

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Agriculture, Forestry, and Related Industries

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
111	Conservation and Efficient Use of Water	5%	10%		
112	Watershed Protection and Management	5%	10%		
123	Management and Sustainability of Forest Resources	5%	0%		
124	Urban Forestry	5%	5%		
125	Agroforestry	5%	0%		
133	Pollution Prevention and Mitigation	0%	5%		
134	Outdoor Recreation	5%	5%		
135	Aquatic and Terrestrial Wildlife	5%	5%		
136	Conservation of Biological Diversity	5%	5%		
205	Plant Management Systems	13%	10%		
216	Integrated Pest Management Systems	5%	5%		
301	Reproductive Performance of Animals	5%	5%		
302	Nutrient Utilization in Animals	5%	5%		
303	Genetic Improvement of Animals	5%	5%		
307	Animal Management Systems	10%	10%		
311	Animal Diseases	5%	5%		
315	Animal Welfare/Well-Being and Protection	5%	5%		
601	Economics of Agricultural Production and Farm Management	3%	0%		
605	Natural Resource and Environmental Economics	2%	0%		
806	Youth Development	2%	5%		
	Total	100%	100%		

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Extension	Research
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Year: 2013	1862	1890	1862	1890
	Plan	57.9	1.3	0.0
Actual Paid Professional	66.4	3.5	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
508777	211003	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1153049	211003	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
7998702	224907	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Ag Crops Extension specialists, regional agents, and county coordinators participated in activities 40 related to this project which included but not all inclusive; peanut pod blasting (5); field crops tours (6); cotton production meetings (5); entomology in--field training (6); wheat meetings (6); stink bug in-- field monitoring (3); sprayer clinic (4); Activities also included development of IPM Guides, disease diagnosis, entomology webinar, and stored grain workshops (5).
- Master Gardener training series (10-14 classes each) were offered in 22 locations and trained 435 interested participants from 31 counties. Classes include soils and plant nutrition, plant physiology, pest ID and management, water conservation, fruits and vegetables, composting, beneficial insects, and others. Classes were coordinated by 11 REAs partnering with 9 CECs, and 17 Specialists/Outreach Coord's/non-HG REAs/non-ACES staff.
- Poultry knowledge was transferred through short courses, training sessions, newsletters and the Poultryhouse.com website. Field studies were conducted on poultry house design.
- Organic/small farm IPM campaign (Auburn Univ.) is one of the most recent campaigns in ACES. Participation of producers in 2013 Alabama IPM meetings (869) has increased by about 40% since 2011. Overall satisfaction rating from training is 97% and the average crop loss prevented range from 40 to 60% among adoptive farmers. The Alabama Vegetable IPM program overall has received many major regional and national awards for a high quality program (details provided later).
- In 2013, ten extension presentations were given by Dr. Enloe that included information on cogongrass ecology and control. These presentations occurred across Alabama at Extension meetings. Two peer reviewed journal articles on cogongrass ecology and control were submitted and accepted for publication in the journal Invasive Plant Science and Management. The USGL 2013 FY reached 5,121 (face to face) individuals through 65 scheduled activities. Some of these activities also have the potential to reach other (non-face to face) individuals through distributed

educational resource materials, internet, radio and T.V. interviews, social media, and newspapers. The non-traceable clientele are estimated to be 246,628. Total number reached by the USGL FY2013 is 251,749. The face to face clientele (5,121) were 59% adults, 39% youth, 37% black, 61% white, 28% male, and 71% female.

2. Brief description of the target audience

- The activities of the Agronomic Crops Program Priority Team reached the following groups of stakeholders: 1) row crop and fruit-vegetable producers and their representatives groups that include, but are not limited to, the Alabama Cotton Commission, Alabama Peanut Commission, Alabama Soybean Producers, and Alabama Wheat and Feed Grains Committee; 2) row crop, timber, forage, fruit-vegetable advisors including ACES agents and specialists, ACES county coordinators, ACES risk preparedness specialists, public and private crops advisors; 3) agriculture and forestry equipment dealers and input supplier organizations; 4) governmental agency personnel including USDA, NRCS, and State of Alabama Soil and Water Conservation Committee; and 5) private citizens impacted by policies and practices used for the production of food, fuel, and fiber. All educational programming efforts targeted audiences without exclusion or discrimination, as specifically defined by ACES policy guidelines.

- The Master Gardener project is designed to recruit, train and retain participants interested in community volunteer service in partnership with the mission of ACES. REAs and CECs maintained 2013 partnerships with 37 local MG groups who reported contacts 12x greater than our MG membership of 1807 vol's.

- Poultry Industry professionals, poultry farmers, small flock owners were targeted with programs.
- Small producers (organic, transitioning, and certified naturally grown), crop consultants, nonprofit agencies (e.g., food banks), small retailers, and state conservation agency, educators and county Extension coordinators.

- A total of 605 attendees were present at these meetings and represented forage producers, crop advisors, green industry personnel, cattlemen, foresters, land managers, and Master Gardeners. Survey data from four of the ten meetings indicated landowners and land managers in attendance were responsible for approximately 238,000 acres.

- The Urban Gardens and Sustainable Landscapes (USGL) Program is supported by 6 Urban Regional Extension Agents (UREAs), cover 9 urban centers which encompass 21 counties and span the whole state of Alabama. During the course of 2013 six UREAs conducted workshops, seminars and attended various conferences to educate Alabama urban clientele on the benefits of gardening in limited urban spaces, and the options and opportunities available for gardening with limited resources.

3. How was eXtension used?

- Current news topics along with ask the expert responses were provided for posting to various eXtension sites related to crop production and technology.

- MG was not used in these programs.
- eXtension was not used in these programs.
- The Fire Ant program in eXtension provided support to small producers with organic fire ant management recommendations.
- E-extension was not used in this effort. S. Enloe

V(E). Planned Program (Outputs)

1. Standard output measures

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2013
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	6	2	8

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- This program area will include numerous output activities and methods as part of the Extension Team Projects, Special Funded Projects, and Ongoing Projects which are described/explained in the prior outcome activities and methods sections. The success of many of these outcomes will be formally evaluated/measured by using individual activity evaluation forms designed specifically for each activity, The success of other activities and methods will be measured by the level of participation in the activity. In the target boxes below for each year, we are indicating the number of individual activities within the these program areas that will be formally evaluated using an evaluation instrument designed specifically for that activity.
 Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Increase profitability of pay to fish operations
 Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Number of workshops to increase knowledge of cogongrass ecology and control

Year	Actual
2013	10

Output #4

Output Measure

- The value of volunteer hours donated (# hours x \$18 for Alabama)

Year	Actual
2013	3779532

Output #5

Output Measure

- Number of workshops and demonstrations to increase knowledge and adoption of organic/natural grown fruit and vegetable production practices

Year	Actual
2013	25

Output #6

Output Measure

- Number of workshops and presentations to increased poultry farmer knowledge of new housing and equipment changes

Year	Actual
2013	39

Output #7

Output Measure

- Rust monitoring program to increase knowledge of spread of soybean rust and control measures

Year	Actual
2013	1

Output #8

Output Measure

- Farm succession methods
Not reporting on this Output for this Annual Report

Output #9

Output Measure

- Increased knowledge of importance of forages in animal production
Not reporting on this Output for this Annual Report

Output #10

Output Measure

- Number of active reporting MG volunteers to increase knowledge of horticultural practices for Master Gardener Interns

Year	Actual
2013	1807

Output #11

Output Measure

- The value of volunteer hours donated by Master Gardeners

Year	Actual
2013	3779532

Output #12

Output Measure

- Number of workshops to encourage adoption of rainwater collection system

Year	Actual
2013	54

Output #13

Output Measure

- Increased number of acres of rainwater irrigated fruits and vegetables
Not reporting on this Output for this Annual Report

Output #14

Output Measure

- Increased knowledge of environmental issues related to electronic waste management, storage and disposal
Not reporting on this Output for this Annual Report

Output #15

Output Measure

- Workshops to enhance environmental knowledge among urban, nontraditional, and underrepresented audiences in the areas of forestry, wildlife, and natural resource management

Year	Actual
2013	65

Output #16

Output Measure

- Number of small flock support and training workshops

Year	Actual
2013	12

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Increase profitability of pay-to-fish operations
2	Increase knowledge and awareness of cogongrass ecology and control
3	Increase knowledge and adoption of organic/naturally grown fruit and vegetable production practices
4	Increase poultry farmer knowledge of new housing and equipment changes and techniques
5	Increase awareness of spread of soybean rust and control measures
6	Increase knowledge of ways to successfully provide for farm succession methods
7	Increase knowledge of importance of forages in animal production systems and adoption of profitable forage production systems
8	Increase knowledge of horticultural practices for Master Gardener Interns
9	Sustain volunteer support from Master Gardeners
10	Adoption of rainwater collection systems for urban noncommercial garden
11	Increase awareness of water conservation
12	Increase number of acres of rainwater irrigated fruits and vegetables
13	Increase knowledge and understanding of environmental issues related to electronic waste management, storage and disposal
14	Enhance environmental awareness among urban, nontraditional, and underrepresented audiences in the areas of forestry, wildlife, and natural resource management
15	Small Flock Support and Training Efforts

Outcome #1

1. Outcome Measures

Increase profitability of pay-to-fish operations

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Increase knowledge and awareness of cogongrass ecology and control

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	7000000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Cogongrass is an invasive grass from Southeast Asia that threatens natural areas and forest and pasture productivity across Alabama and the southeastern United States. Despite its presence in Alabama since the early 1900's, cogongrass has literally exploded across the State over the last 20 years, causing significant damage. There is a great need for landowner and land manager education concerning the ecology and control of cogongrass as many have failed in their control attempts or completely neglect the problem.

What has been done

In 2013, ten extension presentations were given by Dr. Enloe that included information on cogongrass ecology and control. These presentations occurred across Alabama at Extension meetings. A total of 605 attendees were present at these meetings and represented forage producers, crop advisors, green industry personnel, cattlemen, foresters, land managers, and Master Gardeners. Two peer reviewed journal articles on cogongrass ecology and control were submitted and accepted for publication in the journal Invasive Plant Science and Management.

Results

Replicated research studies at multiple locations in south Alabama that were conducted from

2008-2012 and published in 2013 have indicated that cogongrass patches can be effectively controlled with glyphosate and imazapyr herbicides. Survey data from four of the ten meetings indicated landowners and land managers in attendance were responsible for approximately 238,000 acres. Post evaluation surveys generally indicated increases in knowledge concerning invasive plants and most attendees stated that they intended to use what was learned through the extension effort. A longer term survey over the last 12 years was also conducted to document our efforts on overall invasive plant extension efforts, which cogongrass falls under. 98% of survey respondents indicated their knowledge of invasives had increased and 50% has increased substantially. Respondents were responsible for over 2.8 million acres and were treating 25% or more of their infested acreage. These results indicate that ACES is have a very positive impact concerning cogongrass and other invasive plant education in Alabama.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
136	Conservation of Biological Diversity
216	Integrated Pest Management Systems

Outcome #3

1. Outcome Measures

Increase knowledge and adoption of organic/naturally grown fruit and vegetable production practices

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	10044

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Organic/small farm IPM campaign (Auburn Univ.): There is a large demand for local food production in the state of Alabama which has significantly increased the demand for sustainable agriculture/organic program. Many small producers who are receiving NRCS and FSA microloans and incentives are also new to farming or lack the organic systems training. ACES is the only institution that provides education to small producers directly or through collaborating agencies with research-based information and hands-on experience.

What has been done

Organic/small farm IPM campaign (Auburn Univ.): Participants (869) include farmers (80%), backyard horticulturists (14%), state/federal agencies (4%) and crop consultants/nonprofit partners (2%). Participation of producers in 2013 IPM meetings has increased by about 40% since 2011. Small/beginning farmers typically have 2 to 5 acres in production with less than 10 years of experience. These producers (many in underserved areas of the state) and federal agencies like NRCS and FSA are in very high need for research-based information and hands-on experience in organic production methods.

Results

The organic small farm campaign has been highly successful in training small farmers across Alabama with participation at meetings increasing by 40%. About 47% small producers have started to use Extension publications along with substantial rise in the use of Facebook page and IPM website. Overall satisfaction rating among farmers is 97% and the average crop loss prevented range from 40 to 60% among adoptive farmers. The Alabama Vegetable IPM Program has received three awards in the past two years from the Southern Region IPM Center and the National Association of County Agricultural Agents for impactful programming

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
205	Plant Management Systems
216	Integrated Pest Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #4

1. Outcome Measures

Increase poultry farmer knowledge of new housing and equipment changes and techniques

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	24600000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Poultry Industry professionals and poultry farmers are interested in efficient production through improved housing and updated efficiency of existing housing. Poultry growers and poultry company personnel are in need of training on energy efficiency in poultry houses in Alabama and the Southeast. Agricultural lenders also work with the National Poultry Technology Center to set policy for poultry house lending policy. Efficient lighting, air handling, insulation and ventilation control are areas emphasized in 2013.

What has been done

19 scheduled workshops and presentations; 20 unscheduled on-site educational opportunities. Efficient lighting, air handling, insulation and ventilation control were areas emphasized in 2013. Presentations at National Poultry Technology Center-sponsored meetings and other industry meetings, publications in trade magazines, information on the the Poultryhouse.com website and direct consultations were used to transfer information to poultry growers and companies in Alabama and the Southeast.

Results

Energy Conservation Audits completed by the NPTC have saved on average \$3,500/broiler house. Assuming 30% adoption rate, this would amount to \$12,600,000 savings for growers in Alabama. Improved bird performance through better feed conversion could net the Alabama poultry industry and growers another \$12,000,000 in efficiency. Reductions in structural damage through improvements in structural design averages around 10 million dollars per year in Alabama

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection

Outcome #5

1. Outcome Measures

Increase awareness of spread of soybean rust and control measures

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2600000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmers growing soybeans remained concerned about the presence and impact of soybean rust to yield. In 2013 Alabama farmers harvested over 425,000 acres of soybeans with an average yield of 43 bushels/acre. Relatively cool, wet growing conditions during the season provided an environment that was optimal for SBR development and spread.

What has been done

Observations provided by the SBR monitoring program indicated the disease spread across the state 3 to 4 weeks faster than in any previous year, with it eventually being detected in all 67 counties. In-season monitoring of SBR allowed team members to warn growers of the rapid spread of the disease. Growers were alerted of the risk of SBR via email, twitter and electronic newsletters, as well as through a telephone hotline. These alerts allowed farmers to make timely applications of fungicides to protect their crop and avoid yield losses that could range from 25-50% in 2013.

Results

The rapid early season spread of the SBR pathogen coupled with over 60% of soybean acreage planted after June 15th meant that a high percentage of soybeans were exposed to the disease at an earlier stage of crop development when the risk of yield losses from SBR are substantial. End-of-year estimates suggest the disease reduced yields by 2.5% statewide, the highest level ever recorded. The SBR monitoring program maintained by the Agronomic Crops Team was estimated to have saved the Alabama soybean industry approximately \$2.6 million in 2013 by providing early season warnings of the threat of SBR and alerting growers to make timely fungicide applications to prevent yield loss from the disease.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
216	Integrated Pest Management Systems

Outcome #6

1. Outcome Measures

Increase knowledge of ways to successfully provide for farm succession methods

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Increase knowledge of importance of forages in animal production systems and adoption of profitable forage production systems

Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

Increase knowledge of horticultural practices for Master Gardener Interns

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	28

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Extension needs volunteers and our programs are inviting to citizens who enjoy volunteering. Volunteers join, or partner with an organization when their experience with them is meaningful, develops their skills, demonstrates impact, and taps into their abilities and interests (The New Volunteer Workforce, D. Eisner, R. T. Grimm Jr., S. Maynard, & S. Washburn. Stanford Social Innovation Review, Winter 2009). Volunteers give their time as an effort to make connections with like-minded people or to a cause that has a personal association for them. Making this happen takes personal investments from the ACES Agents who work with this project.

What has been done

Each MG training series = 12-14 weeks of training/instruction in garden related subjects such as: soil nutrition, pest ID and management, plant ID and management, water management, etc. The project is specifically designed to recruit & train volunteer leaders to assist county offices of the ACES in disseminating knowledge and information relative to landscaping and gardening applicable to their area of Alabama. These vol's expand ACES outreach of research-based information. Master Gardeners are essential to the mission of the ACES.

Results

435 Intern MGs were trained in 2013. Combined, the group's knowledge increased by 28%. Our instruction also influenced their attitude about residential landscape/garden management - 72% said they will choose plants and cultivars known to resist pests; 78% will adopt soil testing to avoid over-fertilizing; 79% will consider pest life cycles to optimize pest management.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
124	Urban Forestry
205	Plant Management Systems
216	Integrated Pest Management Systems

Outcome #9

1. Outcome Measures

Sustain volunteer support from Master Gardeners

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	3779532

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Volunteers join, or partner with an organization when their experience with them is meaningful, develops their skills, demonstrates impact, and taps into their abilities and interests (The New Volunteer Workforce, D. Eisner, R. T. Grimm Jr., S. Maynard, & S. Washburn. Stanford Social Innovation Review, Winter 2009). Volunteers give their time as an effort to make connections with like-minded people or to a cause that has a personal association for them. Forging this partnership takes personal investments from the ACES Agents who work with this project.

What has been done

37 ACES staff (REAs, CECs, and Specialists) reported time given to this project ? attending monthly MG association meetings, volunteer activities, coordinating/supporting the 22 training

series in 2013, etc.

Results

Small and large MG groups reported volunteer hours in 37 counties. 11 MG Helpline (877-252-4769) offices remain active. MG volunteers host/assist Lunch & Learn short programs (5); partner with Agents in program delivery (11); host information venues at County Fairs, and other public locations (37); maintain demonstration gardens (11); partner with local charities (Habitat for Humanity, botanical gardens, etc) and support collegiate scholarships; donate to food pantries from their demonstration gardens/home gardens; host seasonal seminars for the public; contribute time and support to numerous municipal beautification projects. Volunteer time was valued at \$3,779,532

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
124	Urban Forestry
205	Plant Management Systems
216	Integrated Pest Management Systems

Outcome #10

1. Outcome Measures

Adoption of rainwater collection systems for urban noncommercial garden

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	12000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

While worldwide water consumption is rising at double the rate of the population, the amount of freshwater remains at only 2.5 percent of the world's water resources. Rainfall replenishes much of the water we use. However, it is predicted that by 2025, eighteen countries will use more water than can be replenished. Collected rainwater can be used for urban domestic purposes and

irrigation. In some countries, it is the only source of potable water. Rainwater is usually collected in urban areas from rooftops, greenhouses, pool covers and other relatively clean surfaces. This stored water can be used for irrigation of raised bed and container gardens, flushing toilets, or washing cars.

What has been done

UGSL & Water Wheels Programs conducted 54 scheduled workshops for clientele about the importance, methods, and skills to create and install their own rain water catchment systems. During each workshop/seminar participants also worked on their own rain barrel which were installed in their own homes. UGSL & Water Wheels program teams also provided assistance to local noncommercial small farmers in the procurement and installation of larger rainwater cisterns for hydroponic vegetable production.

Results

A total of 127 were trained in rainwater harvesting and water conservation practices for small farms and noncommercial production. Increased knowledge and adoption of water conservation practices was 31%. A total of 8K gallons of water was conserved as a direct result of the adopted practices. An estimated \$12K was saved by clientele by adopting the conservation practices obtained by the Water Wheels Programming. An estimated 688 pounds of produce resulted from rain water collection

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
205	Plant Management Systems

Outcome #11

1. Outcome Measures

Increase awareness of water conservation

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	43

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Clean water is our most valuable resource. Without water we would not survive, drill for oil, cool our power plants, or provide water for our food crops or animals. Clean water is a must and only we can conserve and keep it clean. More importantly, we are now using more water than the water cycle is cleaning, which means we are running out of clean water. Alabama is one of the worst states - we use 50 gallons more water per person than the national average and more than any state east of Nebraska. Catching rainwater helps us to conserve our natural water supplies - just following simple steps can make an impact and help save as much as 500 gallons a year - if everyone followed 1-2 water conservation tips or used rainwater catchment systems, then we could reduce our daily water usage by 104 billion gallons per day!

What has been done

UGSL & Water Wheels successfully scheduled and conducted 54 workshops/seminars at statewide events, schools, and communities. Adult workshops and seminars with Water Wheels instructed participants about rainwater harvesting and its benefits in Alabama. Participants given rain barrels to work on and take home to apply as a rainwater harvesting system. A demonstration of rainwater use in the home for toilet flushing was also provided to all adult participants. Water Wheels also appeared at 13 schools where 6-12 grade students were introduced to Alabama rivers and water sheds, importance of Alabama water sheds, basics of water conservation, rainwater harvesting and uses of rainwater.

Results

Adult & Youth participants of the UGSL & Water Wheels programs learned where our water comes, how water is recycled through the earth's water cycle, why fresh clean water is a limited resource, and what steps can be done to preserve that natural limited resource. Adult and youth participants improved their skills and abilities to recognize, identify, and evaluate poor water conservation practices. Pre and post surveys administered to adults and youth indicated an increase in knowledge of 42.5% in water conservation practices. Water Wheels combined workshops/seminars were attended by 2,663 clientele, 46% adults, 54% youth, 67% white, 26% black, 45% male, 55% female and successfully distributed 302 rain barrels.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
806	Youth Development

Outcome #12

1. Outcome Measures

Increase number of acres of rainwater irrigated fruits and vegetables

Not Reporting on this Outcome Measure

Outcome #13

1. Outcome Measures

Increase knowledge and understanding of environmental issues related to electronic waste management, storage and disposal

Not Reporting on this Outcome Measure

Outcome #14

1. Outcome Measures

Enhance environmental awareness among urban, nontraditional, and underrepresented audiences in the areas of forestry, wildlife, and natural resource management

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	200000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The availability and access to healthier foods like fresh fruits and vegetables for limited resource inner-city families and individuals is very limited. Urban spaces and environments make gardening and landscaping a challenge but not entirely impossible or unmanageable. The role of Urban Gardening and Sustainable Landscapes (UGSL) programs is to provide educational resources and training for the urban clientele. Healthier diets and lifestyles can begin by introducing the benefits, knowledge and skills of urban gardening and sustainable landscaping to limited resource clientele within the urban landscape.

What has been done

UGSL programming team members successfully scheduled and conducted 65 workshops/seminars at statewide events, schools, and communities. Adult workshops and seminars instructed participants about raised bed and container gardening, bee keeping, xeriscaping, composting, vermicomposting, water conservation, and rainwater harvesting.

Results

A total of 4152 clientele, 67% white, 26% black, 45% male, 55% female attended the scheduled workshops and seminars. Increased knowledge and adoption of water conservation practices was

48%. An estimated 200K gallons of water was conserved as a direct result of the adopted practices. An estimated 688 lbs of fresh produce was produced by clientele by adopting the conservation practices obtained by the UGSL Programming. A total of \$177K was generated by UGSL through collaborative donations and volunteer hours.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
124	Urban Forestry
205	Plant Management Systems

Outcome #15

1. Outcome Measures

Small Flock Support and Training Efforts

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a strong interest currently among consumers in learning how to produce poultry on a small flock basis.

What has been done

Instructed hundreds of Alabama backyard flock owners on husbandry, economics and food safety through seminar presentations, posters and backyard flock CDs. Both specialists and county staff participates in various aspects of the Chick Chain 4H project. Many of the backyard flock seminars were combined with 4H Chick Chain groups to get extra training for the 4Hers. Eight seminars were completed in 2013, plus a few more community-wide events (Sunbelt ag Expo, Ag Discovery Adventure, etc.)

Results

Assessment of participants through post-seminar questionnaires revealed that about 75% of participants had some knowledge of poultry husbandry prior to the seminar, yet all participants (100%) said that they would recommend the training to others. Many participants felt that they learned a lot from the training (60%), while 30% felt that they gained a few new tricks while less than 10% felt that new knowledge was minimal. Approximately 40% of participants were interested in basic poultry husbandry, while 60% were interested in health topics and 20% were interested in marketing products from home flocks. Close to 80% of participants were interested in producing eggs (40% for home use, 40% for home use and sales), while only 11% were interested in producing meat on a small scale.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

The ability of the Home Grounds team to support this project is heavily influenced by staffing patterns and available staff resources. There were 20 local ACES staff (REAs, CECs) managing 37 local MG associations in 2013. This ratio additionally influences the ability of the Home Grounds agents to support other educational projects.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

MG Interns gained new knowledge - 28% overall
- MG Interns changed their attitudes about residential landscapes - 55% to 79%
- 1807 MG vol's remained, or newly became involved, with numerous civic, municipal, ACES and other partners

98% of cogongrass workshop survey respondents indicated their knowledge of invasives had increased and 50% has increased substantially. Respondents were responsible for over 2.8 million acres and were treating 25% or more of their infested acreage. These results indicate that ACES is have a very positive impact concerning cogongrass and other invasive plant education in Alabama.

Key Items of Evaluation

Master Gardeners support ACES Agents by sharing their expertise and knowledge in program delivery, offering their own program outreach, implementing demonstration gardens, and volunteering with many community partners. They support their communities through food gardens and food donations, local charities, in numerous beautification projects, collegiate scholarship donations and more.

The organic small farm campaign has been highly successful in training small farmers across Alabama with participation at meetings increasing by 40%. About 47% small producers have started to use Extension publications along with substantial rise in the use of Facebook page and IPM website. Overall satisfaction rating among farmers is 97% and the average crop loss prevented range from 40 to 60% among adoptive farmers.

Energy Conservation Audits completed by the NPTC have saved on average \$3,500/broiler house. Assuming 30% adoption rate, this would amount to \$12,600,000 savings for growers in Alabama. Improved bird performance through better feed conversion could net the Alabama poultry industry and growers another \$12,000,000 in efficiency. Reductions in structural damage through improvements in structural design averages around 10 million dollars per year in Alabama.

The MG Helpline (877-252-4769) answers non-commercial questions related to residential landscapes. The 8 agents who support the 11 MG offices say that this volunteer activity greatly reduces their call volume. Volunteers are not expected to know all the answers, but instead where to find the answer in approved references and to offer friendly support to the caller in need of answers.

The rapid early season spread of the SBR pathogen coupled with over 60% of soybean acreage planted after June 15th meant that a high percentage of soybeans were exposed to the disease at an earlier stage of crop development when the risk of yield losses from SBR are substantial. End-of-year estimates suggest the disease reduced yields by 2.5% statewide, the highest level ever recorded. The SBR monitoring program maintained by the Agronomic Crops Team was estimated to have saved the Alabama soybean industry approximately \$2.6 million in 2013 by providing early season warnings of the threat of SBR and alerting growers to make timely fungicide applications to prevent yield loss from the disease.

Adult & Youth participants of the UGSL & Water Wheels programs learned where our water comes, how water is recycled through the earth's water cycle, why fresh clean water is a limited resource, and what steps can be done to preserve that natural limited resource. Adult and youth participants improved their skills and abilities to recognize, identify, and evaluate poor water conservation practices. Pre and post surveys administered to adults and youth indicated an increase in knowledge of 42.5% in water conservation practices. Water Wheels combined workshops/seminars were attended by 2,663 clientele, 46% adults, 54% youth, 67% white, 26% black, 45% male, 55% female and successfully distributed 302 rain barrels.