FLORIDA EXTENSION INITIATIVE 1:

INCREASING THE SUSTAINABILITY, PROFITABILITY, AND COMPETITIVENESS OF AGRICULTURAL AND HORTICULTURAL ENTERPRISES.

STATEWIDE EDUCATIONAL PROGRAMS IN ANIMAL SYSTEMS

SITUATION

Animal Agriculture in Florida is an incredibly large and diverse industry. The three largest segments of the industry (based on product value) are beef cattle, dairy, and equine. All three of these segments rely heavily on the approximately 5.5 million acres of land in the state used to produce forage (approximately 5 million acres of pastureland and 425,000 acres dedicated to hay production, 2017 Census of Agriculture).

In addition to ongoing production challenges (animal health, nutrition, reproduction, forage management, etc.) animal agriculture operations are facing increasing regulatory requirements, competition for land and water use, escalating land values and increasing input costs (seed, fuel, fertilizer, chemicals, feed, etc.). With product values largely static or declining, these challenges present a substantial risk to the economic viability and sustainability of animal and forage enterprises in Florida. It is imperative that UF/IFAS Extension works with producers and local stakeholders to promote strategic production practices that will ensure the future sustainability and economic viability of these systems.

Animal Agriculture in Florida (2017 Census of Agriculture)		
Type of Operation	**Number of Operations**	**2017 Annual Sales**
Beef Cattle	13,734	$521,847,000
Dairy	147	$478,124,000
Equine	12,469	$112,778,000
Other	5,814	$61,135,000

Florida Beef Cattle Industry:

Florida is a cow-calf state, with approximately 914,000 brood cows that produce the roughly 450,000 calves sold in Florida each year. These calves generally leave Florida as they enter the beef supply chain. In addition to feeder calves, replacement breeding stock (bulls and heifers) are also widely produced in Florida. To be successful Florida Cattlemen must manage their herds for reproductive efficiency and calf performance while minimizing input costs. Management decisions relating to genetics, reproductive management, herd health, cattle handling, culling, and especially nutrition all drive reproductive efficiency and calf performance.

On Florida ranches forage production is key to efficiently meeting the nutritional demands of the herd. Soil fertility, grazing management, variety selection, establishment techniques, and weed management are all essential for effective forage production. Additionally, a large portion of the forage produced each year in Florida is conserved (generally as hay/haylage or stockpiled) and fed to cattle at times of reduced forage growth. This practice necessitates more management decisions and the use of additional technologies.

Successful and economically sustainable cattle production is complicated, and each operation faces a different set of challenges. These operations vary tremendously in terms of size, available resources, and the knowledge/skill level of their operators.

Florida Dairy Industry:

There are about 124,000 dairy cows in the State of Florida that produce about 2.5 billion pounds of milk per year. Annual cash receipts from milk marketing total $500 million, representing about 6% of the state's total farm receipts. Beef cattle and milk are Florida's leading livestock products. Florida has nearly 110 licensed dairy farms, nearly all are family-owned and family-operated by second and

even third-generation farmers. The Florida dairy industry, combining dairy farms and dairy product manufacturing industries, generates more than 17,000 jobs. Overall, dairy farming has an unquestionable socio-economic importance for the Sunshine State.

Improving production efficiency remains a major goal for the dairy industry. The annual milk production per cow in Florida is around 20,000 pounds, while the annual milk production per cow in United States is about 23,000 pounds. In fact, Florida ranks 32 among the 50 U.S. states in milk yield per cow per year. There are different strategies than can be used to increase milk yield, including improvements on management, nutrition, cow comfort, and the adoption of modern genetic tools for improved selective breeding. progeny-tested bulls over young-genomic tested bulls. Except in one herd, the use of genomic testing for heifer selection is practically non-existent.

Florida Equine Industry:

Survey research conducted within the US horse industry (American Horse Council, 2017) indicates the Florida horse industry contributes $6.8 billion to the state's economy and directly provides 73,227 jobs. There are nearly 400,000 horses in Florida making it the third largest state in terms of horse population behind Texas and California. Thirty-one percent of households in Florida contain horse enthusiasts and 717,000 acres of land in Florida are used for horse-related activities. Many people own horses primarily for recreation and enjoy working with equines, but many of these individuals have minimal equine expertise or may not always know where to go when questions arise. In order to assure adequate nutrition, exercise, shelter, and health care for their horses and to make sure they understand how to work safely and effectively with their animals, horse owners need to have access to accurate, up-to-date information on feed selection and feeding practices, disease prevention, behavior and training, welfare assessment, water quality best management practices (BMPs), and a variety of other topics.

PROGRAM OBJECTIVE (#1)

Annually, 75% of producers who interact with a member of the Animal Systems Working Group will, as a result of the interaction, gain knowledge or acquire skills relating to sustainable livestock and/or forage production and/or management. Results will be measured through observation, client interviews, and surveys.

Type of outcome: **Short-term** ■ Medium-term ☐ Long-term ☐

- **Expected outcomes**: Percent and numeric value of clients indicating knowledge gain or skill acquired.
- **Statewide impact statement(s) –**
  Individual Consultations - Knowledge gains are a key first step toward informed management decisions and ultimately increased economic viability and sustainability. Without the acquisition of knowledge, practice change and economic improvement are highly unlikely. When clients have specific concerns relating to their livestock or forage enterprise, they reach out to Extension faculty for assistance. These client-initiated interactions are very meaningful to the client and effective at generating knowledge gains because they are focused on a specific topic about which the client is actively seeking information.
  Members of *Priority Working Group 1.1: Animal Systems* engaged in ___[1] individual consultations during ___[2]. As a result of these consultations, approximately ___[3] (80.2%) clients experienced a knowledge gain and had specific problem solved and/or questions answered.
  Group Learning Activities - The primary goal of group learning activities is for the participants to gain knowledge or acquire skills. Only after this has occurred can practice change and improvement in economic improvement be possible.
  During ____[2] ___[4] clients attended group learning activities presented by members of *Priority Working Group 1.1: Animal Systems.* ___[5] experienced a knowledge gain as a result of attending group learning activity presented by members of *Priority Working Group 1.1: Animal Systems.*

  ____[6] clients gained knowledge of acquired skills as a result of interacting with a member of *Priority Working Group 1.1: Animal Systems.*
- **Other information related to evaluation or results**
  1 – numeric value from agent records, including Phone, Office, Field, and Email consultations

2 – reporting year
3 – percentage and n value of clients who experienced a knowledge gain. Percentage comes from county customer satisfaction surveys (state average for "solved"). https://pdec.ifas.ufl.edu/satisfaction/CustomerSatisfactionStatewide.pdf
n-value would equal #1 multiplied by the percentage.
4 – numeric value from agent records (sign-in sheets, etc.)
5 – percentage and n-value of clients who experienced knowledge gain based on data collected at group learning activities (surveys, interviews, observational evaluations)
6 – total number of clients who experienced knowledge gains;
n-value = #3 + #5
percentage = #6 n-value / (#1 n-value + #4 n-value)

- **Associated Workload indicator(s)** – **N/A**

PROGRAM OBJECTIVE (#2)

Annually, 50% of producers who interact with a member of the Animal Systems Working Group will, as a result of the interaction, experience a behavior change (adoption of recommended practice) relating to sustainable livestock and/or forage production and/or management. Results will be measured through observation, client interviews, and surveys.

Type of outcome: Short-term ☐ **Medium-term** ■ Long-term ☐

- **Expected Outcomes**: Percent and numeric value of clients exhibiting or indicating the adoption of a recommended practice.
- **Statewide impact statement(s)** – *(Draft – Unfinished)* Identify a list of defined livestock production and forage management practices. Establish value of practice adoption per unit (head, acre, or operation). Team members report number of units making a behavior change for each practice on the list. Establish statewide value for each practice based on total number of units reported.
- **Associated Workload indicator(s)**
  4 - Number of producers indicating adoption of recommended practices, including Ag BMPs and Mobile Irrigation Lab (MIL)
  6 - Number of producers reporting reduction in fertilizer or pesticide use
  7 - Number of producers who changed to appropriate fertilizer and pesticide rates
  9 - Number of farmers/ranchers who adopted a new crop variety or animal breed
  10 - Number of producers who adopted recommended livestock production practices
  11 - Number of producers who adopted recommended forage management practices
  35 - Number of producers that adopted one or more "good" water quality practices such as reduced pesticides, animal waste or other pollutants
  36 - Number of producers that adopted recommended best practices for production agriculture related to invasive species, pest management, pollutant loads, and wetlands
- Other information related to evaluation or results

PROGRAM OBJECTIVE (#3)

Annually, 25% of producers who interact with a member of the Animal Systems Working Group will, as a result of the interaction or past interactions, experience an increase in the economic viability and/or sustainability of their livestock and/or forage enterprise. Results will be measured through observation, client interviews, and surveys.

Type of outcome: Short-term ☐ Medium-term ☐ **Long-term** ■

- **Expected outcomes:** Percent and numeric value of clients indicating an increase in the economic viability and/or sustainability of their livestock and/or forage enterprise.
- **Statewide impact statement(s) –** (Draft – Unfinished) Aggregated dollar value of economic benefit as reported by clients on program surveys. (See NW FL Beef Conference Impact statement as example.)

See comments on Objective #2, many of the values associated with behavior changes will relate to economic viability and sustainability.

- **Associated Workload indicator(s)**
  8 - *Number of producers reporting increased dollar returns or reduced costs*
- Other information related to evaluation or results

FOR ALL OBJECTIVES

- **Educational methods used** (outputs) – Objective two will be addressed by using a variety of educational activities, including but not limited to: individual consultations, lectures/seminars, conferences, field days, demonstrations, topic specific schools/institutes, and webinars. These educational interactions will be supported and augmented by additional efforts, including but not limited to: newsletter/trade journal articles, blog posts, county and regional website posts, and social media posts.

- **Topics covered** (inputs) – Sustainable production and management of cattle (beef and dairy), horses and the forage systems that support these enterprises will be the primary focus of the group. Specific topics to be addressed include but are not limited to:
  - Animal
    - nutrition
    - reproduction
    - genetics/selection
    - health/wellbeing
    - handling/facilities
    - marketing/economics
  - Forage
    - variety selection/establishment
    - soil fertility management
    - pest management
    - grazing/harvesting practices
    - economics

  Topics relating to the sustainability of other animal systems (small ruminants, swine, poultry, etc.) will be addressed on a county-by-county basis, considering locally expressed needs.

- **Partners or collaborators** (inputs) – A variety of partnerships and collaborations will be necessary to effectively address objective one. In addition to the listed members of *Animal Systems Team*, UF/IFAS faculty associated with the *Integrated Pest Management, Farm Economics, Plant Systems, and the Agricultural Water Quality* teams will also be called on. Faculty from other Land Grant Institutions will also be called on as needed. Partnership/collaboration with governmental institutions (FDACS, USDA, DEP, Water Management Districts, etc.) and industry groups (Florida Cattlemen's Association, Florida Farm Bureau, etc.) will also be necessary.

- **Target audience and/or underrepresented clientele** – The efforts of the *Animal Systems Team* will be designed to impact all those involved (or seeking to be) in any capacity with an animal or forage system in Florida.

- **Evaluation methods used:**
  - Client surveys – follow-up surveys completed by clients after the initial educational interaction
  - Interviews – one-on-one conversations between Extension personnel and clients after the initial educational interaction
  - Observational evaluation – Extension personnel observing the actual adoption of recommended practices.

NEEDS

Resources and support required to complete this plan of action

- Funding for
  - In-service trainings
  - Extension faculty positions relating to animal systems (existing unfilled and new positions)
  - Furtherance of applied research and on-farm demonstrations/trails
- Program evaluation support
- A system to facilitate communication between State and County Faculty

REFERENCES

RESOURCES