

Appendix A		
2016 Plan of Work – Planned Programs		
Planned Program	KA Code	Knowledge Area
Program # 1 Food Production/ Security and Landscapes	102	Soil, Plant, Water, Nutrient Relationships
	111	Conservation and Efficient Use of Water
	112	Watershed Protection and Management
	132	Weather and Climate
	133	Pollution Prevention and Mitigation
	136	Conservation of Biological Diversity
	201	Plant Genome, Genetics, and Genetic Mechanisms
	203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
	205	Plant Management Systems
	206	Basic Plant Biology
	211	Insects, Mites, and Other Arthropods Affecting Plants
	212	Pathogens and Nematodes Affecting Plants
	213	Weeds Affecting Plants
	301	Reproductive Performance of Animals
	302	Nutrient Utilization in Animals
	305	Animal Physiological Processes
	307	Animal Management Systems
	311	Animal Diseases
	601	Economics of Agricultural Production and Farm Management
	605	Natural Resource and Environmental Economics
Program # 2 People and Their Wellbeing	201	Plant Genome, Genetics, and Genetic Mechanisms
	204	Plant Product Quality and Utility (Preharvest)
	303	Genetic Improvement of Animals
	308	Improved Animal Products (Before Harvest)
	403	Waste Disposal, Recycling, and Reuse
	501	New and Improved Food Processing Technologies
	502	New and Improved Food Products
	503	Quality Maintenance in Storing and Marketing Food Products
	607	Consumer Economics
	608	Community Resource Planning and Development
	610	Domestic Policy Analysis
	702	Requirements and Function of Nutrients and Other Food Components
	703	Nutrition Education and Behavior
	711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
	712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
	724	Healthy Lifestyle
	802	Human Development and Family Well-Being
806	Youth Development	

For a full list of NIFA Classification codes: <http://cris.nifa.usda.gov/manualvii.pdf>

SECTION 3. SUBJECT OF INVESTIGATION

NATURAL RESOURCES AND THEIR PRODUCTS

Code Subject

Soil and Land

0110 Soil
0120 Land
0199 Soil and land, general

Water

0210 Water resources

Watersheds and River Basins

0310 River basins
0320 Watersheds
0330 Wetland and riparian systems
0399 Watersheds and river basins, general

Atmosphere

0410 Air
0420 Weather
0430 Climate
0440 Solar radiation
0499 Atmosphere, general/other

Recreational Resources

0510 Wilderness
0520 Campgrounds and picnic areas
0530 Parks and urban green space
0599 Recreational resources, general/other

Trees, Forests, and Forest Products (excluding edible tree nut crops)

0610 Conifer forests of the North
0611 Conifer forests of the South
0612 Conifer forests of the West
0613 Mixed conifer-broadleaf forests
0620 Broadleaf forests of the North
0621 Broadleaf forests of the South
0622 Broadleaf forests of the West
0630 Chaparral and shrub lands
0640 Tropical forests

- 0650 Wood and wood products
- 0660 Paper and pulp derived products
- 0670 Short rotation woody crops, including holiday trees
- 0680 Other products of the forest
- 0699 Trees, forests, and forest products, general

Rangelands and Grasslands

- 0710 Desert and semidesert shrub land and shinnery
- 0720 Pinyon-juniper
- 0730 Mountain grasslands, meadow, and alpine
- 0780 Grasslands, other
- 0790 Rangelands, other
- 0799 Rangelands and grasslands, general

Wildlife and Natural Fisheries Management, Endangered Species

- 0810 Finfish
- 0811 Shellfish
- 0812 Fish habitats
- 0819 Natural fisheries, other
- 0820 Wild birds
- 0830 Wild animals
- 0840 Fur-bearing animals
- 0850 Wildlife habitats
- 0860 Endangered species
- 0899 Wildlife and natural fisheries, general/other

PLANTS AND THEIR PRODUCTS

Code Subject

Citrus

- 0910 Grapefruit
- 0920 Orange
- 0930 Lemon
- 0999 Citrus, general/other

Tropical/Subtropical Fruit

- 1010 Banana
- 1020 Pineapple
- 1030 Papaya
- 1040 Mango
- 1050 Date
- 1060 Kiwi
- 1099 Tropical/subtropical fruit, general/other

Deciduous and Small Fruits

- 1110 Apple
- 1111 Apricot
- 1112 Cherry
- 1113 Nectarine
- 1114 Peach
- 1115 Pear
- 1116 Plum
- 1119 Deciduous tree fruits, general/other
- 1120 Blueberry
- 1121 Cranberry
- 1122 Strawberry
- 1123 Raspberry
- 1129 Berries and cane fruits, general/other
- 1130 Table grapes
- 1131 Wine grapes
- 1132 Raisin grapes
- 1139 Grapes, general/other
- 1199 Deciduous and small fruits, general/other

Edible Tree Nuts

- 1210 Filbert
- 1211 Pecan
- 1212 Almond
- 1213 Walnut
- 1219 Edible tree nuts, general/other

1310 Potato

Vegetables

- 1410 Beans (dry)
- 1411 Beans (fresh, fresh-processed)
- 1412 Peas (dry)
- 1413 Peas (fresh, fresh-processed)
- 1414 Lentil
- 1419 Leguminous vegetables, general/other
- 1420 Melons (includes cantaloupe, muskmelon, watermelon)
- 1421 Cucumber
- 1429 Cucurbits, other (includes pumpkin, squash, gourd)
- 1430 Greens and leafy vegetables (includes endive, lettuce, spinach, turnip-greens, celery, rhubarb, parsley, asparagus)
- 1440 Cole crops (includes cabbage, kale, broccoli, brussels sprouts, cauliflower, kohlrabi)
- 1450 Sweet potato
- 1451 Onion, garlic, leek, shallot
- 1452 Carrot
- 1453 Yam
- 1454 Taro

- 1455 Cassava (or manioc)
- 1459 Rhizomes, tubers, bulbs, and root crops, general/other (for potato use 1310)
- 1460 Tomato
- 1461 Peppers
- 1462 Eggplant
- 1469 Solanaceous and related crops, general/other (for potato use 1310)
- 1470 Mushrooms and other edible fungi
- 1480 Sweetcorn
- 1499 Vegetables, general/other

Grain Crops

- 1510 Corn (for sweetcorn use 1480)
- 1511 Popcorn
- 1520 Grain sorghum
- 1530 Rice
- 1540 Hard red winter wheat
- 1541 Hard red spring wheat
- 1542 Soft red wheat
- 1543 Soft white wheat (includes club, western)
- 1544 Hard white wheat
- 1545 Durum wheat
- 1549 Wheat, general/other
- 1550 Barley
- 1560 Oats
- 1570 Rye
- 1599 Grain crops, general/other (includes buckwheat, millet, triticale)

Pasture and Forage Crops

- 1610 Pasture
- 1620 Warm season perennial grasses (includes dallisgrass, bluestems, bermudagrass)
- 1621 Cool season perennial grasses (includes bluegrass, bromegrass, fescue, orchardgrass, perennial ryegrass, timothy, wheatgrass)
- 1629 Perennial grasses, other
- 1630 Summer annual grasses (includes forage sorghums, sudangrass, sorghum-sudangrass hybrids)
- 1631 Winter annual grasses (includes annual ryegrass)
- 1639 Annual grasses, other
- 1640 Alfalfa
- 1641 Trefoil
- 1642 Red clover
- 1643 Crownvetch
- 1644 Winter annual legumes (includes subterranean clover, arrowleaf clover)
- 1649 Forage legumes, general/other
- 1699 Pasture and forage crops, general/other

Fiber Crops

- 1710 Upland cotton
- 1711 Long fiber cotton
- 1719 Cotton, other
- 1720 Kenaf
- 1730 Hemp
- 1740 Ramie
- 1750 Agave
- 1799 Fiber crops, general/other

Oilseed and Oil Crops

- 1810 Cottonseed (for meal, oil, etc.)
- 1820 Soybean
- 1830 Peanut
- 1840 Castor
- 1841 Crambe
- 1842 Flax
- 1843 Safflower
- 1844 Sunflower
- 1845 Jojoba
- 1846 Coconut
- 1847 Palm
- 1848 Canola
- 1849 Cuphea
- 1850 Lesquerella
- 1851 Meadowfoam
- 1852 Rape
- 1853 Sesame
- 1854 Chinese tallow
- 1855 Tung
- 1899 Oilseed and oil crops, general/other

Tobacco

- 1910 Flue-cured tobacco
- 1920 Burley tobacco
- 1930 Cigar-type tobacco
- 1999 Tobacco, general/other

Sugar Crops

- 2010 Sugar beet
- 2020 Sugar cane
- 2030 Sweet sorghum
- 2099 Sugar crops, general/other

Ornamentals and Turf

- 2110 Ornamental trees and shrubs

- 2120 Herbaceous perennials and decorative greens
- 2121 Cut flowers, foliage, and greens
- 2122 Potted plants
- 2123 Bedding/garden plants
- 2129 Florist crops, other
- 2130 Turf (includes bentgrass, bermudagrass, bluegrass, dichondra, fescue, ryegrass, zoysia)
- 2140 Ground covers
- 2150 Aquatic plants
- 2160 Arboreta and botanical gardens
- 2199 Ornamentals and turf, general/other (includes cacti)

Miscellaneous and New Crops

- 2210 Chemurgic crops
- 2220 Medicinal crops, non-narcotic
- 2221 Narcotic plants
- 2230 Hops
- 2231 Mint
- 2232 Coffee
- 2233 Cocoa
- 2234 Tea
- 2235 Herbs and spices
- 2239 Flavoring and beverage plants, general/other
- 2240 Guayule
- 2241 Hevea
- 2242 Gums
- 2249 Rubber, gum, and resin plants, general/other
- 2299 Miscellaneous and new crops, general/other

2300 **Weeds**

Plants

- 2410 Cross-commodity research--multiple crops
- 2420 Noncrop plant research
- 2499 Plant research, general

ANIMALS, INCLUDING INVERTEBRATES, AND THEIR PRODUCTS

Code Subject

Bees, Honey, and Other Pollinators

- 3010 Honey bees
- 3020 Honey and honey products
- 3030 Non-honey apiary products
- 3090 Other Pollinators
- 3099 Bees, honey, and other pollinators, general

Invertebrates

- 3110 Insects
- 3120 Spiders, mites, ticks, and other arthropods
- 3130 Nematodes
- 3199 Invertebrates, general/other

Poultry

- 3210 Egg-type chicken, live animal
- 3220 Meat-type chicken, live animal
- 3230 Turkey, live animal
- 3240 Duck and goose, live animal
- 3250 Ratites (e.g., ostrich, emu, rhea), live animal
- 3260 Poultry meat
- 3270 Eggs
- 3280 Other poultry products
- 3299 Poultry, general/other

Beef Cattle

- 3310 Beef cattle, live animal
- 3320 Meat, beef cattle
- 3330 Other beef cattle products
- 3399 Beef cattle, general/other

Dairy Cattle

- 3410 Dairy cattle, live animal
- 3420 Butter
- 3430 Cheese
- 3440 Meat, dairy cattle
- 3450 Milk
- 3460 Ice cream
- 3470 Other dairy cattle products
- 3499 Dairy cattle, general/other

Swine

- 3510 Swine, live animal
- 3520 Meat, swine
- 3530 Other swine products
- 3599 Swine, general/other

Sheep and Wool

- 3610 Sheep, live animal
- 3620 Meat, sheep
- 3630 Wool fiber
- 3699 Sheep and wool, general/other

Cultured Aquatic Animals

- 3710 Catfish
- 3711 Trout
- 3712 Salmon
- 3713 Striped bass
- 3714 Tilapia
- 3715 Baitfish (minnows and shiners)
- 3716 Ornamental finfish
- 3719 Other cultured finfish
- 3720 Crawfish
- 3721 Marine shrimp
- 3722 Freshwater shrimp
- 3723 Oysters
- 3724 Clams and mussels
- 3725 Ornamental shellfish
- 3729 Other cultured shellfish
- 3799 Cultured aquatic animals, general/other

Other Animals

- 3810 Horses, ponies, and mules
- 3820 Goats, meat and mohair
- 3830 Pets (companion animals)
- 3840 Laboratory animals
- 3899 Other animals, general

Animals

- 3910 Cross-commodity research--multiple animal species
- 3999 Animal research, general

MICROORGANISMS

Code Subject

- 4010 Bacteria
- 4020 Fungi (includes yeast)
- 4030 Viruses
- 4040 Viroids, mycoplasmas, spiroplasmas, etc.
- 4050 Protozoa
- 4099 Microorganisms, general/other

FOOD AND MANUFACTURED RESOURCES

Code Subject

- 5010 **Food** (not readily associated with specific plant and animal products)

Clothing and Textiles

- 5110 Clothing/apparel
- 5120 Textiles
- 5199 Clothing and textiles, general

Agricultural Supplies

- 5210 Fertilizers
- 5220 Pesticides (includes herbicides, insecticides, fungicides, etc.)
- 5230 Feed and feed additives
- 5240 Seeds and other plant propagules
- 5299 Agricultural supplies, general/other

Structures, Facilities, and Equipment

- 5310 Machinery and equipment
- 5320 Houses (human residences), furniture, household equipment, non-textile furnishings
- 5330 Farm structures and related facilities
- 5340 Nonfarm structures and related facilities, including those used in marketing, storing, processing, and distributing functions, and for recreational uses
- 5350 Domestic and community water supply facilities and systems
- 5360 Drainage and irrigation facilities and systems
- 5370 Sewage and waste disposal facilities and systems
- 5399 Structures, facilities, and equipment, general/other

HUMAN RESOURCES, ORGANIZATIONS, AND INSTITUTIONS

Code Subject

People and Communities

- 6010 Individuals (as workers, consumers, members of society)
- 6020 The family and its members
- 6030 The farm as an enterprise
- 6040 Real estate
- 6050 Communities, areas, and regions, including states and their institutions and organizations
- 6099 People and communities, general/other

Economy

- 6110 Economy of the United States and sectors thereof
- 6120 International economy and sectors thereof
- 6199 Economy, general/other

Marketing

- 6210 Farmer cooperatives
- 6220 Marketing, processing, and supply firms other than cooperatives
- 6230 Marketing systems and sectors thereof
- 6299 Marketing, general/other

OTHER TECHNOLOGIES

(Use the following classifications only if the research is not targeted at one or more previously listed specific subjects of investigation)

Code Subject

7010 **Biological Cell Systems**

7110 **Research on research management** (not research management per se)

Research Equipment and Methods

7210 Remote sensing equipment and technology

7220 Sensory evaluation/analysis methods (human senses)

7299 Research equipment and methods, general/other

7310 **Experimental design and statistical methods**

7410 **General technology**

SECTION 4. FIELD OF SCIENCE

Code Subject

Biological

1000	Biochemistry and biophysics
1010	Nutrition and metabolism
1020	Physiology
1030	Cellular biology
1040	Molecular biology
1050	Developmental biology
1060	Biology (whole systems)
1070	Ecology
1080	Genetics (includes breeding)
1090	Immunology
1100	Bacteriology
1101	Virology
1102	Mycology
1103	Other microbiology (includes protozoology, phycology, etc.)
1110	Parasitology
1120	Nematology
1130	Entomology and acarology
1140	Weed science
1150	Toxicology
1160	Pathology
1170	Epidemiology
1180	Pharmacology
1190	Limnology

Physical

2000	Chemistry
2010	Physics
2020	Engineering
2030	Geology
2040	Mineralogy
2050	Hydrology
2060	Geography
2061	Pedology
2070	Meteorology and climatology
2080	Mathematics and computer sciences
2090	Statistics, econometrics, and biometrics

Social and Behavioral

- 3000 Anthropology
- 3010 Economics
- 3020 Education
- 3030 Information and communication
- 3040 History
- 3050 Law
- 3060 Political science
- 3070 Psychology
- 3080 Sociology
- 3090 Sensory science (human senses)
- 3100 Management
- 3110 Art and architecture
- 3111 Landscape architecture