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7/14/99



ALABAMA AGRICULTURAL AND MECHANICAL UNIVERSITY

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June 30, 1999

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Dear Sir:

Please find enclosed the State of Alabama Research Plan of Work as required by the Agricultural Research, Extension, and Education Reform Act of 1998. This Plan of Work is a comprehensive statement of intended research activities for the next five (1999-2004) years for the agricultural research programs at Alabama A&M University (AAMU), Auburn University (AU), and Tuskegee University (TU).

This plan is jointly submitted by Drs. Luther Waters (AU), Walter Hill (TU) and McArthur Floyd (AAMU). Although questions and other comments regarding the document can be directed to any of us, technical concerns should be addressed to me, as I am providing the leadership in this effort.

Respectfully submitted,

McArthur Floyd
Professor and Research Director

Enclosure

PLAN OF WORK

for

**Alabama Agricultural Research Programs
(AARP)**

at the

**Alabama Agricultural Experiment Station
(Auburn University)**

and

**The Winfred Thomas Agricultural Research Station
(Alabama A&M University)**

and

**The George Washington Carver Agricultural Experiment Station
(Tuskegee University)**

for

Federal Fiscal Years

2000-2004

July 15, 1999

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EXECUTIVE SUMMARY

Alabama is fortunate to have three land-grant universities - Alabama A&M University (AAMU), Auburn University (AU), and Tuskegee University (TU) - with distinct programs at each institution based on clientele needs. However, our universities will increasingly collaborate on research in areas where the needs of our clientele (producers, processors, agribusinesses, consumers, stakeholders, alumni, students, and others) merge. As the administrators of AARP, we are working cooperatively to enhance partnerships among our universities in all areas of research, education, and extension; with other universities in the region, nationally and internationally; and with state and federal laboratories and agencies. Effective partnerships will be the springboard for efficient use of our resources, both human and fiscal, to meet the needs of our state clientele and the nation. Alabama's three land-grant universities have played key roles in the development of agricultural enterprises in Alabama. The agricultural research programs of these Universities have recently formed the Alabama Agricultural Land-Grant Alliance (AALGA) to better address critical issues in food, agricultural and natural resources in the state, region and nation through multidisciplinary, multi-institutional, science-based teams that focus on opportunities and challenges facing farmers, consumers and agribusinesses. The AALGA also seeks to provide quality education that prepares professionals for career opportunities in food, agriculture and natural resources.

In recognition of the importance of international agriculture programs in promoting the competitiveness of U.S. Agriculture in the global market place, Alabama's agricultural research programs support and will participate in efforts of International Program Offices on each campus to promote international market development and other international initiatives that strengthen U.S. economic competitiveness and provide professional and cross-cultural experiential learning opportunities for students, staff, and faculty.

This Plan of Work is a comprehensive statement of intended research activities for the next five years for these three institutions as required by AREERA (Agricultural Research, Extension and Education Reform Act) of 1998. This report is primarily based on the Alabama Agricultural Research Plan for the 21st Century.

Five State Programs are planned in the Five-Year Plan of Work under the various REE goals, namely:

- State Program 1: Attain Globally Competitive Alabama Agricultural and Forestry Production Systems**
- State Program 2: Enhance Food Safety, Quality and Processing Technologies**
- State Program 3: Improve Human Nutrition and Health**
- State Program 4: Develop and Enhance Sustainable Ecosystems to Protect Natural Resources and Bio-diversity**
- State Program 5: Ensure Socioeconomic and Self-Empowerment of Families and Communities**

Several multi-disciplinary research projects are grouped under the Key Program Components associated with each state program.

**RESEARCH PLAN OF WORK FOR AGRICULTURAL RESEARCH PROGRAMS
IN THE STATE OF ALABAMA**

POINT of CONTACT: This plan is jointly submitted by: Dr. Luther Waters (Auburn University), Dr. Walter Hill (Tuskegee University) and Dr. McArthur Floyd (Alabama A&M University). Although questions and other comments regarding the document can be directed to any of us, technical concerns should be addressed to McArthur Floyd, who is providing leadership in this effort.

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Adoptions by Reference:

- Alabama Agricultural Research Plan for the 21st Century
- Programs School of Agricultural and Environmental Sciences
- Handbook for Research Project Leaders for the Alabama Agricultural Experiment Station
- Administrative Manual for Evans-Allen Cooperative Agricultural Research-Project Approval
- Globalizing Agricultural Science and Education Programs for America (GASEPA)

PLANNED PROGRAMS:

Five State-wide Programs have been designed based on identified need and stakeholder input.

State Program 1: Attain Globally Competitive Alabama Agricultural and Forestry Production Systems

Key Program Components:

1. Economics
2. Improved Machinery and Engineering Systems
3. Value Added Food and Fiber
4. Improved Crop, Animal and Poultry Systems
5. Integrated Pest Management
6. Development of Alternative Food, Animal & Specialty Crops
7. Fisheries and Aquaculture
8. Water Quality and Waste Management
9. Economics & Social Well-being of All Families and Farmers
10. Recruitment and Education of Individuals for Career Professions in the Food and Agricultural Sciences
11. International Collaborations

State Program 2: Enhance Food Safety, Quality and Processing Technologies

Key Program Components:

1. Food Safety and Risk Analysis
2. Genetic and Biochemical Modification of Foods
3. International Phyto-Sanitary Standards

State Program 3: Improve Human Nutrition and Health

Key Program Components:

1. Nutrient Composition of Foods
2. Nutrition Education
3. Diet Modification for Targeted Populations

State Program 4: Develop and Enhance Sustainable Ecosystems to Protect Natural Resources and Bio-diversity

Key Program Components:

1. Water Quality and Waste Management
2. Soil Conservation, Quality and Bio-indicators
3. Remote Sensing, Geographical Information Systems and Precision Agriculture
4. Urban/Rural Social Change Issues and the Environment
5. Wetland Restoration and Best Management Practices (BMP)

State Program 5: Ensure Socioeconomic and Self-Empowerment of Families and Communities

Key Program Components:

1. Rural Restructuring
2. Economic Viability and Sustainable Communities
3. Small and Family Farms
4. Families and Children
5. Information Delivery to Unserved Populations
6. Distance Learning to Unserved and Underserved Populations

PARTICIPATION OF UNIVERSITIES BY GOALS:

RESEARCH	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5
	Key Research Component	Key Research Component	Key Research Component	Key Research Component	Key Research Component
1862 Research (ALA)*	1, 2, 3, 4, 5, 6, 7, 8, 9, 11	1, 2, 3	1, 2, 3	1, 2, 3, 4, 5	1, 2, 4
1890 Research (ALAX)*	1, 3, 4, 6, 8, 9, 10, 11	1, 2	1, 2, 3	1, 2, 3, 4, 5	2, 3, 4, 5, 6
1890 Research (ALX)*	3, 4, 5, 6, 8, 9, 10, 11	1, 2,	1, 2, 3	1, 2, 3, 4, 6	2, 3, 4, 5, 6

** Auburn University, Alabama A&M University and Tuskegee University, respectively*

STAKEHOLDER INPUT PROCESS:

Stakeholder input into the planning and priority setting of Alabama's Agricultural Research Programs (AARP) is both continuous and include formal and non-formal processes. The formal process includes conducting a state-wide survey of citizens, commodity and advisory groups, farmers, urban and rural families, faculty and students, and policy makers to develop the Alabama Agricultural Research Plan for the 21st Century. Additionally, input is sought through the Annual Farmers' Conference, the Professional Agricultural Workers Conference, the Annual Agriculture Week, Advisory Councils, and the five Research and Extension Centers throughout the state in conjunction with the Alabama Cooperative Extension System (ACES) including the Tuskegee University Extension Program. Furthermore, the Director of the Alabama Agricultural Experiment Station (AAES) has appointed a Faculty / Industry Council which meets periodically throughout the year to address issues of agricultural concern. The role of the Council is to advise the Director with regard to priorities which are used to formulate future plans for the AAES. Farmers and other key constituent groups have input via their respective associations / commodity groups. The Associate Directors of the AAES (including selected associated academic schools and colleges at Auburn University), and the Research Directors at Alabama A&M University, and Tuskegee University, have

their own Advisory Councils who provide counsel on research program directions.

In addition to the stakeholder-input mechanisms currently in place, the Director of AAES is in the process of establishing a Futuring Task Force (FTF), which will be made up of literally hundreds of stakeholders around the state. These individuals will identify opportunities that will be available to the State's agroindustrial complex to the year 2025 and discuss and recommend programmatic directions for the AAES as well as provide evaluation and assessment of current programs.

PROGRAM DESCRIPTIONS:

Following is the Alabama five-year Plan of Work based on the five national goals within the Research, Education and Economics (REE) Mission Area of USDA:

Goal 1 – An Agricultural System that is Highly Competitive in the Global Economy

Planned State Program 1 – Attain Globally Competitive Alabama Agricultural and Forestry Production Systems

Statement of the Issues:

Effective functioning of America's agricultural system in a highly competitive globalized economy is a major contributor to the national economic growth and well-being of the American people. Markets for Alabama's farm and forest products are international in scope, are dynamic, and require careful study if Alabamians are to benefit from changes in trade policies, immigration laws, labor relations, human capital, transportation, communications technology, consumer preferences, and other forces shaping the national and international markets for Alabama's food, fiber, ornamental horticulture, and forest products. To keep the agricultural industry in Alabama competitive, we need to understand the basic processes associated with the production and marketing systems.

Our research will focus on the areas of: international market evaluation; farm level economics; improved machinery systems; improved crop and animal health; improved textiles and apparel; fisheries and aquaculture; food safety; development of alternative food and specialty vegetable crops; poultry science; water quality; waste management; and rural/family restructuring. The three universities will also place high emphasis on providing experiential learning and graduate education opportunities for undergraduate and graduate students enrolled in their academic programs.

Performance Goals:

- ◆ Increased market shares for Alabama agricultural products
- ◆ Increased human capacity in Agriculture and related fields

Output Indicators:

- ◆ Increased opportunities for Alabama's agribusiness concerns and farmers
- ◆ Increase in value added agricultural and forestry products

Outcome Indicators:

- ◆ Increase in gross revenue from Alabama agricultural products
- ◆ Database for key markets for Alabama agricultural and forestry products developed
- ◆ Sustainable and environmentally sound crop and animal production systems developed

Key Program Components:

1. Economics
2. Improved Machinery and Engineering Systems
3. Value Added Food and Fiber
4. Improved Crop, Animal and Poultry Systems
5. Integrated Pest Management
6. Development of Alternative Food, Animal & Specialty Crops
7. Fisheries and Aquaculture
8. Water Quality and Waste Management
9. Economics & Social Well-being of All Families and Farmers
10. Recruitment and Education of Individuals for Career Professions in the Food and Agricultural Sciences
11. International Collaborations

Internal and External Linkages:

Collaborations have been established and will continue within and among various departments and schools at each University and among the three land-grant institutions, key international institutions, and with Extension, Federal and State Laboratories, and non-government organizations (i.e., Agribusinesses, private food and community based organizations) to fulfill this goal.

Target Audiences:

We will continue to target the needs of the farmer and the consumer in meeting this goal. Our research will benefit the small, medium and large, including minority, farmers and the underserved populations of Alabama, and the region.

Program Duration:

This program, of approximately 84 total projects (AU- 73, TU – 4 and AAMU – 7), will continue for the 5-year life of this plan and beyond.

Allocated Resources (\$) and scientists years (SY).

Inst.	Current 1998		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004	
	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY
1862 (AL)	13,597,336	39	15,468,227	42	15,717,357	42	16,503,225	42	17,328,386	42	18,194,806	42
1890 (ALAX)	1,278,000	7	1,341,900	8	1,408,995	8	1,479,444	8	1,553,416	8	1,631,086	8
1890 (ALX)	744,616	6	781,846	6	820,938	6	861,984	6	905,083	6	950,337	6
Totals	15,619,952	52	17,591,973	56	17,947,290	56	18,844,653	56	19,786,885	56	20,776,229	56

Goal 2 - A Safe and Secure Food and Fiber System

Planned State Program 2 – Enhance Food Safety, Quality and Processing Technologies

Statement of the Issues:

The safety of the food supply is a major concern to policy makers, consumers, distributors, processors, producers, and suppliers. Enhancing the quality and safety of our food supply requires continuous innovation in production, processing, packaging, and distribution practices. All of Alabama’s land-grant universities are striving to meet those demands and address current and emerging food safety, food quality, nutrition, and health issues, particularly as they relate to consumers, society, industry and regulatory concerns.

Our planned research will focus on: food safety issues such as irradiation of meats; diet analysis; and the study of food-borne pathogens. The latter will include developing technologies for the control of pathogens in both meat and food crop (fruits and vegetables) products. We will also be manipulating and supplementing animal diets to extend the shelf-life of poultry products; examining how irradiation affects the shelf-life, bacteria content, and nutritional quality of processed beef. Producers will use genetic selection and other improved management practices to reduce production cost and provide higher quality pork products. We will seek to improve the production and quality of aquaculture products.

Performance Goals:

Increase number of agricultural products that are safer, less costly, with improved shelf life

Output Indicators:

- ◆ Better detection methods for food-borne illnesses
- ◆ Improved farming technology
- ◆ Better detection of pollutants and microorganisms in rivers and streams
- ◆ Improved food processing and handling techniques

Outcome Indicators:

- ◆ A safer food supply
- ◆ Fewer food-borne illnesses
- ◆ A safer water supply
- ◆ A well-nourished Alabama population

Key Program Components:

1. Food Safety and Risk Analysis
2. Genetic and Biochemical Modification of Foods
3. International Phyto-Sanitary Standards

Internal and External Linkages:

Collaborations have been established and will continue within and among various departments and schools at each University and among the three land-grant institutions, key international institutions, and with Extension, Federal and State Laboratories, and non-government organizations (i.e., Agribusinesses, private food and community based organizations) to fulfill this goal.

Target Audiences:

We will continue to target the needs of the farmers and consumers in meeting this goal. Our research will benefit the small, medium and large, including minority, farmers and the underserved populations of Alabama.

Program Duration:

This program, consisting of approximately 34 total projects (AU – 30, TU – 2, and AAMU – 2), will continue for the 5-year life of this plan and beyond.

Allocated Resources (\$) and scientists years (SY).

Inst.	Current 1998		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004	
	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY
1862 (AL)	4,012,879	13	4,213,523	13	4,424,199	13	4,645,409	13	4,877,680	13	5,121,563	13
1890 (ALAX)	106,000	1	111,300	1	116,865	1	122,708	1	128,843	1	130,285	1
1890 (ALX)	217,661	2	228,544	3	239,971	3	251,969	3	264,567	3	277,795	3
Totals	4,336,540	16	4,553,367	17	4,781,035	17	5,020,086	17	5,271,090	17	5,529,643	17

Goal 3 - A Healthy, Well-nourished Population

Planned State Program 3 – Improve Human Nutrition and Health

Statement of the Issues:

The socioeconomic status of some Alabama residents restricts their ability to practice healthy dietary habits, including choosing healthy foods and handling food safely. Our research efforts will aim at protecting and enhancing the health of Alabama citizens. Through understanding both societal issues affecting consumers' overall diet-related health and the relationship between diet and specific body function.

We will focus on the development of: novel food products that will substantially reduce the serum cholesterol level; evaluation of the production of high quality and healthier small ruminant food-animal meat products; improved encapsulation and food fortification technologies to produce more available/digestible products with increased shelf-life; development of nutritional intervention and food choice programs to control cardiovascular diseases and better quality diets; increased utilization of food crops; and development of dietary guidelines based on ethnicity, age and consumption preferences.

Performance goals:

Increase of the health status of all Alabamians

Output indicators:

- ◆ Increase in awareness of food safety measures and nutrition needs
- ◆ Biochemical and bio-engineered modification of food produced in Alabama

Outcome indicators:

- ◆ Increase in well balanced food products in Alabama markets.
- ◆ Fewer food-borne illnesses in Alabama
- ◆ Reduced malnutrition in the rural and urban poor populations in Alabama

Key Program Components:

1. Nutrient Composition of Foods
2. Nutrition Education
3. Diet Modification for Targeted Populations

Internal and External Linkages:

Collaborations have been established and will continue within and among various departments and schools at each University and among the three land-grant institutions, with Extension, Federal and State Laboratories, and non-government organizations (i.e., Agribusinesses, private food and community based organizations) to fulfill this goal.

Target Audiences:

The target audience for this goal is the entire citizenry of Alabama, and the region.

Program Duration:

This program, consisting of approximately 28 total projects (AU – 25, TU – 2, and AAMU – 1), will continue for the 5-year life of this plan and beyond.

Allocated Resources (\$) and scientists years (SY).

Inst.	Current 1998		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004	
	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY
1862 (AL)	2,957,117	10	2,262,202	10	2,392,964	10	2,502,652	10	2,628,118	10	2,463,300	10
1890 (ALAX)	127,000	1	133,350	1	140,017	1	147,017	1	154,367	1	162,085	1
1890 (ALX)	158,222	1	166,133	2	174,439	2	183,160	2	192,318	2	201,933	2
Totals	3,242,339	12	2,561,685	13	2,707,420	13	2,832,829	13	2,974,803	13	2,827,318	13

Goal 4 - Greater Harmony between Agriculture and the Environment

Planned State Program 4 – Develop and Enhance Sustainable Ecosystems to Protect Natural Resources and Bio-diversity

Statement of the Issues:

Society demands that our quality of air, water, and soil be protected. Contamination of these resources and food, threatens the continued existence of many plant and animal species. Sustained productivity of Alabama’s agricultural, silvicultural, and other natural resource-dependent industries will require immediate and long-term efforts to maintain quality.

Our research projects are designed to focus on: technology for managing wildlife; animal waste; improved soil management techniques to include the impact of animal waste and residues on water quality and soil health; reduction of soil erosion and increased sustainability through land-use planning and management; the reduction of chemical inputs for maximum production; and pest control of crops. Research projects will also focus on the areas of economic impact analysis of changes in agriculture legislation; development of ecosystem models; precision farming; and water quality.

Performance goals:

Increase options available to farmers for sustainable natural resources development and bio-diversity

Output Indicators:

- ◆ Methods for planting and harvesting that protect the environment
- ◆ Methods for animal waste management that protect the environment

- ◆ More environmentally friendly methods of fisheries management
- ◆ Methods to ensure a safe water supply

Outcome Indicators:

- ◆ Improved soil health
- ◆ Reduced soil and water pollution
- ◆ Less reliance on chemicals in farming
- ◆ Reduced soil loss

Key Program Components:

1. Water Quality and Waste Management
2. Soil Conservation, Quality and Bio-indicators
3. Remote Sensing, Geographical Information Systems and Precision Agriculture
4. Urban/Rural Social Change Issues and the Environment
5. Wetland Restoration and Best Management Practices (BMP)
6. Integrated Pest management (IMP)

Internal and External Linkages:

Collaborations have been established and will continue within and among various departments and schools at each University and among the three land-grant institutions, with Extension, Federal and State Laboratories, and non-government organizations (i.e., Agribusinesses, private food and community based organizations) to fulfill this goal.

Target Audiences:

The targeted audiences for this goal are the farmers; landowners and users; rural and urban dwellers; food, fiber and chemical industries and citizens of Alabama, as well as the region.

Program Duration:

This program, consisting of approximately 82 total projects (AU – 78, TU – 3, and AAMU – 1), will continue for the 5-year life of this plan and beyond.

Allocated Resources (\$) and scientists years (SY).

Inst.	Current 1998		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004	
	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY
1862 (AL)	1,207,352	38	12,683,319	38	13,317,485	38	13,983,359	38	14,682,527	38	15,416,654	38
1890 (ALAX)	84,000	1	88,200	1	92,610	1	97,240	1	102,101	1	107,207	1
1890 (ALX)	243,460	2	255,633	2	268,414	2	281,834	2	295,925	2	310,721	2
Totals	12,406,812	41	13,027,152	41	13,678,509	41	14,362,433	41	15,080,553	41	15,834,582	41

Goal 5 - Enhance Economic Opportunity and Quality of Life for Americans

Planned State Program 5 – Ensure Socioeconomic and Self-Empowerment of Families and Communities

Statement of the Issues:

One-fourth of the American population lives in rural areas. Alabama is 40% rural, based on 1990 census data. Further, the Black Belt Counties (BBCs) of South Central Alabama, which run from the Georgia border to the east, to the Mississippi border to the west, pose a unique challenge for the land grant system due to the demographical, social, and economical distinction of the region. For example, these counties are heavily rural, ranging from 36 to 100%, versus the national and state averages of 25 and 40%, respectively. The counties have a large non-white population, ranging from 44 to 86%, versus the national and state averages of 17 and 27%. The BBC poverty rate range of 20 to 39% is over twice the state average (19%) and over two and a half times the national average of 15%. The average annual unemployment rate ranges in the BBCs from 7.6 to 18%, versus the national average of 5.4% and the state average of 5.1%. In addition, the median income ranges from \$14,000 to \$24,000 versus the national and state averages of \$31,000 and \$26,000. Finally, the percent of high school graduates ranges from 49-62% in the BBCs, versus the state average of 67%. The well-being and societal contributions of this population hinges on having viable communities, businesses and economies. This viability becomes significantly important in rural communities where the majority of the residents are poor.

Our research will focus on: rural restructuring and social change issues; facilitating health care to low income families; families and adolescent problems and quality of family life; assessing factors, programs and policies that empower rural communities to enhance productivity and well-being and strengthen their viability; developing socio-economics for family farms; develop and provide information on small business opportunities and programs that positively impact communities; providing insight on ways that rural family can nurture one another and improve their own quality of life; and developing distance education technologies to provide information that empower rural and urban communities.

Performance Goals:

To increase economic opportunity and quality of life for all Alabama citizens

Output Indicators:

- ◆ Methods to Increase family incomes
- ◆ Quality of life improvement interventions

Outcome Indicators:

- ◆ An Increase in average family incomes
- ◆ Quality of life improvements
- ◆ Reduced unemployment in rural communities

Key Program Components:

1. Rural Restructuring
2. Economic Viability and Sustainable Communities
3. Small and Family Farm
4. Families and Children
5. Information Delivery to Unserved Populations
6. Distance Learning to Unserved and Underserved Population

Internal and External Linkages:

Collaborations have been established and will continue within and among various departments and schools at each University and among the three land-grant institutions, with Extension, Federal and State Laboratories, and non-government organizations (i.e., state social enhancement institutions) to fulfill this goal.

Target Audiences:

We will continue to focus on the economically disadvantaged citizens of Alabama. However, all populations will benefit from a better quality of life for all of our citizens.

Program Duration:

This program, of approximately 11 total projects (AU – 8, TU – 1 and AAMU – 2), will continue for the 5 year life of this plan and beyond.

Allocated Resources (\$) and scientists years (SY).

Inst	Current 1998		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004	
	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY
1862 (AL)	968,397	2	1,232,867	3	1,294,510	3	1,359,236	3	1,427,197	3	1,498,557	3
1890 (ALAX)	348,000	2	365,400	2	383,670	2	402,853	2	422,995	2	444,144	2
1890 (ALX)	260,699	3	273,733	3	286,819	3	301,159	3	316,216	3	332,026	3
Totals	1,577,096	7	1,872,000	8	1,964,999	8	2,063,248	8	2,166,408	8	2,274,727	8

Other Projects:

Alabama's three land-grant universities are conducting other research projects not included in the five major programs described above. The resource allocation and scientist years for these projects are reflected below.

Allocated Resources (\$) and scientists years (SY).

Inst	Current 1998		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004	
	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY	Expenses (\$)	SY
1862 (AL)	3,210,622	7	3,371,153	7	3,539,711	7	3,716,696	7	3,902,531	7	4,097,658	7
1890 (ALAX)	365,868	2	500,000	2	500,000	2	500,000	2	500,000	2	500,000	2
1890 (ALX)	1,000,000	4	1,000,000	4	1,000,000	4	1,000,000	4	1,000,000	4	1,000,000	4
Totals	4,576,490	13	4,871,153	13	5,039,711	13	5,216,696	13	5,402,531	13	5,597,658	13

SCIENTIFIC MERIT REVIEW PROCESS:

The Research Directors ensure that the Merit Review process for 1890 Evans-Allen research proposals remain consistent with guidelines published in the Administrative Manual for Evans-Allen Cooperative Agricultural Research (Sec C: Program Administration, Subsection 2b: Project Approval Procedures- Merit Review – p5).

The Director of the Experiment Station and other Administrators ensure that projects/programs are merit reviewed and that they adhere to criteria listed in the Administrative Manual for the Hatch Act as amended as well as the Handbook for Research Project Leaders for the Alabama Agricultural Experiment Station.

MULTI-INSTITUTIONAL, MULTI-DISCIPLINARY, MULTI-STATE AND INTEGRATED ACTIVITIES:

Multi-State Research and Extension Activities:

Hatch Multi-State Research - The Alabama Agricultural Experiment Station participates in approximately thirty-eight multi-states projects (i.e., Southern Region 22, North Central Region 5, Northeastern Region 4, and Western Region 7) displayed in the “Summary of Participation in Multi-state Projects” on the Southern Association of Agricultural Experiment Station Directors homepage: <http://www.msstate.edu/org/saaesd/infobook/project/regproj.htm>.

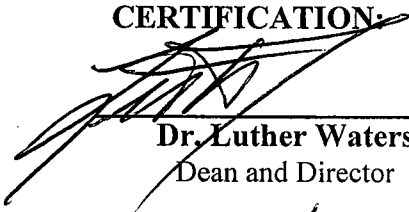
Southern Extension and Research Activities / Information Exchange Groups (SERAs/IEG) - The Alabama Agricultural Experiment Station participates in several Southern Extension and Research Activities /Information Exchanges Groups which relates to all five of the CSREES/REE mission goals. <http://www.msstate.edu/org/saaesd/infobook/project/sera.htm>

Integrated Research and Extension Activities:

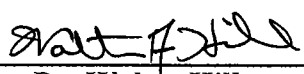
Research and Extension Centers – The Alabama Agricultural Experiment Station and the Alabama Cooperative Extension System recently established several Research and Extension Centers, strategically located throughout Alabama. The primary purpose of the Research and Extension Centers is to support and augment the state-wide network of county Extension offices in implementing comprehensive, research-based, interdisciplinary Extension educational programs which focus on the sustainability of agriculture, forestry and natural resources (AF&NR). These programs should seek not only to improve profitability of commercial agriculture, forestry and natural resources, but should also address the larger public issues of environmental compatibility, meeting consumer expectations, land use, agricultural policy, and a variety of other issues which impact upon the future sustainability of agriculture. In addition to the center-based faculty and staff, campus-based faculty also conduct research projects at the Centers. The Research and Extension activities conducted at these centers will relate to all REE goals.

Campus-Based Research and Extension Activities - Several integrated research and extension activities are planned and will be carried out jointly by research and extension personnel on the various campuses. These activities include: small and family farm programs, animal waste management and water quality, pest management, food safety and risk analysis, nutrition, and family and child development.

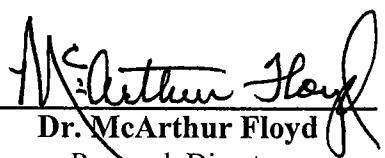
CERTIFICATION:



Dr. Luther Waters
Dean and Director
6/29/99
Date



Dr. Walter Hill
Dean and Research Director
6/29/99
Date



Dr. McArthur Floyd
Research Director
6/29/99
Date