

An Advanced Forestry Continuing Education Program for Area County Extension Agents

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Abstract

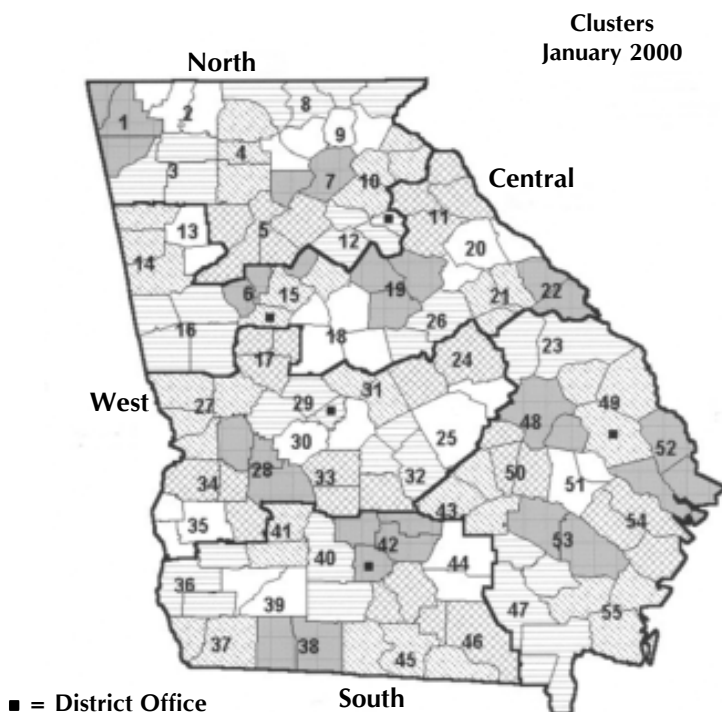
In 1999, the University of Georgia Daniel B. Warnell School of Forest Resources developed Forestry: Area Specialty Advanced Training (FASAT) to strengthen Cooperative Extension Service county program delivery system areas of sustainable forest productivity and profitability in annual week-long training programs. FASAT covers all 159 counties and all 55 clusters with 67 agents working in areas of forest productivity as well as urban/rural interface forestry. After initial training, university faculty and FASAT agents teamed in 1999 to prepare a series of seven multi-county (37 counties covered) forestry meetings involving over seven hundred non-industrial private forest landowners and over one million acres of forest land. Those meetings offered NIPF landowners information that could allow them to increase net returns to their tree crops by a conservative estimate of \$10 per acre per year, an estimated total of \$10 million per year in Georgia.

Introduction

To serve agricultural producers in the state, the University of Georgia (UGA) has five Cooperative Extension Service (CES) administrative districts and 159 county offices staffed by 209 agricultural agents. This provides coverage across the state. In the past, county agricultural agents have not had a specialty or area of expertise within a county, instead working as general agricultural educators. However, in 1997–98, the UGA CES county educational programming efforts were grouped into 55 clusters of two to four counties each. Within clusters, agents declared areas of specialization or focus for their educational programming work. Initially, forestry was the choice of 36 agents who represented 34 clusters, covering 96 counties (Figure 1).

Increasing county CES agent awareness and knowledge of forest production practices and initiatives will allow agents to conduct improved educational forestry programming. It is essential that these university faculty, responsible for educational programming in natural resource issues at the citizen level, have significant foundation in terminology, technique, and technology to instruct resource owners and managers in understanding and adopting modern forest practices.

**Figure 1. The University of Georgia Cooperative Extension Service
5 Districts and 55 Multi-county Clusters**



Situation/Educational Need

Cluster agent interest in forestry has increased in recent years with successive years of summer drought, low agricultural commodity prices, and inherently low productivity on marginal agricultural lands. These combinations of disincentives have resulted in costs of agricultural production above returns for many major crops in the state (*Moorhead and Dangerfield 1998*). Federal agricultural program incentives to remove marginal lands from annual row crop production, such as those found in the Conservation Reserve Program (CRP), have resulted in the afforestation of marginal cropland. Prime agricultural lands are being farmed at greater levels of intensity with irrigation and precision farming techniques.

Marginally productive agricultural lands are actively shifting to more profitable forest tree crop production. In the last 15 years,

over 767,000 acres of marginal cropland have been afforested through the CRP by landowners in the state. An estimated additional 500,000 marginal crop acres have been afforested outside the CRP. More than one million acres of marginal land remain in crop production that would earn greater landowner returns if shifted to tree crops (*Moorhead, Dangerfield, and Westberry 1999; USDA-FS 1988*). Shifting from row crop production to tree crops on marginal lands reduces erosion, enhances water quality, and benefits rural economies (*Alig, White, and Murray 1988; Moorhead and Dangerfield 1996*).

Located on the southeast Atlantic coast, Georgia is the largest state in the eastern region of the United States; it has a total land base of 37 million acres. Forestry and agriculture are important factors in the state's economy. Nine percent of the state's land base, 3.2 million acres, is devoted to agricultural crop production. An ever decreasing population of farmers in Georgia numbered 43 thousand in 1997, down over 50 percent since 1964 (*UGA 1999*). Georgia's diverse agricultural economy generates \$22.7 billion in total annual output (*Newman et al. 1998*). Cotton, vegetables, peanuts, tobacco, corn, and small grains are the major annual field crops (*Bass and Messer 1998*). The largest single component of agricultural production in the state comes from poultry, where broiler and egg production generates \$2.6 billion annually.

With over 65 percent of land base forested, the state's almost 24 million acres of forest represent one of the largest forest resource bases in the nation. The majority of forested lands, 69 percent, are held by an estimated 610,000 non-industrial private forest (NIPF) landowners, with only 24 percent of the forest land base held by forest industry (*Birch 1997*). Forest industry employment in Georgia is almost 120,000 workers, compared to just over 128,000 for the entire agricultural industry. Georgia forest industry generates a \$17.8 billion annual output; its value added to output is \$6.8 billion, compared to \$8.2 billion for all of agriculture (*Newman et al. 1998*).

Program Development

Faculty in the Warnell School of Forest Resources (WSFR) recognized the potential of the new cluster organization to enhance forestry programming through area specialty advanced training, and cooperated to develop a framework for annual week-long training courses for the cluster forestry agents. The program was titled FASAT—Forestry: Area Specialty Advanced Training. The training framework was presented to the five district extension heads

(administrative leaders for each of the five extension districts in Georgia) for their evaluation and received their support. The concept was then refined and presented to the dean of the WSFR. He accepted the proposal and formed a faculty committee to plan and implement FASAT through the Center for Forest Business (CFB) with the goal of integrating teaching, research, and service faculty and staff into the FASAT program development. Additionally, the CFB was charged to develop statistics by CES districts on the importance of forestry and agriculture in Georgia for presentation to the CES administration to build the foundation for their need to support increased forestry programming in the 55 clusters (*Newman et al. 1998*).

FASAT agents were surveyed initially prior to the FASAT 1999 curriculum development to determine which subject areas, they considered:

- Important now
- Important within the next 5 years
- Already having expertise in county
- Already having subject material in county

Summary results from this initial survey helped identify topics to be included in FASAT. The committee developed a four-day training program which focused on forest productivity issues and opportunities facing Georgia's NIPF landowners. Program instructors included faculty from WSFR, the College of Agricultural and Environmental Sciences, the Georgia Forestry Commission, and forest industry and chemical company representatives.

The FASAT program seeks to strengthen the UGA county delivery system areas of sustainable forest productivity by:

- building a team approach with forestry identity
- providing a base of initial expertise and program execution
- partnering with WSFR faculty in philosophy and direction
- introducing WSFR facilities and other forestry resources
- building awareness of expertise and services available within the forestry sector
- expanding and defining the WSFR service and outreach program

Sponsors were sought to support the program financially and to help build working relationships and awareness of the FASAT program throughout the forestry community. The inaugural program sponsors included:

- Warnell School of Forest Resources–Center for Forest Business
- College of Agricultural and Environmental Sciences
- American Cyanamid
- Association of Consulting Foresters
- DuPont Agricultural Products
- F&W Forestry Services
- Georgia Forestry Association
- IMC Agribusiness
- Louisiana Pacific Corporation
- Metrac
- The Price Company
- Tidewater Companies
- Timber Tech Incorporated

Program Implementation

In March 1999, the school sponsored an inaugural four-day intensive training program for 36 volunteer county agents with multi-county (cluster) responsibility for service and outreach educational programming in forest productivity. These 36 FASAT agents cover 96 counties in Georgia. Over 50 of the school's faculty and staff participated in the program. More than a dozen sponsors with a focus on forest resources contributed to the funding of FASAT.

In response to agent requests, five day-long field training programs were held for FASAT agents on the principles of forest stand evaluation during the summer of 1999. These programs were presented in the physiographic regions and forest types in which the cluster agents would be working. Agents were instructed on using the forestry sampling equipment they received at the initial FASAT program, and on using the information collected to characterize stand stocking, growth, health, and management needs. This training also served as a prerequisite for the three-day FASAT training program on growth and yield model use. The summer program covered:

- Prism sampling techniques, basal area estimation, and height and live crown determination;
- Forest fertilization update: recommendations, and opportunities for establishing demonstration and research plots;
- Radial growth sampling, calculation of growth rate, and leaf area estimation;
- Evaluation of pine stands: growth and yield, thinning responses, and stand health.

Following the completion of the FASAT 1999 program, the second survey of FASAT agents sought to determine the effectiveness of the inaugural training and needs for future training. To help the committee improve FASAT, agents were asked to rank the usefulness of segments of the curriculum on a scale of 1–5 (1 least, 5 most). Overall, the FASAT 1999 program was ranked 4.0 on “Degree to which this first FASAT program met your needs.”

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In 2000 and 2001, the school expanded its inaugural FASAT from 34 to all 55 clusters and from 36 to 67 agents with forestry as an area of their educational programming focus. In 2000, of the total 67 FASAT agents, 52 were designated FASAT-PF for production forestry and fifteen were designated FASAT-IF for urban/rural interface forestry. FASAT-PF agents are located primarily in

production forestry county clusters. FASAT-IF agents are located in the more metropolitan county clusters.

The returning FASAT-PF agents received GaPPS (Georgia Pine Plantation Simulator) training in the school’s computer lab. FASAT-PF agents newly recruited in 2000 received a curriculum revised from the school’s FASAT 1999 program. The new FASAT-IF agents received a totally new curriculum organized for that purpose.

These 67 FASAT agents cover all 55 CES multi-county clusters and all 159 counties in Georgia, and have substantially raised and improved the level of forest resources service and outreach educational programming for non-industrial private forest (NIPF) landowners. The school continues sponsorship of an annual FASAT on the University of Georgia campus in Athens and summer multi-district training held in major physiographic regions of Georgia.

One goal of the FASAT program is to help landowners realize that their forest stands represent a valuable resource and to encourage them to consider using professional foresters to help them manage their forests. It is important to note that FASAT does not promote cluster agents as an alternative or competitor to consulting or professional foresters. Although five of the agents are graduate foresters, the extension agent’s role is in landowner education programming and not technical service.

Table 1

Table 1. A Survey Summary of Extension educational programming results for the University of Georgia Daniel B. Warnell School of Forest Resources' Forestry: Advanced Specialty Area Training (FASAT) program in 1999: A survey of inaugural FASAT agents in 36 multi-county clusters representing over 100 counties in Georgia.			
Contact Activities	Number of Events	Estimated # Contacts	Estimated # Acres Impacted
-----Total for 36 Clusters-----			
County/Cluster Meetings	28	1,050	359,345
Lectures	19	665	34,615
Field Trips/Demonstrations	5	560	36,820
4-H Youth	92	1,960	3,080
Field Visits	318	563	78,060
Office/Phone Contacts	1,036	2,015	86,690
Radio Spots	44	140,000	19,985
Newspaper Articles	70	243,635	439,110
Newsletters	19	6,755	43,015
TV Spots	1	5,495	0
Magazine/Trade Journal Articles	1	0	0
Computer-based Spots	0	0	0
Other	3	2,205	0
TOTALS	1,671	404,938	1,100,755

Results

A year after the completion of the FASAT 1999 program, agents were surveyed a third time. This survey summarized educational programming results of the 36 multi-county clusters involved in the program. Table 1 identifies significant levels of educational programming for NIPF landowners in Georgia. During 1999, county agents in the 36 surveyed clusters held 52 cluster meetings that reached 2,275 Georgia NIPF landowners and impacted 430,780 acres of timberland. In total, 1,671 FASAT contact activities reached 404,938 Georgians and impacted 1.1 million acres of forest land. Future surveys will allow determination of increases and improvement in educational programming.

Meetings held: A team approach with school faculty and FASAT agents prepared a series of seven multi-county (37 counties covered) forestry meetings from 1999 to 2001 with the theme "Growing Pines in Trying Times." Over seven hundred non-industrial private forest (NIPF) landowners were contacted directly through these

meetings. An equal or greater number will be contacted or influenced through a multiplier effect from meeting attendees. Over one million acres of NIPF land was represented at the seven meetings. NIPF landowners received information that allowed them to increase net returns to tree crops by a conservative estimate of \$10 per acre per year, for an estimated total of \$10 million per year in Georgia.

Emulation of programs by others: During FASAT 2000, forestry school representatives from the 13 southern U.S. states were invited to attend. Efforts advanced cooperation through CES in Florida and Texas to fund seven county agents from those states to attend FASAT 2000 in Athens. Cooperative regional interaction enhanced the quality of FASAT training in Georgia. As a result of the 2000 cooperative efforts, CES in Florida began a similar pilot training for county agents.

Awards: The WSFR training program for UGA county agents, Forestry: Advanced Speciality Area Training (FASAT), has developed status and results on several fronts. Since 1999, the program has received three regional awards from extension foresters in various categories, has been presented at an international IUFRO extension conference of educators in Slovenia, and was presented at a regional extension forest leaders meeting in Texas.

Program Agenda: The daily program agenda for FASAT 1999 is available from the authors who can be visited at <http://www.forestry.uga.edu>. FASAT agents' sponsorship included travel, meals, and lodging. Each of the 67 FASAT agents also received a cruising vest, clinometer, diameter tape, increment borer, prism, compass, selected reference materials, and WSFR logo shirt and cap. A comprehensive notebook covering all training plus additional reference material was provided to each participant. Every effort was made by the WSFR faculty, staff, and training facilitators to encourage student-teacher interaction during the lectures and exercises.

FASAT will have its most valuable impact when agents take a proactive role in educating landowners and promoting professional forest management. Planned FASAT activities include continued development of Web-based resource materials (visit our Web sites at: <http://www.bugwood.caes.uga.edu> and <http://www.forestry.uga.edu>), Web-board communication forums, demonstration/research sites in FASAT clusters, landowner programs, and possible expansion of coverage in certain clusters. These county extension agents have an additional incentive to actively pursue forestry programming through FASAT because they hold promotion-track public service faculty appointments in the College of Agricultural and Environmental

Sciences. Activities in areas of assigned responsibility are integral to their promotion in the University System. WSFR faculty feel that efforts and effectiveness in NIPF landowner education will be greatly enhanced through this close working relationship with FASAT agents.

Summary

Initial observations by the faculty, facilitators, and FASAT committee indicated that the training was an unqualified success. FASAT agents enthusiastically praised the program and the commitment shown by WSFR to support and provide FASAT. Agents urged UGA administration to adopt the FASAT model for other commodity-based intensive training programs. Agents continued to praise FASAT in their post-training survey and their prioritized future training needs. These programs have been designed to help FASAT agents acquire the knowledge and confidence to interact with their NIPF clients and to help them understand the value and management needs of their forest stands.

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