



INSECTS AND WEEDS IN FOCUS



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- ★ **MASTER MARKETER PROGRAM COMES TO THE COASTAL BEND**
- ★ **BIOTECHNOLOGY ISSUES DISCUSSED BY CAST**
- ★ **MORE INFORMATION ON GMO CROPS**
- ★ **DEET INSECT REPELLENT HAS AN OUTSTANDING SAFETY RECORD**
- ★ **COMPARATIVE EFFICACY OF INSECT REPELLENTS AGAINST MOSQUITO BITES**
- ★ **BOLL WEEVIL ERADICATION UPDATE**

organizations, and area agri-businesses.

The Master Marketer Program will be held at the J. K. Northway Coliseum Meeting Room in Kingsville, starting September 25-26, 2002. To register for this program, contact your county Extension agent or Larry Falconer, Extension Economist, at (361) 265-9203. A copy of the brochure can be downloaded from the internet at <http://mastermarketer.tamu.edu/location/brochure/kingsville02.html>.
Larry Falconer

MASTER MARKETER PROGRAM COMES TO THE COASTAL BEND

BIOTECHNOLOGY ISSUES DISCUSSED BY CAST

Texas Cooperative Extension is offering an outstanding program for agricultural producers and personnel from agriculturally related industries who are interested in sharpening their marketing skills. The Master Marketer Program is an in-depth, intensive risk management program designed to enable the participants to develop marketing plans, evaluate their alternatives, and gain all the skills necessary to execute their marketing plan and better manage risks to improve their profitability. The Master Marketer Program participants will receive training in a series of four, two-day sessions, taught by outstanding speakers from across the United States.

The Council for Agricultural Science and Technology (CAST) often address controversial issues using extensive investigation of published literature by recognized authorities. Recently, CAST published a report titled, "Comparative Environmental Impacts of Biotechnology-derived and Traditional Soybean, Corn, and Cotton Crops". In the report, "biotechnology-derived" refers to the use of molecular biology and/or recombinant DNA technology, or in vitro gene transfer, to develop products or impart specific capabilities in plants or other living organisms.

This program will provide, to a select group of farmers and ranchers, marketing education and training that will pay dividends which can directly impact their bottom line. A survey of previous Master Marketer graduates suggests that using what they have learned has increased their income, on average, by over \$32,000 annually.

Complete copies of the report are available on the web at <http://www.cast-science.org>. Hard copies of this and other CAST reports can be obtained from: Council for Agricultural Science and Technology, 4420 West Lincoln Way, Ames, IA 50014-3447, USA. Phone: 515-292-2125, fax 515-292-4512. E-mail: cast@cast-science.org. Excerpts from the executive summary of the report follow:

The registration fee for this program is \$250, plus a commitment to work with your county agent to try to start a marketing club. The registration fee covers only a small portion of the total cost of the program. Most of the cost is paid by major sponsoring groups, including the Texas Corn Producers Board, Texas Wheat Producers Board, Texas Farm Bureau, other

The peer-reviewed literature, regulatory assessments, nongovernmental organizations and the popular media have repeatedly raised questions about the environmental safety of biotechnology-derived crops. To answer these questions relative to soybean, corn, and cotton, the scientific literature was reviewed and analyzed to evaluate the

environmental impacts of commercially available biotechnology-derived crops in relation to the current agricultural practices for crop and pest management in conventionally bred crops. Nine potential environmental impacts were identified as follows: (1) changes in pesticide use patterns, (2) soil management and conservation tillage, (3) crop weediness, (4) gene flow and outcrossing, (5) pest resistance, (6) pest population shifts, (7) nontarget and beneficial organisms, (8) land use efficiency/productivity, and (9) human exposure.

A comprehensive review of the scientific literature supports the conclusion that, overall, the currently commercialized biotechnology-derived soybean, corn, and cotton crops yield environmental benefits. Furthermore, a critical analysis of the literature supports the idea that biotechnology-derived soybean, corn, and cotton pose no environmental concerns unique to or different from those historically associated with conventionally developed crop varieties.

Soybean, corn, and cotton farmers in developed and developing nations have rapidly adopted biotechnology-derived commodity crops during the six years of their commercial availability. In 2001, farmers planted biotechnology-derived seed on 46% of global soybean acres, 7% of global corn acres, and 20% of global cotton acres. To date, nearly all of the planted biotechnology-derived crops have introduced tolerance to selected herbicides for weed control or have introduced protection against pest insects. Of the 129.9 million acres (52.6 million hectares) of biotechnology-derived crops planted in 2001, seventy-seven percent were tolerant of specific herbicides (herbicide tolerant), fifteen percent were resistant to selected insect damage (insect resistant), and eight percent were both herbicide tolerant and insect resistant. RDP

MORE INFORMATION ON GMO CROPS

In spite of the doom-and-gloom I heard on the Public Broadcasting Program "NOW" with Bill Moyers, genetically engineered crops are here to stay. Furthermore, global acreage planted to transgenic crops has seen a 25 fold increase since commercial introduction in 1996, according to an article by Gregg Hillyer (Progressive Farmer Magazine, February 2002 issue).

Economic benefit to farmers who planted GM crops in 1999 was about \$700 million. The enhanced returns come from greater productivity and fewer pesticides applied.

For example, *Bt* cotton reduced insecticide use in the U.S. in 1999 by 2.6 million pounds (active ingredient); China saw a drop of 33 million pounds.

"Contrary to what biotech critics contend, there's clear evidence that farmers are the major beneficiaries of the profits from biotechnology and not the technology

providers," notes Clive James, chairman of the International Service for the Acquisition of Agri-Biotech applications, a nonprofit international organization that facilitates in the acquirement and transfer of ag biotechnology from the industrial countries to developing countries.

When the benefits to consumers are included, GM crops in 1999 provided \$1 billion in economic advantage, he adds. Despite biotech's critics and moratoriums on the approval of GM crops in Europe, James foresees transgenic crops as an important tool to feed our growing population, especially in developing countries.

It's projected that the world will have 50% more (9 billion) people by 2050. That will require doubling current food production on fewer acres.

Personally, I never imagined something like genetically engineered crops would occur. In my view, this new technology will greatly benefit mankind and the environment. RDP

DEET INSECT REPELLENT HAS AN OUTSTANDING SAFETY RECORD

I recently reviewed an article titled "The Present Safety Assessment of Deet" published in 1995 in the Journal of the American Mosquito Control Association, Vol. 11:274-278.

Only the highlights are covered here; the paper contains much more detail,

Since the introduction of Deet in consumer products in 1956, literally billions of applications to human skin have been made, yet questions about the safety of Deet persist. The authors examined three main sources of information with respect to Deet to include case reports of adverse effects in the clinical literature, animal toxicological studies, and the experience of poison control centers.

The human clinical literature does contain a few reports of a temporal association between the use of Deet and neurological signs. However, it is difficult to rule out other causes of the neurological signs seen and to establish a clear cause-and-effect relationship. Furthermore, the number of reports is small considering that between 50 and 100 million Americans use Deet-containing insect repellents annually.

More than 20 animal toxicology studies on all aspects of the compound have been conducted to determine the safety profile of Deet for the U.S. E.P.A. Two areas examined indepth included neurotoxicology and skin absorption. It has been determined that Deet is not a specific neurotoxin, moreover, doses that might cause toxicity, including neurotoxicity are much higher than a human would receive following normal use. In an absorption

study 94.3% of applied radio labeled Deet was accounted for; an outstanding recovery in a study of that type.

Human use experience from poison control center data revealed that the risk of serious medical effects following normal use of Deet-containing insect repellents is quite low. The authors concluded that Deet can be used with the confidence, and that the risk of serious adverse effects is very low. RDP

COMPARATIVE EFFICACY OF INSECT REPELLENTS AGAINST MOSQUITO BITES

Currently available non-DEET repellents do not provide protection for durations similar to those of DEET-based repellents and cannot be relied upon to provide prolonged protection in environments where mosquito-borne diseases are a substantial threat (N. Engl. J. Med. 2002. 347: 13-18). RDP

BOLL WEEVIL ERADICATION UPDATE

Boll weevil numbers in traps I operate well within the borders of the South Texas/Winter Garden Boll Weevil Eradication Zone (Nueces and San Patricio counties) continue to decline compared with past years (Table 1). Compare 2002 with years before and during the eradication program. Additionally, look at boll weevil numbers in Wharton County where a diapause program was initiated in July.

Table 1. Boll weevils per pheromone trap per month, Texas Cooperative Extension operated traps.

Month	Nueces & San Pat. Co.			Wharton Co ^b	
	6 yr avg ^a	2000	2001	2002	2002
Jan	5.3	9.93	0.00	.05	2.15
Feb	5.5	1.60	0.00	.00	1.78
Mar	7.7	1.72	0.11	.10	0.49
Apr	7.4	1.27	0.11	.05	19.29
May	2.8	0.83	0.17	.05	13.12
Jun	4.9	0.67	0.00	.00	5.58
Jul	188.9	12.89	0.35	.00	37.79
Aug	645.7	14.04	0.94	.17	242.0
Sep	309.7	1.39	0.11	-	-
Oct	165.4	0.72	0.06	-	-
Nov	55.3	0.50	0.11	-	-
Dec	15.7	0.03	0.00	-	-
Avg	117.9	3.80	0.16		

^a 6 yr. avg. is 1977-1982 by Segers et al.
^b Traps operated by Dan Fromme, IPM agent, outside the boll weevil eradication zone. They initiated a diapause program this season.

Foundation trap catches for the past few months are greater than my trap catches (Table 2). Remember that my traps are well within the borders of the zone. Foundation traps in the southwestern part of the zone, especially in Duval, southern Jim Wells and Kleberg counties have had a great increase in numbers. Everyone is expressing concern about these trap catches. I believe that increased boll weevil numbers in that area could be due to one or more of the following reasons: (1) cotton acreage within the zone that has not been detected, (2) cotton acreage in nearby counties that are not part of the zone, and/or (3) migration from Lower Rio Grande Valley cotton. If boll weevils are making the journey from a far distance they will require a food source or reproductive sites to bring numbers through into next season. **This again points to the critical requirement to immediately destroy all cotton stalks and keep any cotton from producing fruit. It includes cotton growing on acreage that failed early in the 2002 growing season.**

Remember, that in 2001, over 33% of the eradication cost (malathion and application) spent after the stalk destruction deadline was in this same area. This high percentage was in an area that had planted less than 10% of the zones total acreage that year.

Table 2. Average number of boll weevils captured per trap per month in the South Texas/Winter Garden Boll Weevil Eradication Zone, Foundation Traps.

Month	1998	1999	2000	2001	2002
Apr	3.683	.031	.818	.062	.012
May	1.622	.323	.429	.097	.028
Jun	2.492	.449	1.127	.116	.036
Jul	18.269	3.183	10.871	.979	.329
Aug	16.914	15.022	11.175	1.926	.736
Totals ^a	42.98	19.008	24.420	3.180	1.141

^a Average trap captures per 5 month period (April through August). RDP

View our newsletter earlier on the internet on the TPMA website (<http://www.tpma.org/>) by selecting "IPM newsletter" on the drop-down menu by going to "Coastal Bend" and "go". Another site is <http://agfacts.tamu.edu/~rparker>. Also pest management information is available at www.txaac.org.

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