



Extension Education in Zavala County

Making a difference
2009



Improving Lives. Improving Texas.

AgriLife Extension has been dedicated to serving Texans for nearly a century. The agency was established in 1915 under the Smith-Lever Act to deliver university knowledge and agricultural research findings directly to the people. AgriLife Extension programs have continued ever since to address the emerging issues of

the day, serving diverse rural and urban populations across the state.

Through a well-organized network of program specialists, professional educators, and some 98,000 trained volunteers, the Texas AgriLife Extension Service delivers practical research-based knowledge to Texans in all 254 counties. Our expertise and educational outreach pertain to the food and fiber industry, natural resources, family and consumer sciences, nutrition and health, and community economic development. Among those served are the hundreds of thousands of young people who benefit annually from AgriLife Extension's 4-H and youth development programs.

Texans turn to AgriLife Extension for solutions. Its agents and specialists respond not only with answers, but also with resources and services that result in a significant return on investment to boost the Texas economy. The agency custom-designs its programs to each region of the state, relying on residents for input and for help with program delivery.

These are just a few highlights of AgriLife Extension's impacts on Zavala County and its people:

Zavala County – Summary of 2009 Educational Contacts

✓ Office Contact From Office visits-----	682
✓ Radio Programs -----	15
✓ Printed News Media Releases-----	144
✓ Printed News Media Outlets-----	5
✓ 4-H and Youth Development-----	1,540
✓ Telephone Calls Office and Cellular Communication-----	1,045
✓ Agriculture and Natural Resources Related Contacts -----	891
✓ Newsletters/mail/e-mail and cellular text-----	540
✓ Site Visits in county-----	610
✓ Site Visits out of county regional educational efforts-----	480
✓ Contacts with other agencies and collaborators-----	189
✓ Volunteers-----	210
✓ Contacts made by trained volunteers-----	883
✓ International Contacts Agriculture/Natural Resources-----	15



Major Educational Programs, Events and Projects Conducted in Zavala County

- Results Demonstration on spinach yields of Fresh Market Spinach at various plant population densities.
- Results Demonstration on spinach yields of Processing Spinach at various plant population densities.
- Results Demonstration to determine potential yields of new triploid(seedless) watermelon varieties and their potential for commercial production in the area.
- Results Demonstration to determine potential yields of new hybrid watermelon varieties and their potential for commercial production in the Winter Garden area.
- Results Demonstration to determine the effects of various fungicides on white rust disease in spinach.
- Results Demonstration on the control hophorn/copperleaf weeds without injuring the watermelon vines and/or reducing yield.
- Exporting Zavala County Agricultural Products to Cuba Export Opportunity Summit
- Agricultural Producers Private Applicator Pesticide Training and Testing
- Continuing Education training for Private Pesticide Applicators License Holders
- International Spinach Conference for Spinach growers, shippers, seed developers and marketing-Fayetteville Arkansas
- Food Safety Training for Agricultural Workers(Field and packing shed employees)
- Results Demonstration to determine the effects of Spike® 80 DF by helicopter application for fenceline brush control.
- Results Demonstration to determine the effects of Spike® 80 DF by ground rig application to control brush species on fencelines.
- Animal Issues Emergency Management Strategies Development For Submission and inclusion in the Zavala County Emergency Management Plan.
- Validation of Stakeholder Issues related to Agriculture and Natural Resources in Zavala County
- Good Agricultural Practices(GAP's) Producer Training and Resource Development for agricultural producers to obtain U.S.D.A. Audits for GAP's Certification
- Livestock Management During Drought-Producer Mass Media Educational Efforts



*Results Demonstration on the control hophorn/copperleaf weeds without injuring the watermelon vines and/or reducing yield.

Extension Personnel involved

Marcel Valdez, CEA-ANR Zavala County

Dr. Larry Stein, Extension Horticulturalist-Uvalde Center

Cooperators:

Crawford Farms – Mr. Jimmy Crawford and Mr. Brad Crawford

Billy Wagner – Helena Chemical

Brandon Laffere – Gowan Seed

Introduction:

Hophornbean copperleaf weed control is a challenge in vegetable crops following field corn. This weed has been particularly troublesome in watermelons and to a lesser extent cabbage. This trial was put in in an attempt to get a handle on copperleaf control in transplanted watermelons.

Objective:

Control Hophorn copperleaf without injuring the watermelon vines and/or reducing yield.

Materials and Methods:

A field was selected on the Carnes farm with a known history of copperleaf. The field was prepared using standard practices and then bedded and watered. This allowed for the emergence of a strong weed crop. Weeds were killed using Roundup Power Max (24 ounces per A) and either one of two fallow land pre-emergent herbicides, Goal or Valor on 26 June 2009. Goal rates were 1 pint and 1 quart per A; Valor 1 ounce and 2 ounces/A. Field plots were transplanted to watermelon on 1 July 2009 followed by several pre-emergent herbicide treatments.

Treatments included:

1. 0.75 pints Outlook + 1 quart Curbit
2. 1.00 pints Outlook + 2 quarts Curbits
3. 2.00 pints Dual + 1 quart Curbit
4. 10.00 pints Dacthal
5. 1.00 pint Dacthal + 1 quart Proprietary product
6. $\frac{3}{4}$ ounce Sandea (half the plants of each treatment were protected from the spray)
7. Check

Following treatment, herbicides were “set” with 0.3” from the Center Pivot. This was followed by a 1.0 inch soaking 8 hours later. This soaking continued every 3 to 4 days in order to get the plants established. Temperatures were 100°F+, but the plants established well.

Treatment ratings began on 7/6 and continued on 7/10, 7/17, 7/27, 8/3, and 8/10. Treatments were rated as to amount of copperleaf by Wagner, Crawfords, White, Valdez and Stein. A rating of 1 was no copperleaf and 5 was tremendous copperleaf. Ratings and plots are shown in figures 1, 2, 3 and 4.

Results:

Preplant Valor (1 ounce/A) is shown in figure 1. Note the excellent control of copperleaf by treatments 1, 2, and 3, and the poor control in treatment 7 meaning there was very little initial Valor activity on the copperleaf. Control waned until 3 August, when established copperleaf began to decline. Figure 2, Goal (1 pint/A) preplant gave similar control initially, but note the decline of copperleaf in treatment 7. Copperleaf came up, but then was killed by the preplant Goal. In combination with the preplant Goal, treatments 1, 2, and 3 gave excellent season long control. Dacthal gave some good initial control, but plant stunting was noted on 7/27. Two ounces/A Valor preplant, figure 3 gave limited control of copperleaf as shown by the poor control in treatment 7. Still treatments 1, 2, 3, and 4 provided good control. Again plant stunting was noted in treatment 4. Preplant Goal (1 quart/A) provided excellent residual control of



copperleaf. Note how all treatments showed a decline in copperleaf from 7/6 to 7/10. Treatments 1, 2, and 3 again gave the best control. Though treatment 4 provided some control, there was plant stunting. This stunting was temporary and the plants recovered. Treatments were rated on 8/18 and 8/25 as well. Vines had basically covered the land mass and there were no apparent treatment affects on plant health. Harvest began on 9/15; fruit quality and pounds per acre were excellent.

Summary and Conclusions:

Goal, 1 pint/A and 1 quart/A as a fallow land, preplant treatment, gave excellent control of copperleaf. Treatments 1 and 2, Outlook 0.75 pints and 1.5 pints respectively, along with Curbit further enhanced the control. Treatment 3, Dual 2 pints along with curbit provided similar control. Control was okay with treatment 4, Dacthal 10 pints although there was a bit of plant stunting. Treatment 5 gave limited control as did treatment 6 or Sandea; Sandea did not stunt the plants. Goal gave a bit of kick back weed control as copperleaf died after emerging. This same trend occurred in the Valor treatment, but much later in the season. The larger copperleaf was not affected by Valor. Pre-plant Goal at 1 to 1½ pints per acre as a fallows land treatment followed by an Outlook (0.75 to 1 pint) or Dual (1-2 pints) treatment looks promising.

***Results Demonstrations to determine the effects of various fungicides on white rust disease in spinach and the effects on yield in spinach at various plant population densities.**

COOPERATIVE EVALUATION:

Texas AgriLife Extension Service DEL MONTE FOODS RESEARCH



**“White rust infestation”
DEL MONTE FOODS RESEARCH FARM
CRYSTAL CITY, TX**



CONDITIONS OF STUDY

- White rust susceptible variety = **Viroflay**
- Direct seeded = **October 10, 2008**
- Trial cut on **8 January 2009** due to lack of white rust.
- Treatments made on **23 & 30 January and 13 and 20 February**.





Treatments Which Stood Out in the '08-'09 Trial

Treatment	White Rust Rating 02/25/09	White Rust Rating 03/04/09
Untreated Check	7.75	8.75
Omega 0.5 a.i/A	1.75	2.00
Presidio 4 oz <u>alt.</u> with Kocide 3000 1 lb/A	2.25	2.25
Cabrio 12 oz/A <u>alt.</u> with Kocide 3000 1 lb/A	2.00	2.25
Reason 8 fl. oz/A + Induce 8 fl. oz/A	2.00	2.00
Picoxystrobin 0.20 lb a.i./A	2.00	2.00
Ranman 5.5 fl oz. + 5 oz Silwet-77	2.00	2.00



*Summit on Exporting Agricultural Products to Cuba

Did you know that you can now export food and other agricultural products to Cuba? Do you want to know more about this potential market for your agricultural products? If so this is the workshop for you. The Center for North American Studies at Texas A&M University and the Zavala County office of the Texas AgriLife Extension Service and the Zavala County Leadership Advisory Board will be presenting an important and viable workshop centered around exporting food and other agricultural products to Cuba. This workshop will take place on Tuesday July 14, 2009 at the Texas A&M University Research and Extension Center in Uvalde beginning with registration at 9:00 a.m. and the program starting at 9:30a.m.

On the program are Dr. C. Parr Rosson, III, Professor and Extension Economist-International Trade and Marketing and Director, Center for North American Studies-Department of Agricultural Economics at Texas A&M University, Flynn J. Adcock, International Program Coordinator and Assistant Director, Center for North American Studies Department of Agricultural Economics Texas A&M University, Ambassador Jorge Balaños and a message from Texas Agricultural Commissioner Todd Staples. Also on the program will be representative from the Texas Department of Agriculture and the Port of Corpus Christi. Topics to be discussed at this workshop include current policy setting, transportation and shipping, travel to Cuba for Business, and a round table discussion on questions you might have about this potential market available to you.

This is an excellent opportunity for agricultural producers and agri-businesses from throughout the Winter Garden Region of Texas to obtain valuable information about exporting and trading with Cuba. In these trying economic times market outlet potentials must be explored to provide the agricultural sector new opportunities for marketing products produced in our area. If you plan to attend this event and for more information regarding this workshop contact Marcel



Summit on Exporting Agricultural Products to Cuba-Continued

Valdez, County Extension Agent-Agriculture/Natural Resources at (830) 374-2883 or by e-mail at mj-valdez@tamu.edu or by fax at (830)374-2883. There is no cost for attending the workshop but we need an estimated number of participants since lunch will be provided courtesy of Zavala County Bank-Tammy Ritchie, President. If you are participating and you are a person requiring special needs contact Betty C. Avila, Texas AgriLife Extension-Zavala County at (830) 374-5373 to make arrangements. Educational Programs of Texas AgriLife Extension Service are open to all people without regard to race, color, sex, disability, religion, age or national origin.

*** Food Safety and Good Agricultural Practices(GAP's) Initiative**

Impact Statement

With the California spinach outbreak in September of 2006, the California leafy greens industry has initiated a Good Agricultural Practices (GAPs) requirement for the industry to regain consumer confidence in leafy greens. This document has been used by the retail industry such as HEB to be a standard for all growers in the United States growing fresh produce crops. While GAPs practices have existed for years, this document has added documentation and thresholds (metrics) for water quality, documentation/land metrics for animal encroachment (cattle, hogs, goats, sheep, and deer) and manure based amendments and sprays. The outbreak of *Salmonella* sp. on peppers/tomatoes in 2008 continued to keep food safety concerns on the forefront of Texas production and Texas retail vegetable industry throughout the 2009 year since the source of the outbreak originated in Mexico but the products were distributed by a produce company in South Texas. Several factors may contribute to microbial contamination of produce but water quality of irrigation water is often blamed for these outbreaks as it was in the pepper/tomato outbreak in 2008. Producers practicing Good Agricultural Practices (GAPs) address these concerns at the farm level thereby decreasing these risks. Currently, there are very few producers that are GAPs certified in Texas. Part of being certified is that the water quality of the irrigation water is acceptable and documented. Irrigation water quality has been something very few producers have documented on their farms in Texas. The water testing results in a private lab is quite costly (\$30 per sample) and collection of the water samples is largely time consuming in terms of coordination of when the produce crops were being irrigated. This water quality test is also different from what producers and county extension agents are accustomed when it comes to the procedure for collecting samples and sending promptly for the 24 hour testing requirements. Many factors can contribute to microbial contamination though out the fresh produce process but water quality has been identified as an important step where implementation of educational practices and knowledge would impact or decrease the risk of contamination of produce. In 2009, the irrigation water quality study that was conducted in District 12 by eight county extension agents including vegetable specialist Juan Anciso in eight counties came to a completion. Irrigation water quality data was collected from 90 sites using various water sources to include surface and well water. The agents that participated included Barbara Storz, Omar Montemayor, Rolando Zamora, Marcel Valdez, Jaime Lopez, Richard Griffin, Joe Taylor, and Omar Gonzales. Most (85 out of 90 or 94.4%) of the irrigation water samples from sources in District 12 are adequate for furrow or sprinkler irrigation in vegetable crops under the guidelines for generic *E. coli* of the California Leafy Greens GAPs Agreement (see graphs below). Of the 5 water samples that could not be used under furrow or sprinkler irrigation, 3 samples or fields could be used for irrigating crops if drip irrigation were used. Therefore, 88 out of the 90 samples or 97.8% could meet the California GAPS Agreement. With this better understanding of the microbial levels in the irrigation water sources in District 12, this information should help curtail speculation from the media and consumers that irrigation water quality in South Texas may not be adequate for vegetable production. This database which will be located in the National GAPs Program website (www.gaps.cornell.edu/) will encourage



* **Food Safety and Good Agricultural Practices(GAP's) Initiative**

more vegetable producers in South Texas to become GAPs certified since the results show no problem with the water quality whether surface or well. These irrigation water collection demonstrations have increased the knowledge of producers and county extension agents in irrigation water quality testing and collection. Food safety trainings for producers, middle buyers and entry level workers continued to be another important area for GAPs certification in 2009 and the educational efforts in District 12. Entry level worker trainings in hand washing and hygiene were conducted in District 12 in Spanish by county agents. These county agents included Marcel Valdez, Jaime Lopez, Omar Gonzales and GAPs food safety program assistant Ashley Gregory and they helped coordinate these meetings and employ the training material. Over 120 individuals were trained in hand washing and hygiene through this effort in Spanish in 5 separate trainings. The HEB Produce Safety Training for producers and middle buyers continued in 2009 with 4 trainings in San Antonio. Over 70 individuals were trained in the new GAP metrics and 95.6% were mostly or completed satisfied with the course and training. These individuals represented over 105,000 acres of produce production in the United States and Mexico. Economic impacts based on one of the trainings indicated that median costs to implement GAPs practices on the farm to be \$239 per acre. Adopting GAPs practices on the farm could be very expensive on a per acre basis but if not implemented 65% of the median average of the total acres would be impacted either by reduction or elimination because GAPs was not implemented as a result of buyers making it mandatory. Other outcomes from the HEB food safety trainings included test averages of 82.6 and 78.9 in two of the four trainings with the first class having 50% believing that they had an above average understanding of GAPs before the training and then 77.3% having an above average understanding of GAPs after the training. The second class, respectively, had 36.8% believing that they had an above average understanding of GAPs before the training and then 93.8% having an above average understanding of GAPs after the training.



Major Educational Programs, Events and Projects Conducted in Zavala County

- Annual Junior Livestock Show and Animal Project Sale by 4-H Members In Zavala County
- Countywide 4-H Club Officer Elections and Officer Training
- 4-H Expansion Efforts Through 4-H Clover Kid Program participation
- 4-H Promotion Through National 4-H Week Proclamation Signed By Zavala County Commissioners Court during a regular meeting of the court.
- 4-H Lamb and Goat Animal Project Clinic and Validation
- 4-H Steer project clinic and validation
- 4-H Swine Project clinic and validation process
- 4-H Club Managers and Leaders Training on club management, financial accountability and youth development issues
- 4-H Volunteer Training on out of county events and contest
- Major Show Entry Sign up night
- 4-H Higher Education Savings and Financial Management
- Zavala County Youth Board and Zavala County Farm Bureau Jointly plan, implement and evaluate the 2009 Zavala County Ag. Literacy Fair .
- 4-H Connect Training for 4-H families for 4-H enrollment purposes
- Bi-Monthly 4-H Newsletters and information pieces
- Monthly 4-H Club meetings
- 4-H Community Service Projects
- 4-H animal Project progress clinic
- Clover Kids Participation with companion rabbit projects to explore 4-H opportunities
- Agent professional improvement by attending 4-H Spring and Fall Faculty Conferences



4-H and Youth Development

4-H Promotion and Marketing



Zavala County 4-H members pictured at the Zavala County Courthouse Commissioners room during National 4-H week proclamation signing. The 2009 National 4-H Week, was observed during the week of October 4-10. On October 5, Zavala County Commissioners passed a resolution recognizing National 4-H week in Zavala County.

4-H Leadership Development and 4-H Officer Training

Training conducted for club officers to prepare them for the new 4-H year. Topics include: officer responsibilities, parliamentary procedures, club program ideas, recreation, team building, etc. Officers teams will meet with Club Managers to plan for 4-H year including club program, budget and community service projects. Here are the results of the event.

1. Overall satisfaction with this activity.

Frequency 9 Percent Valid 100 Percent Cumulative Percent 100

2a. Satisfaction with the activity being enjoyable.

Frequency 9 Percent Valid 100 Percent Cumulative Percent 100



4-H and Youth Development

2b. Satisfaction with accuracy of the information.

	Frequency	Percent
Completely	6	66.7
Mostly	3	33.3
Total	9	100

2c. Satisfaction with the information being easy to understand.

	Frequency	Percent
Completely	5	55.6
Mostly	3	33.3
Slightly	1	11.1
Total	9	100

2d. Satisfaction with the range of topics covered.

	Frequency	Percent
Completely	9	100

2e. Satisfaction with information being helpful in making good choices.

	Frequency	Percent
Completely	7	77.8
Mostly	1	11.1
Somewhat	1	11.1
Total	9	100

*Each 4-H Club in Zavala County held monthly meetings during the calendar year. Members conduct meetings according to 4-H Guidelines and utilizing basic parliamentary procedure and meeting organizational skills learned from 4-H officer training. They were guided by 4-H volunteers trained by the Extension agent during 4-H volunteer trainings workshops.

* The Extension Agent met with all Club Managers in the County and assisted in conducting a financial audit of all 4-H accounts in the county. Each club manager took this information and share with all 4-H members and parents at the next scheduled 4-H club meeting and Zavala County 4-H Leaders association meeting.

*4-H Members and volunteer Recognition: Each club in the county recognized volunteers who have assisted in managing, and supervised 4-H club officers with projects and club management. 4-H members were also recognized for their accomplishments in each club.

*Higher Education Savings and 4-H members financial planning. For years 4-H youth involved with animal projects gain financial resources from the participation and sale of animal projects in Zavala County. The Zavala County Livestock Show board, 4-H Adult Leaders and 4-H and Youth Development Committee members are concerned that many participants in this program may not be utilizing these funds for planning for future use for educational purposes. On average each 4-H member receives \$1,200.00 for animals sold. The intent is to identify new 4-H members that are participating in the county show, determine from interviews with parents if they do not have a savings or checking account for their youngsters for this purpose. Those that do not will receive training and educational programs to teach the parents and members alike how to establish a Higher Education Fund Account and fund these accounts from the proceeds of the sale of these 4-H animal projects. To date 95% of new 4-H members who select, show and sale a 4-H animal project in the Zavala County Junior Fair have established a Higher Education Fund Account utilizing the funds received from this event in January, representing over \$78,000.00 dollars for 4-H families in Zavala County.



4-H and Youth Development

* Even in Rural Zavala County today's youth are further removed from farming, they do not understand the importance of agriculture and how it impacts their daily lives. The Zavala County Science of Agriculture (Ag Literacy/Awareness) program targets 4th and 5th grade students and teachers and provides the following educational components: Educational support materials on Science of Agriculture, ag day/ag fair field trip, pre- and post-tests, teacher evaluation, recognition certificates and information about 4-H opportunities for the participants and parents. The Zavala County youth board was instrumental in helping organize and conduct this event with assistance from the Zavala County Farm Bureau. In March 2009 460 4th, 5th and 6 grade students attended the event from all three communities in Zavala county which represented 3 school districts and 78 teachers and staff.



The Zavala County Extension Agent and volunteers provided steer, lamb, goat and swine clinics to over 120 4-H youth which included topics on animal selection, animal feeds and nutrition, animal health, ethics and showmanship. As a results these members will be better prepared when they participate in the Zavala county Junior Fair in January and also be competitive when they compete in major shows such as San Antonio, Houston, Star of Texas show in Austin and other progress and prospect shows in the area.



Major Educational Programs, Events and Projects Conducted in Zavala County

- Office Disaster Preparedness and Zavala County Emergency Management

Texas is subject to numerous disasters, whether they be natural, accidental or intentional. These hazards are somewhat unpredictable. During 2008, Texas experienced the effects of two hurricanes, drought, and numerous wildfires. Emergency Management is an organized analysis, planning, decision making, and assignment of available resources to prepare for, mitigate, respond to and recover from the effects of all hazards.

The Zavala County Animal Issues Committee was involved in Emergency Management planning that will support the State of Texas Emergency Management Plan and the local Zavala County Emergency Management Plan. Local emergency management plans provide guidance for the employment of emergency resources under a local incident commander. Local emergency management plans include specific provisions for requesting and employing state resources to aid in managing and resolving situations for which local resources are inadequate.

The Zavala County Extension Agent has completed NIMS(National Incident Management System) training including IS-100, IS-200, IS-300, NIMS 700 and IS-800

- Agent Serves as President of the USDA Resource Conservation and Development Service Area.

The purpose of the Resource Conservation and Development (RC&D) program is to accelerate the conservation, development and utilization of natural resources, improve the general level of economic activity, and to enhance the environment and standard of living in designated RC&D area which includes Zavala County. As a result over \$7000.00 grants have been awarded to Zavala County non-profit organizations for various projects.

- Exporting to Cuba Trade Summit: This event gathered much interest from the business community as a potential market for Zavala County which could create economic development and growth in the area.

- Partnership and Collaboration with the United States Census Bureau with Census 2010 to promote and encourage Zavala County families to complete census documents to insure financial resource availability to the county which is based on census numbers.

- National Preparedness week

Zavala County's Extension agent provided outreach education to families, communities, businesses, and producers that will help them reduce their risk as they prepare for, mitigate for, and recover from disasters. A booth was set up at the Zavala County Courthouse and 130 prepare for the unexpected brochures were distributed to those who visited the display.

Texas AgriLife Extension Service

Zavala County

Staff



**Marcel Valdez, County Extension Agent
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