Rice

The rice water weevil, stem borer complex, and rice stink bug are the primary economic pests of rice in Louisiana. Armyworms, colaspis, rice leaf miner, South American rice miner, and rice seed midge, are occasional pests that can reduce yields. Aphids, grasshoppers, chinch bugs, and thrips are sporadic pests for which no controls are consistently recommended.

Emergence	3-leaf	Tillering	Panicle initiation	Heading	Grain development
Rice seed midge (water seeded)					
Colaspis	Colaspis				
South American rice Miner	South American rice miner				
Fall Armywom	Fall Arymyworm	Fall Armyworm			
	Rice leaf miner	Rice leaf miner			
Rice water weevil (after flooding)	Rice water weevil (after flooding)	Rice water weevil (after flooding)	Rice water weevil (after flooding)		
		Stem borers	Stem borers	Stem borers	
				Rice stink bug	Rice stink bug

Cultural Controls:

Early planting is critical to reducing the impacts of many pest insects including rice water weevils, stem borers, armyworms, and South American rice miner. Delaying the establishment of permanent flood can reduce yield losses from rice water weevils by allowing plants to establish a good root system before weevil larval infestations occur. Draining fields and drying out soil after flood can kill rice water weevil larvae. This method is only effective if larvae are feeding on roots and complete drying is achieved. Draining fields for weevil control is recommended only as a last resort due to increased weed pressure and loss of fertilizer. Water-seeded rice is highly susceptible to rice water weevil as well as rice seed midge. Removal or reducing the cutting height of rice stubble can decrease over-wintering stem borer populations. Early flooding can reduce the impacts of colaspis. Flooding or flushing can be used to control armyworm infestations in young rice. Reducing the water depth may help reduce rice water weevil infestations and control rice leaf miner infestations.

Rice water weevil chemical control: Insecticidal seed treatments are the most effective chemical controls for rice water weevil. Spectrum of pests controlled varies among products. Foliar applications of insecticides target adult weevils to prevent egg-laying. Inconsistency in control with seed treatments in recent years may require the use of multiple products to prevent yield loss. Scouting requires checking 10 locations every three to four days. Treat when adults are present or fresh feeding scars are observed and when conditions are favorable for egg-laying (i.e. water is present or will be present soon). Scout again beginning five to seven days after application. More than one application may be necessary. Applications made >10 days after the establishment of the permanent flood may not be effective as most larvae are already established in the roots.

Table 1. Rice water weevil (adults)

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
Warrior II[3]	Lambda-cyhalothrin	1.6-2.56 fl. oz./acre	21 days	• Product trade names and formulations are subject to change. Always be sure to follow current EPA approved labels.
Mustang Maxx[4]	Zeta-cypermethrin	3.2-4.0 fl. oz./acre	14 days	
Proaxis[5]	Gamma-cyhalothrin	3.20-5.12 fl. oz./acre	21 days	
Declare[6]	Gamma-cyhalothrin	1.28-2.05 fl. oz./acre	21 days	
Fastac EC[7]	Alpha-cypermethrin	3.2-3.8 fl. oz./acre	14 days	
Mustang EW[4]	Zeta-cypermethrin	3.4-4.3 fl. oz./acre	14 days	
Belay[8]	Clothianidin	4.5 fl. oz./acre	21 days	

Table 2. Rice water weevil seed treatments

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
Dermacor X-100 seed treatment[9]	Chlorantraniliprole	Varies by seeding rate (1.75 fl. oz./acre)	NA	• Dermacor and Fortenza treated seed may be used for dry- or water-seeding. • Cruiser and NipsIt are for drill-seeded rice only. • Multiple seed treatments can be used in combination.
Fortenza[9]	Cyantraniliprole	3.47 fl. oz./100 lb. seed		
NipsitInside[9]	Clothianidin	1.92 fl. oz./100 lb. seed		
Cruiser[9]	Thiamethoxam	7 fl. oz../100 lb. seed		

Table 3. Rice water weevil (eggs)[9]

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
Dimilin 2L[10]	Diflubenzuron	12-16 fl. oz. (drill-, dry- or water-seeded, delayed flood rice) 8 fl. oz. + 8 fl. oz. (water-seeded, pinpoint flood, or continuous flood rice)	21 days	• A flood is required. Do not apply if flooding is in progress.

Stem borer chemical control: Dermacor X-100 is the only seed treatment that is effective for stem borer control. It is recommended in regions where high populations of Mexican rice borer occur. For foliar applications, start scouting at panicle differentiation and early boot stage. Look for early signs of stem borer presence including orange-tan discoloration around the junction of the leaf sheath and the leaf blade. This is caused by the feeding of young larvae on the inside surface of the leaf sheath. Make application before larvae enter the stalk.

Table 4. Stem borers (sugarcane borer, Mexican rice borer, and rice stalk borer)

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
Warrior II[3]	Lambda-cyhalothrin	1.6-2.56 fl. oz./acre	21 days	Foliar applied insecticides may be tank mixed with fungicides if not prohibited by the label.
Declare[6]	Gamma-cyhalothrin	1.28-2.05 fl. oz./acre	21 days	
Proaxis[5]	Gamma-cyhalothrin	3.20-5.12 fl. oz./acre	21 days	
Dermacor X-100[9]	Chlorantraniliprole	1.75 fl. oz./acre	NA	

Rice stink bug chemical control: Direct reduction in rice grain yield from rice stink bug in Louisiana is rare, and losses are the result of reduced grain quality. Rice stink bug feeding reduces milling quality (head yield) and causes peck which can lead to discounted grain prices. To time insecticide applications, Scout in the morning for best results. Treat when there are 30 stink bugs per 100 sweeps during the first 2 weeks of heading. Treat when there are 100 stink bugs per 100 sweeps until 2 weeks before harvest.

Table 5. Rice stink bug

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
Warrior II[3]	Lambda-cyhalothrin	1.6-2.56 fl. oz./acre	21 days	• Chemical controls of rice stink bug are not recommended in regions where crawfish production is prevalent. • Pyrethroid resistance has been reported in some rice stink bug populations.
Mustang Maxx[4]	Zeta-cypermethrin	3.2-4.0 fl. oz./acre	14 days	
Proaxis[5]	Gamma-cyhalothrin	1.28-2.05 fl. oz./acre	21 days	
Declare[6]	Gamma-cyhalothrin	1.28-2.05 fl. oz./acre	21 days	
Fastac EC[7]	Alpha-cypermethrin	2.6-3.8 fl. oz./acre	14 days	
Sevin 80S[11]	Carbaryl	1.25-1⅞ lbs/acre	14 days	
Sevin 4F[11]	Carbaryl	1.0-1.5 quarts/acre	14 days	
Tenchu 20SG[12]	Dinotefuran	7.5-10.5 ounce/acre	7 days	
Malathion 57 EC[13]	Malathion	1.0-1.5 Pt/A	21 days	

Chemical control of sporadic pests: Many insects attack rice in Louisiana, but their status as economic pests are not well defined. Because the relationship between pest densities and yield loss have not been well established, no consistent treatment recommendations are available. However, treatment can be beneficial in cases where heavy infestation and feeding occurs. Insecticidal seed treatments can protect against early-season pests, but spectrums controlled vary among products. Consult your extension agents for assistance in making treatment decisions against the following sporadic pests of rice.

Table 6. Sporadic Pest – Armyworms

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
Warrior 11[3]	Lambda-cyhalothrin	1.6-2.56 fl. oz./acre	21 days	• Treat when there is 1 armyworm per 2 plants; better results are obtained when larvae are small. • Flooding is effective for armyworm control if plants are sufficiently developed.
Mustang Maxx[4]	Zeta-cypermethrin	3.2-4.0 fl. oz./acre	21 days	
Proaxis[5]	Gamma-cyhalothrin	1.28-2.05 fl. oz./acre	21 days	
Declare[6]	Gamma-cyhalothrin	1.28-2.05 fl. oz./acre	21 days	
Fastac EC[7]	Alpha-cypermethrin	3.2-3.8 fl. oz./acre	14 days	
Sevin 80S[11]	Carbaryl	1.25-1.88 lbs/acre	14 days	
Sevin 4F[11]	Carbaryl	1.0-1.5 quarts/acre	14 days	
Dermacor X-100 seed treatment[9]	Chlorantraniliprole	1.75 fl. oz./acre	NA	

Table 7. Sporadic Pest – Colaspis

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
NipsitInside[9]	Clothianidin	1.92 fl. oz./100 lb. seed (seed treatment)	NA	• CruiserMaxx and NipsitInside are for use in dry-seeded rice only.
CruiserMaxx[9]	Thiamethoxam	7 fl. oz./100 lb. seed (seed treatment)	NA	

Table 8. Sporadic Pest – Thrips

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
NipsitInside[9]	Clothianidin	1.92 fl. oz./100 lb. seed (seed treatment)	NA	• CruiserMaxx and NipsitInside are for use in dry-seeded rice only.
CruiserMaxx[9]	Thiamethoxam	7 fl. oz./100 lb. seed (seed treatment)	NA	

Table 9. Sporadic Pest – Chinch bugs

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
Warrior II[3]	Lambda-cyhalothrin	1.6-2.56 fl. oz./acre	21 days	• For foliar sprays: flood fields first to move chinch bugs up onto plants and increase exposure.
Mustang Maxx[4]	Zeta-cypermethrin	3.2-4.0 fl. oz./acre	14 days	
Proaxis[5]	Gamma-cyhalothrin	1.28-2.05 fl. oz./acre	21 days	
Declare[6]	Gamma-cyhalothrin	1.28-2.05 fl. oz./acre	21 days	
Fastac EC[7]	Alpha-cypermethrin	3.2-3.8 fl. oz./acre	14 days	
Sevin 80S[11]	Carbaryl	1.25-1.88 lbs/acre	14 days	
Sevin 4F[11]	Carbaryl	1.0-1.5 quarts/acre	14 days	
NipsitInside[9]	Clothianidin	1.92 fl. oz./100 lb. seed (seed treatment)	NA	• CruiserMaxx and NipsitInside are for dry-seeded rice only.
CruiserMaxx[9]	Thiamethoxam	7 fl. oz./100 lb. seed (seed treatment)	NA	

Table 10. Sporadic Pest – Grasshoppers

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
Warrior II[3]	Lambda-cyhalothrin	1.6-2.56 fl. oz./acre	21 days	• Use a higher rate if most grasshoppers are large in size.
Mustang Maxx[4]	Zeta-cypermethrin	3.2-4.0 fl. oz./acre	21 days	
Prolex/Proaxis[5]	Gamma-cyhalothrin	1.28-2.05 fl. oz./acre	14 days	
Fastac EC[7]	Alpha-cypermethrin	3.2-3.8 fl. oz./acre	14 days	

Table 11. Sporadic Pest – Rice leaf miner

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
Malathion 57 EC[13]	Malathion	1.0-1.5 Pt/acre	21 days	• Consider treatment only if stands are being reduced to less than 15 plants/ft^2.

Table 12. Sporadic Pest – South American rice miner

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
None	• Avoid planting late, particularly in areas known to be prone to severe infestation such as coastal areas in Cameron, Jeff Davis, and Vermilion parishes. Seed treatments applied for rice water weevil may provide some suppression of rice miners.			

Table 13. Sporadic Pest – Rice seed midge

Insecticide[1]	Active Ingredient[2]	Application Rate	Pre-harvest Interval	Comments
Warrior II[3]	Lambda-cyhalothrin	1.6-2.56 fl. oz./acre	21 days	• Seed midge is only a pest of water-seeded rice. • Treatment will not recover lost stand and replanting may be needed.
Declare[6]	Gamma-cyhalothrin	3.2-4.0 fl. oz./acre	21 days	
Proaxis[5]	Gamma-cyhalothrin	1.28-2.05 fl. oz./acre	21 days	

[1] Insecticides **are not** listed in order of effectiveness and/or preference.
[2] Trade names given are subject to change and many active ingredients are available under several generic formulations.
[3] **Warrior II** Do not use treated rice fields for the aquaculture of edible fish and crustaceans. Do not release floodwater within 7 days of application. Do not apply more than 0.12 pound A.I./acre/season. Do not apply as ultra-low volume (ULV) spray. Warrior II can be safely used when propanil products are being used for weed control. Do not exceed 0.12 pound A.I./acre when Karate is used in addition to Prolex or Proaxis in a single season.
[4] **Mustang Maxx and Mustang EW:** Do not use treated rice fields for the aquaculture of edible fish and crustaceans. Do not release floodwater within 7 days of application. Do not make applications less than 7 days apart. Do not apply more than 0.10 pound A.I. (1.0 pints)/acre/season. Do not apply as ULV spray.
[6] **Declare:** Do not release floodwater within 7 days of application. Do not use treated fields for the aquaculture of edible fish and crustacean. Do not apply more than 0.06 lbs A.I./acre per season. Do not apply more than 0.04 lbs A.I./acre within 28 days of harvest or 0.02 lbs AI within 21 days of harvest.
[7] **Fastac EC:** Do not make applications less than 7 days apart. Do not release floodwater within 7 days of application. A maximum of 0.075 pound of active ingredient may be applied per year per acre. Do not use treated rice for the aquaculture of edible fish and crustacea.
[8] **Belay:** Do not apply more than 0.075 pound ai/A as a foliar per year. Do not apply Belay after a NipsitInside seed treatment. Not to be used on rice crops that contain or support crawfish or any form of aquaculture operation. Do not apply after a third tiller has initiated on rice plants.
[9] Insecticidal seed treatments must be applied to dry seed by certified seed treaters only.
[10] **Dimilin 2L:** Do not use treated rice fields for the aquaculture of edible fish and crustaceans. Use at least 5 gallons total volume per acre. Do not release floodwater within 14 days of application.
[11] **Sevin (carbaryl):** May kill shrimp, crabs and crayfish. Do not use Sevin within 15 days before or after application of propanil; up to 2 applications per crop but not more often than once every 7 days.
[12] **Tenchu**: Do not make more than two applications with a minimum of 7 days between applications. Do not apply more than 1.34 pounds total per acre per year. Do not use flood water from treated fields for irrigation or food/feed crops. Do not use if rice fields are used for fish or crustacean farming. Do not apply to rice fields during pollen shedding when bees may be present.
[13] **Malathion 57% EC:** Do not use malathion within 15 days of applying propanil. NOTE FOR AQUATIC USES (rice); Broadcast use only over intermittently flooded areas. Application may not be made around bodies of water where fish or shellfish are grown and/or harvested.

Table 14. Rice/Crawfish Rotation Fields

Insect	Comments
Armyworms	Use B.t., *Bacillus thuringiensis* (several formulations are on the market; follow label directions). Treat when there is one armyworm per two plants. Flooding is effective for armyworm control if plants are sufficiently developed.
Rice leaf miners	Miner infestations tend to be more severe in deep water.
South American rice miner	Avoid planting late, particularly in areas known to be prone to severe infestation, such as those in coastal areas in Cameron, Jeff Davis and Vermilion parishes.

Insect	Comments
Rice seed midges	Water management: Check fields for damage during first week after planting. If stands are being reduced significantly (less than 15 plants per square feet), drain and replant if necessary.
Stem Borers	Plant as early as reasonable.
Rice stink bugs	No insecticides are available which are compatible with crawfish production.
Rice water weevil	Water management: 2-3 weeks after permanent flood, sample for rice water weevil larvae. If populations are 3 medium-to-large larvae or 5 small larvae per core, drain the field and allow the field to dry 2-3 weeks. (This allows soils to dry to the point of cracking). To minimize losses from the rice water weevil, plant as early as reasonable and delay flooding as long as possible from an agronomic perspective. Dermacor seed treatment is the only product labeled for use against rice water weevil in a crawfish rotation.