Research Programs, Directions & Priorities

Georgia, Alabama, Florida

Research Directions & Priorities

- Professional Expertise and Infrastructure
- Experiment Station Dollars
- Grant Dollars
  - Competitive
  - Commercial
  - Commodity
    - National Peanut Board
    - State Boards
    - Peanut Sheller's
    - Etc

Research Directions

- Professional Expertise and Infrastructure
  - Experiment Station Dollars – primary funding source for most programs (key issues)
    - -- fewer dollars and/or less buying power
    - -- shrinking numbers of scientist and professional staff
    - -- multiple crop responsibilities for most production faculty
    - -- changes can take years
    - -- long range planning processes are critical

Specific Research Priorities

- Established by researchers – driven by grants

Competitive
Commercial
Commodity

Commodity Funds

- Cotton Incorporated
- American Soybean Association
- National Corn Growers
- National Peanut Board
- State Boards

National Peanut Board – 2014 Projects

32 Projects

- 8 – two or more states
- 14 - two or more disciplines
- 20 - two or more principle investigators
- 1 - Only one w/o multiple PI or Cooperators
  - -- large number of scientist working together
  - -- not much duplication
  - -- coordinated effort

Principle Investigators and Cooperators -59

Discipline	P.I.s	Coop.	Total
Basic Science	10	4	14
Plant Breeding	3	2	5
Pathology	9	1	10
Entomology	5		5
Weed Science	7		7
Agronomy	7		7
Economics	2	6	8
Meteorology	1		1
Nematology		1	1
Seed Technology		1	1
Total	44	15	59

Researchers not funded by NPB

- Engineers -------- 5
- Basic Science --- 3
- Food Science --- 3
- Weed Science -- 2
- Agronomy ------- 1
- Total ---------- 14

Affiliation

Affiliation	PI's	Coop.	Total
UGA	18	5	23
UF	9	1	10
AU	8	1	10
ARS	8	5	13
Other	3	0	3

Primary Research Emphasis

32 NPB Projects

- Genetics & Biotechnology ----- 12
- Production ---------- 13
- Economics ---------- 2
- Web based programs ---------- 2
- Seed treatment ---------- 1
- N fixation ---------- 1

Genetics & Biotech – 12 Projects

- Molecular Markers ---------- 4
- Cultivar development ---------- 2
- Screening for Herbicide Tolerance ----- 1
- Screening for Genetic Resistance ------ 1
- Drought Tolerant Trait Identification -- 1
- Genome sequencing – leaf spot -------- 1
- Resistant Traits from Wild Peanuts ---- 1
- Functions of Peanut Genes ---------- 1

Molecular Markers – 4 Projects

- White mold
- Leaf Spot
- TSWV
- Aflatoxin
- Root Knot

Screening for Genetic Resistance

(all currently grown commercial peanuts plus 50 genotypes)

Root Knot

Leaf Spot

TSWV

Soil Borne

Economics – 2 primary projects

- Crop Competiveness
- Analysis of Production Projects

  (1 primary and 4 as Co-Pi or Cooperator)

Production Related Projects - 13

Primary Focus	Number
Diseases ----------	3
Insects ----------	3
Weeds ----------	3
Cropping systems ------	3
Nutrients ----------	1

Research Targets (production)

Target	Projects
TSWV	4
Thrips	3
Leaf spot	3
White mold	3
Drought	3
Burrow bugs	2
Nutsedge	2
P. Amaranth	2

Primary Research Targets (production)

Target	Projects
TCAH	1
Root knot	1
Rust	1
CBR	1
Aflatoxin	1
Yield	all

Research Variables (mostly interactions)

Variables	Projects
Chemicals	8
Cultivars	6
Tillage	5
Row Pattern	4
Irrigation	4
Planting dates	4
Seeding rates	3
Cover crops	2
Fertilizer	2

Researchers with Peanut Projects

Currently - 79 Tomorrow - ?

Professional Expertise -- Dollars

Plant Diseases (3 projects)

1. Three States, 5 PI's – effects of new cultivars, tillage , row pattern, seeding rates, chemicals on

– thrips, TSWV, leaf spot, rust, white mold and CBR.

Insects – 3 Projects

1. TCAH, Burrow Bugs, IPM – 4 PI's, 2 states
    a. Economic Threshold for TCAH
    b. Tools (light traps) for monitoring burrow bugs
    c. Cultivar response to IPM

       (no treatment, threshold, pest elimination)

Insects

2. Thrips and TSWV – GA, three PI's
    a. Interacting effects of seeding rates, tillage, and row pattern

    b. Insecticide interaction with culitvars

    c. Transcriptomics

Insecticides

3. Relationships between burrow bugs and aflatoxin – AL

- tillage and irrigation variables

Weeds – Three Projects

1. Palmer amaranth – timing of burn down herbicides - FL
2. Nutsedge – Cadre rates on nutsedge control and nut production – GA
3. Tillage Interactions with herbicide systems – GA & AL

Cropping Systems – Three Projects

1. Three states, 7 P.I.'s, 5 disciplines
    a. Crop rotations including vegetables and years without peanuts
    b. Cover crops – Specie, planting date, & fertilization
    c. New cultivar response to agronomic practices (planting dates, seeding rate, row pattern, irrigation, & tillage)

Cropping Systems

2. Row patterns across tillage and cover crops - (GA & AL)
3. New cultivars – planting dates and irrigation

Nutrient Management – One project, 2 Parts (2 states, 5 P.I.'s)

1. Calcium

- Sources (gypsum, Ca–chloride, & Ca-thiosulfate)

-Application methods (pivot & foliar)

-Timing of application

-Irrigation

2. Foliar applications of Mn, B, Ni

Seed Treatments – 1 project

Interacting effects of

- treatments, seed maturity & Genotypes

On – Emergence, plant stands, yields, and quality

Web Based Programs

1. Demonstration of web based monitoring and controls

2. Web based tools for predicting irrigation, disease, and maturity (3 states, 9 P.I.'s)

Researchers with Peanut Projects

Currently - 79 Tomorrow - ?

Professional Expertise -- Dollars