storage** – Remove all old sweet potatoes from the storage area at least one month before storing the new crop.

Store only those potatoes that are apparently weevil-free and reasonably clean. Treat potatoes going into storage with 5% Imidan dust (2-4 ozs per bushel) using an applicator approved by the Louisiana Department of Agriculture and Forestry.

**In Seedbeds** – Locate seedbeds away from sweet potato storage and last season's plantings.

Weevils may enter seedbeds from outside sources. To minimize the infestation from invading weevils apply Thiodan (0.5 lb technical per acre) or Carbaryl (1.0 lb per acre) to plants at weekly intervals beginning when plants first emerge (or when the plastic cover is stripped from the seedbed) and continuing as long as the seedbed is used. Almost all weevil eggs in plant stems are found near the soil surface so plants should be cut at least an inch above the soil level. Destroy the seedbed when it is no longer needed.

**WARNING:** Re-entry time for workers entering groves and/or treated fields should be strictly observed. Be sure to check for this information.

## LOUISIANA RECOMMENDATIONS FOR CONTROL OF SWEETPOTATO INSECTS (cont'd)

Labeled Insecticides						
Insect	Insecticide*	Amt. Concentrate Per Acre	Lb Active Ingredient/Acre	Acres Treated Per Gallon/Lb	Timing and method of application preplant lay by	
Cucumber beetles White Grubs Whitefringed beetles Wireworms	Bifenthrin**	19.2 fl oz	0.30	6.5		
		3.2-9.6 fl oz	0.05-0.15	40-13		
						<i>Note application times on product labels</i>
	Mocap EC	5.1-6.9 fl oz per 1000 row ft	3-4	2-1.5	preplant 12-15 in. band on 42 in. row	
	Mocap 15G	20-26 lbs	3-4		preplant 12-15 in. band on 42 in. row	
Wireworms	Lorban 4E	0.5 gal broadcast	2	2	preplant	
Flea beetles	Lorsban 15G	13.5 lb broadcast	2		preplant	
Cucumber beetles	Bifenthrin**	2.1-6.4 fl oz	0.033-0.10	61-20	foliar	
Whitefringed beetles	PennCap M	2-3 pints	0.5-0.75	4-2.5	foliar (FIFRA 24c)	
Flea beetles	Imidan 70-W	1.3 lbs (ph 5.5)	0.91		foliar	
	Sevin XLR- Plus	1-2 quarts	1-2	4-2	foliar	
	Thionex 3EC	0.66 quarts	0.5	6	foliar	
	Assail 30 SG	1.5-4 oz	0.028-0.075	10.5-4	foliar	
	Baythroid XL	1.6-2.8 fl oz	0.013-0.022	80-46	foliar	
	Mustang Max	1.76-4 fl oz	0.011-0.025	73-32	foliar	
Sweetpotato weevil	PennCap M	2-3 pints	0.5-0.75	4-2.5	foliar (FIFRA 24C)	
	Bifenthrin**	2.1-6.4 fl oz	0.033-0.10	61-20	foliar	
	Imidan 70-W	1.3 lbs (ph 5.5)	0.91		foliar	
	Sevin XLR- Plus	1-2 quarts	1-2	4-2	foliar	
	Thionex 3EC	0.66 quarts	0.5	6	foliar	
	Baythroid XL	1.6-2.8 fl oz	0.013-0.022	80-46	foliar	
		<i>Imidan Dust 5%</i>	<i>2-4 oz/bushel</i>			<i>Dust after harvest</i>
Beet armyworm	Intrepid 2F	6-10 fl oz	0.09-0.16	21-12.8	foliar	
	Spin Tor 2SC	4-6 fl oz	0.07-0.09	32-21	foliar	
	Rimon 0.83 EC	9-12 fl oz	0.06-0.08	14-10.6	foliar	
	Mustang Max	3.2-4 fl oz	0.02-0.025	40-32	foliar	
Cabbage looper	Intrepid 2F	6-10 fl oz	0.09-0.16	21-12.8	foliar FIFRA 24C	
Soybean looper	Spin Tor 2SC	4.5-6 fl oz	0.06-0.09	32-21	foliar	
	Rimon 0.83 EC	9-12 fl oz	0.06-0.08	14-10.6	foliar	
Cabbage looper	Avaunt	2.5-6.0 fl oz	0.045-0.11	51-21	foliar	
	Mustang Max	1.76-4 fl oz	0.011-0.025	72-32	foliar	
	Baythroid XL	1.6-2.8 fl oz	0.013-0.022	80-46	foliar	
Aphids/Whiteflies	Admire 2F	10-24 fl oz	0.16-0.35	12.8-5	foliar	
Aphids	Platinum 2F	5-8 fl oz	0.078-0.125	25-16	foliar	
	Assail 30 SG	1.5-4 oz	0.028-0.075	10.5-4	foliar	

\*Note incorporation instructions and methods of application for preplant insecticides.

\*Apply preplant insecticides as close to transplant as possible in accordance with label directions.

\*Do not exceed 0.5 lb active ingredient bifenthrin per acre/per season.

\*\* Bifenthrin is labeled as Capture 2EC, Brigade 2EC, Bifenture and Sniper.