

TX Department of Agriculture provides integrated pest management grant funds

Agriculture Commissioner Susan Combs announced that the Texas Department of Agriculture has awarded 23 research projects, which focus on the integrated pest management techniques.

"This year's grants will continue to enhance farmers' knowledge of ways to control insects, diseases and weeds using alternative methods ranging from intercropping fields with vegetables that repel certain insects to using a mite to control a common field weed," Combs said. "Other grants will examine increasing the integration of pest management strategies such as cotton, pecans, corn, citrus and black-eyed peas. The grants are funding research statewide from the Lower Rio Grande Valley to the High Plains and reflect the wide diversity of Texas agriculture."

Integrated pest management is a farming system that curbs pest populations by using a variety of practices including biological pest control, pest-resistant crop plants, crop rotations, planting date adjustments and crop residue destruction. Under IPM, pesticides are used only when IPM methods fail to control problems that threaten to cause significant crop damage.

The IPM grant projects awarded for 2001 are:

Cotton Insect Displays (514,929)—Labeled, pinned and cast displays of about 50 species of insects common to cotton fields, including pests and their natural enemies will be assembled and placed in cotton gins, extension offices and chemical applicator offices to allow cotton farmers to better identify and treat insects in their fields, including avoiding unnecessary pesticides for misidentified insects. The displays will be available to cotton growers in Lubbock and Lynn counties. The principal investigator is Tommy Doerflinger, an IPM extension agent in Lamesa.

Intercropping to Control Onion Pests (150,000)—To control onion thrips, onion fields will be intercropped with carrots, which repel the thrips, and sorghum, which attract thrips' predators. The principal investigator is Tong-Yan Liu, an assistant professor of entomology in Lamesa.

Insect Digital Image Gallery (57,480)—A collection of more than 3,000 high-quality digital images of insects found in Texas and adjacent areas will be enhanced by the development of a web-based interface that will allow the IPM Com Manual (622,200)—IPM Manual, a manual on IPM damage and surrounding states. The images can be found at wwwweb.tamu.edu and <http://entowww.tamu.edu/insects/>. The principal investigators for this project are John Jackman and John Oswald at Texas A&M University in College Station.

Citrus Environmental Stewardship Manual (612,980)—A manual on IPM strategies for managing insects, diseases and weeds in citrus crops will be distributed to growers in Hidalgo, Cameron, and Willacy counties. The principal investigator is Juan Anco, an extension/citrus IPM specialist in Edinburg.

Student-Farming Enterprise (612,533)—Agricultural research projects at Texas A&M University-Commerce will grow wheat, rye, sorghum, cotton and corn using biologically intensive IPM principals in 10-acre demonstration plots. The principal investigator is Donald Reid, a professor of agronomy at Texas A&M University-Commerce.

Using a Mite to Control Panhandle Weeds (614,850)—A mite known to significantly control bindweed will be distributed in 26 northern Panhandle counties. Field bindweed covers more than 600,000 acres of farmland in Texas causing more than \$50 million in economic losses annually. The principal investigator is G.J. Michels Jr. at the Texas Agricultural Experiment Station in Bushland.

Cotton Ginning Impacts on Boll Weevils (635,000)—The study will generate data on the nest-site specific conditions of containment measures that may be taken to prevent gins from becoming a source of boll weevil infestation in an eradication zone. The principal investigators are Thomas Sappington, a research entomologist, and Roy Baker, a research leader, in Lubbock.

Integrated Pest Management for Cotton Producers (614,850)—A manual for producers, but not for farmers. The manual will produce an integrated pest management manual with supplemental electronic resources for Texas producers. The principal investigator is Patrick Porter, an extension entomologist in Lubbock.

Secondary Cotton Enemies of Cotton (65,800)—The project will measure the impact that secondary pest predators have on Boll Weevil cotton, which requires fewer pesticide treatments, compared with non-Bollgard cotton, and examine the economics of both crops. The principal investigator is Glen M. Weseloh, an extension agent in Ellis and Navarro counties.

Surveying Weevil Cotton Orchards (611,725)—Established peach orchards in El Paso, East, Midland, Upton, Pecos, Culberson and Hudspeth Counties will be surveyed for the peach weevil, which has been found to displace nearby counties in southeastern New Mexico. Early detection and control of the weevil will reduce the need for thousands of dollars in lost production and pesticide costs. The principal investigator is Lynn Raye, an extension horticulturist in Fort Stockton.

Pests and Beneficial Insects in Low-Tillage Fields (511,422)—Changes in insecticide use in low-tillage fields will be evaluated to give growers a better understanding of the costs and benefits of low tillage on insect management. The principal investigator is Allen Kuntz, a professor and extension entomologist in Dallas.

Field-level Experience for College Students (637,000)—A program as a field-level experience for college students interested in pest management. The principal investigator is Thomas Fuchs, an extension IPM coordinator in San Angelo.

Flour Beetle in Cotton Gin Trash (613,255)—The larger Black Flour Beetle is a major agricultural and home pest. This project will examine ways to treat the beetle in cotton gin trash, where it reproduces and overwinters. The principal investigators are Nancy McIntyre at Texas Tech University and Patrick Porter at the Texas A&M Agricultural Extension Service in Lubbock.

Detecting Citrus Root Weevils (514,281)—The sugarcane rootknot borer weevil is a major citrus pest in Florida infesting 22 counties and causing \$20 million in damage each year. This weevil has been found in Lower Rio Grande Valley citrus orchards. The project will determine the distribution and abundance to help better manage the pest. The principal investigator is Alton Sparks Jr., an extension entomologist in Weslaco.

Pest Damage to High Plains Black-eyed Peas (68,250)—Black-eyed peas are a valuable alternate and rotational crop for High Plains farmers, but the crop has been infested with plant bugs on which little information exists. The project will develop methods of identifying and better controlling these pests. The principal investigator is Cherrill Kelly, an IPM extension agent in Farwell.

Damage to Cotton from the Weevil (615,000)—The principal investigator will assess the damage potential of a previously unknown cotton pest to determine better pest-management strategies for cotton. The principal investigators are Scott Armstrong and Harlan Thorlinton at Texas Tech University in Lubbock.

An IPM System for Central Texas Pecans (58,605)—The project will establish an IPM management program for pecan growers in San Saba County, which has 10,000 acres of pecans. The principal investigator is William Rice, an IPM extension agent in Bryan.

Managing Fungus Damage to Citrus (69,811)—Since August 2000, orange trees in several orchards in the Lower Rio Grande Valley have experienced rapid decline and death. A fungus that enters citrus root systems from wounds created by insects kills the trees. The project will survey the extent of the problem to help growers determine the best way to control loss to the fungus. The principal investigator is Mani Skaria, a citrus pathologist at Weslaco.

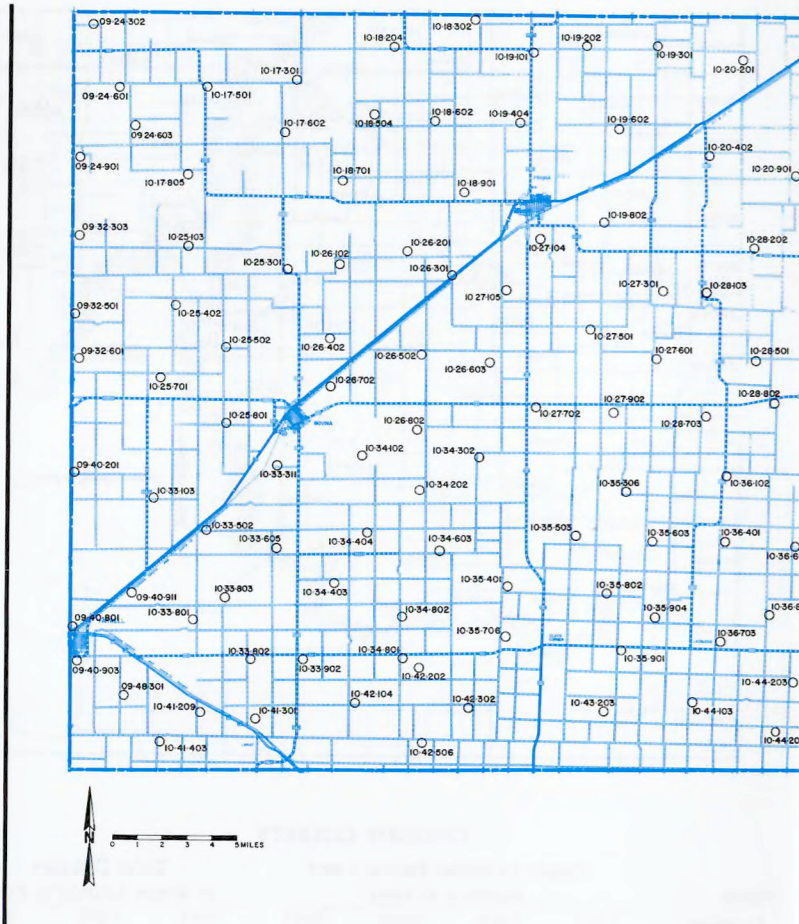
Stink Bug Impact on Cotton (63,980)—Information will be gathered about the Southern Green Stink Bug's impact on cotton to develop better control techniques. The principal investigator is Dan Fromme, an IPM extension agent in Wharton.

Conservation Tillage (55,000)—Eight methods of destroying cotton stalks, which help control boll weevil in low-tillage fields, will be evaluated. The principal investigator is James Smith, a research agronomist in Weslaco.

Determining IPM techniques for Drip Irrigation (62,419)—Drip irrigation on cotton is increasing in some areas of West Texas, growing from 3,500 acres to 25,000 acres during the last two years in the St. Lawrence area. This project will determine the effectiveness and economic return of several IPM management practices on drip-irrigated cotton. The principal investigator is Warren Muller, an IPM extension agent in Garden City.

Monitoring Boll Weevils in Cotton (612,744)—Boll weevils will be monitored in a trapped within and outside of voluntary weevil suppression programs in the Lower Rio Grande Valley. The principal investigator is Alton Sparks, an extension entomologist in Weslaco.

Cotton Stalk Destruction (57,322)—Cotton stalk destruction methods for reduced tillage fields using herbicides and a cotton stalk puller will be evaluated for effectiveness. The principal investigator is Alton Sparks, an extension entomologist in Weslaco.



FLOYD COUNTY
Depth to Water Below Land
Total Change in Water Levels in Feet

Well Number	Surface In Feet				In Water Levels in Feet			
	1991	1996	2000	2001	1991	1996	2000	2001
09-24-302	290.40	291.04	291.16	290.59	-1.19	0.45	3.57	
09-24-601	333.41	333.66	334.10	332.20	0.21	1.46	1.90	
09-24-603	N/A	315.36	315.91	315.99	N/A	-0.63	-0.38	
09-24-604	297.42	293.47	301.45	301.95	-1.62	3.40		
09-32-303	332.84	336.84	337.00	N/A	N/A	N/A	N/A	
09-32-601	364.31	372.91	377.91	N/A	N/A	N/A	N/A	
09-32-601	328.40	332.82	343.34	344.11	-15.71	-11.29	-3.77	
09-40-201	323.84	336.11	338.51	339.57	-15.73	-3.46	N/A	
09-40-201	282.98	302.22	N/A	N/A	N/A	N/A	N/A	
09-40-203	288.50	315.10	336.01	336.01	-47.51	-20.91	1.00	
09-40-911	N/A	352.80	373.53	374.02	N/A	-21.22	-3.49	
09-48-301	264.40	285.20	308.77	310.28	-53.82	-32.62	-3.25	
10-17-301	195.87	197.25	200.05	199.29	-2.42	-2.04	3.76	
10-17-301	259.40	259.55	260.49	260.05	-0.65	-0.50	3.44	
10-17-602	193.67	188.39	191.25	190.72	3.25	-2.33	1.53	
10-17-805	N/A	225.63	231.12	221.65	N/A	3.98	2.47	
10-18-204	304.69	309.71	304.52	302.18	4.51	1.61	1.34	
10-18-204	249.56	252.47	251.88	252.83	-3.47	-0.30	-3.95	
10-18-204	280.55	277.72	280.94	280.89	0.75	1.54	1.50	
10-18-204	304.16	301.09	299.70	297.64	6.32	3.25	0.86	
10-18-204	247.72	241.57	238.90	238.28	9.44	3.29	0.42	
10-18-901	268.54	278.16	288.20	282.30	-13.76	-4.14	6.80	
10-18-901	235.98	243.51	249.51	250.97	-11.61	-1.66	-1.36	
10-19-202	217.53	222.26	226.40	226.01	-2.82	-1.02	-0.61	
10-19-202	280.55	284.98	285.12	284.67	-0.16	-1.16	-1.59	
10-19-301	278.20	280.38	295.07	291.35	-3.15	-0.97	5.37	
10-19-404	247.70	253.98	258.28	256.71	-9.01	-2.73	1.59	
10-19-602	293.30	301.30	300.01	300.06	-16.76	-1.24	-3.05	
10-25-201	262.54	264.31	269.51	265.97	-11.61	-6.56	-1.36	
10-20-201	194.10	196.11	197.45	197.95	-3.85	-1.84	-1.44	
10-20-402	257.30	260.35	266.80	268.23	-10.93	-4.78	-1.43	
10-20-901	260.00	213.20	214.17	212.92	-5.98	-2.88	1.25	
10-20-901	249.27	247.46	247.17	N/A	2.10	0.29		
10-20-901	302.30	302.22	302.98	302.98	-0.16	-1.16	-1.59	
10-25-402	164.24	164.32	163.08	162.88	1.77	1.14	3.20	
10-25-502	189.25	195.46	198.26	196.60	-7.36	-1.14	-3.40	
10-25-701	302.30	318.54	326.59	327.88	-24.96	-9.34	-1.29	
10-25-701	265.72	268.63	270.97	272.72	-7.25	-1.14	-1.13	
10-26-102	291.80	294.88	298.82	298.82	3.08	1.16	1.13	
10-26-201	293.01	292.53	288.67	295.73	-4.70	-3.20	-0.86	
10-26-301	377.31	382.23	388.60	393.43	-13.12	-8.20	-1.83	
10-26-402	301.30	329.30	330.67	329.63	0.68	0.46	1.14	
10-26-402	304.16	304.68	305.12	304.67	-0.52	-1.52	-1.78	
10-26-603	351.07	374.14	382.19	381.12	-31.12	-9.12	-3.12	
10-26-702	254.60	267.97	N/A	N/A	N/A	N/A	N/A	
10-26-801	N/A	289.68	304.65	311.27	N/A	-21.59	-3.62	
10-27-101	300.35	316.26	317.38	320.92	-20.07	-4.66	-3.54	
10-27-101	381.32	380.98	380.98	380.98	-0.34	-0.34	-0.34	
10-27-301	324.12	364.15	371.86	373.62	-11.48	-3.47	-1.78	
10-27-501	409.80	429.28	437.18	439.32	-29.52	-10.04	-2.14	
10-27-601	376.90	391.97	N/A	N/A	N/A	N/A	N/A	
10-27-601	314.12	322.84	N/A	N/A	N/A	N/A	N/A	
10-27-902	N/A	323.47	340.82	346.56	-32.44	-13.72	N/A	
10-28-103	353.95	362.20	381.30	382.70	-28.75	-15.25	-1.40	
10-28-201	331.10	341.34	355.90	349.99	-18.49	-8.25	6.31	
10-28-301	369.34	381.90	395.06	397.74	-28.40	-18.54	-2.68	
10-28-301	300.17	316.24	328.90	336.89	-34.52	-18.45	-5.79	
10-28-901	N/A	351.28	362.80	366.97	N/A	-1.75	-0.38	
10-30-103	336.45	356.65	373.38	374.40	-37.95	-17.45	-3.02	
10-30-311	387.30	382.32	371.29	371.39	-34.07	-14.13	-4.10	
10-30-312	359.80	365.50	371.29	371.39	-10.12	-20.52	-2.46	
10-30-312	305.25	317.48	319.98	320.98	-12.43	-3.40	-2.43	
10-30-312	293.20	302.28	309.75	311.75	-18.55	-7.27	-1.86	
10-30-312	260.05	275.50	N/A	N/A	N/A	N/A	N/A	
10-30-312	261.17	345.48	360.65	365.60	-44.43	-20.12	-4.95	
10-30-312	326.10	351.78	N/A	N/A	N/A	N/A	N/A	
10-30-312	298.25	317.29	322.03	326.03	-34.72	-19.47	-3.34	
10-30-312	260.05	275.50	N/A	N/A	N/A	N/A	N/A	
10-30-312	261.17	345.48	360.65	365.60	-44.43	-20.12	-4.95	
10-30-312	326.10	351.78	N/A	N/A	N/A	N/A	N/A	
10-30-312	298.25	317.29	322.03	326.03	-34.72	-19.47	-3.34	
10-30-312	260.05	275.50	N/A	N/A	N/A	N/A	N/A	
10-30-312	261.17	345.48	360.65	365.60	-44.43	-20.12	-4.95	
10-30-312	326.10	351.78	N/A	N/A	N/A	N/A	N/A	
10-30-312	298.25	317.29	322.03	326.03	-34.72	-19.47	-3.34	
10-30-312	260.05	275.50	N/A	N/A	N/A	N/A	N/A	
10-30-312	261.17	345.48	360.65	365.60	-44.43	-20.12	-4.95	
10-30-312	326.10	351.78	N/A	N/A	N/A	N/A	N/A	
10-30-312	298.25	317.29	322.03	326.03	-34.72	-19.47	-3.34	
10-30-312	260.05	275.50	N/A	N/A	N/A	N/A	N/A	
10-30-312	261.17	345.48	360.65	365.60	-44.43	-20.12	-4.95	
10-30-312	326.10	351.78	N/A	N/A	N/A	N/A	N/A	
10-30-312	298.25	317.29	322.03	326.03	-34.72	-19.47	-3.34	
10-30-312	260.05	275.50	N/A	N/A	N/A	N/A	N/A	
10-30-312	261.17	345.48	360.65	365.60	-44.43	-20.12	-4.95	
10-30-312	326.10	351.78	N/A	N/A	N/A	N/A	N/A	
10-30-312	298.25	317.29	322.03	326.03	-34.72	-19.47	-3.34	
10-30-312	260.05	275.50	N/A	N/A	N/A	N/A	N/A	
10-30-312	261.17	345.48	360.65	365.60	-44.43	-20.12	-4.95	
10-30-312	326.10	351.78	N/A	N/A	N/A	N/A	N/A	
10-30-312	298.25	317.29	322.03	326.03	-34.72	-19.47	-3.34	
10-30-312	260.05	275.50	N/A	N/A	N/A	N/A	N/A	
10-30-312	261.17	345.48	360.65	365.60	-44.43	-20.12	-4.95	
10-30-312	326.10	351.78	N/A	N/A	N/A	N/A	N/A	
10-30-312	298.25	317.29	322.03	326.03	-34.72	-19.47	-3.34	
10-30-312	260.05	275.50	N/A	N/A	N/A	N/A	N/A	
10-30-312	261.17	345.48	360.65	365.60	-44.43	-20.12	-4.95	
10-30-312	326.10	351.78	N/A	N/A	N/A	N/A	N/A	
10-30-312	298.25	317.29	322.03	326.03	-34.72	-19.47	-3.34	
10-30-312	260.05	275.50	N/A	N/A	N/A	N/A	N/A	
10-30-312	261.17	345.48	360.65	365.60	-44.43	-20.12	-4.95	
10-30-312	326.10	351.78	N/A	N/A	N/A	N/A	N/A	
10-30-312	298.25	317.29						