

Animals at the Duke Campus Farm

What are the barriers and opportunities to introducing livestock to the Duke Campus Farm?

ENVIRON 245 Project Brief, Spring 2020

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Background:

The Duke Campus Farm (DCF) is not only a productive farm with a thriving Community-Supported Agriculture program, but also a unique educational tool. Their mission is to catalyze positive change in the food system, both at Duke and within the surrounding community. The farm is a “living lab,” collaborating with other departments and curricula to educate students on the basis of food systems in an experiential, hands-on way. Introducing animals to the farm would add a new level of interspecies interaction, providing a novel teaching tool for regenerative agriculture. Students and volunteers could, firsthand, employ crop-animal rotation techniques, experiment with enhanced composting with animal waste, and witness animals’ impact on soil remediation. Food systems are the foundation of human livelihood, and they interact with every department, from Biology to Cultural Anthropology to Public Policy, but not everyone is aware of the farm’s potential for education. Incorporating animals at the Duke Campus Farm could ignite a renewed excitement for understanding the often unexamined intricacies of food systems – both within and beyond Duke’s own campus.

Leslie Wolverton, Field Education Manager, Client

Leslie Wolverton was the main point of contact for the project team in communicating with the farm about their hopes and vision for this project. Leslie proved an invaluable resource through her familiarity with the ins and outs of DCF, her ability to connect the team to various stakeholders, and her enthusiasm and passion for bringing animals to the farm.



Objectives:

- Identify zoning policy **guidelines and opportunities** to introducing animals (Duke Forest, Orange County, Duke University)
- Highlight **agricultural and educational benefits** to integrating livestock (specifically chickens)
- Explore **student awareness** of and interest in the Duke Campus Farm and animal husbandry

Methods:

Data Collection

Benchmarking

- ☐ Interview with Yale University Campus Farm
- ☐ Brodie Discovery Garden interview, Jason Holmes

Stakeholder Interviews

Farm Staff

- ☐ Leslie Wolverton
- ☐ DCF student crew

DCF Board Members

- ☐ Professor Michelle Nowlin, co-director of Duke Environmental Law and Policy Clinic
- ☐ Professor Charlie Thompson, professor of Cultural Anthropology and Documentary Studies

Policy Investigation

- ☐ Orange County Zoning and Planning Office
- ☐ Duke Institutional Animal Care and Use Committee (IACUC) documents
- ☐ Duke Forest (Sara Childs)

Survey

- ☐ Used Qualtrics to survey undergraduate and graduate students on their level of interaction with the farm
- ☐ Circulated survey in class Facebook pages, extracurricular and dorm group chats, DCF Instagram, and DCF email listserv

General Research

- ☐ Peer-reviewed literature on agricultural benefits of chickens
- ☐ Primary research on NC farm zoning policy



3 Pillars of Sustainability

Economic

- ☐ Selling eggs through CSA
- ☐ Hire staff for full-time chicken supervision
- ☐ Ideally would increase farm productivity (ex. chicken waste used for compost, which results in healthier crops and higher crop yield)

Environmental

- ☐ Chickens contribute to soil remediation (rotational grazing helps cycle nutrients and lightly till soil)
- ☐ Closed-loop agricultural system
- ☐ Chemical-free pest-control

Social

- ☐ Educational use of animals at the farm to teach student crew, CWD volunteers, and visiting program groups (DukeEngage, etc.)
- ☐ Educational use on campus
- ☐ Value of experiential learning

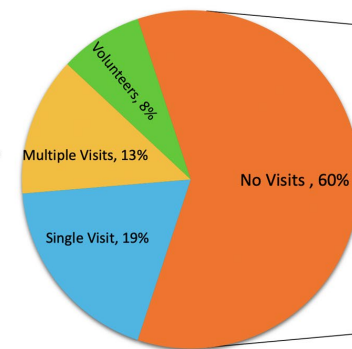


Findings:

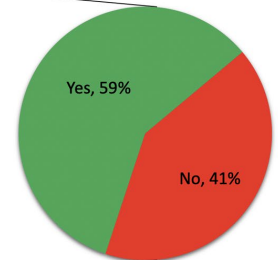
“Animal husbandry is, for most Americans (nearly everyone at Duke) a lost art, and the incorporation of animals presents a really important educational opportunity to learn how to care for other creatures, and to spend time doing so.”

Avery Davis Lamb, student crew member,
Master of Environmental Management &
Master of Theology Candidate

Attendance of 113 Respondants



Would animals increase your likelihood of going to the farm? (Of those who haven't been)



Results of Qualtrics survey of student interaction with DCF

The pie chart takes a magnified look at the responses of those who have never been to the farm before. Of those respondents who had never been to the farm (see left chart), more than half responded that animals at the farm would increase their likelihood of going to the farm (see right chart). This is a sign that there are students who, if livestock are brought in, would be more engaged with the farm as a whole.

Zoning Policy Findings

1. Orange County Policy

- ☐ Orange County does not regulate animals on property

2. Duke IACUC Policy

- ☐ Chickens on the Duke Campus farm would need to be approved by the Duke IACUC, because they will be used for teaching and researching activities.
- ☐ Anyone working directly with animals (i.e. “shared air space”) is required to complete an online training course, post-approval monitoring, and continual hands-on training throughout the duration of animal interaction
- ☐ Chickens are a USDA protected species and are subject to those regulations

1. Duke Forest Policy

- ☐ Chickens would need to be approved by the Duke Forest Advisory Committee

Interviews

1. Yale Campus Farm

- ☐ Emphasized importance of student support of livestock when seeking administrative approval
- ☐ Chicken integration has created ongoing interdisciplinary educational opportunities

2. Charlie Thompson, DCF Board

- ☐ Raised points about limited productivity of chickens after a few years and possible predators
- ☐ Suggested reaching out to Frank Hyman, author of *Hentopia*, for ideas about innovative chicken coops and possible engineering projects

3. Michelle Nowlin, DCF Board Chair

- ☐ Provided ideas/contacts for investigating projects with Food Justice and *Duke Food Law Society*
- ☐ Raised point of gaining consent from farm neighbors in addition to Local and University approval

4. Jason Holmes, Brodie Discovery Center

- ☐ Explained the formalities of acquiring chickens compliant with Duke policy
- ☐ Offered to lend their Standard Operating Procedure documents to DCF, as a template

“Spending time around animals would also give DCF employees and visitors a chance to build empathy for the animals in our food system.”

Garrett Corwin, student crew member, Masters of Environmental Management Candidate '21

Conclusions and Recommendations:

Recommendations:

The DCF will be able to meet Orange County and University policies for chicken integration at the current Orange County farm location. Additionally, chickens will bring educational opportunities and increase student involvement at the farm. Therefore, based on the policy research and benchmark and stakeholder interviews, **the team ultimately recommend that the farm incorporates chickens.**

Moving Forward: Pre-Approval

In addition to the basic Duke IACUC paperwork, the **Duke Forest Advisory Committee** is the last major stakeholder that the farm needs clearance from in order to achieve full approval for chicken integration. Going forward, the farm should work with Sara Childs, director of the Duke Forest, to determine what further approval is needed and what guidelines might help the farm continue their progress in this project.

Moving Forward: Post-Approval

If complete approval for chicken integration is attained, the next concrete steps are for the farm to launch into **purchasing and preparing for chickens**. This includes more logistical research about actually obtaining chickens: what kind of chickens, how many, where to get them, best chicken feed, and the best way to house them. Before buying chickens, all “animal handlers” need to follow **Duke IACUC training requirements**. Additionally, the farm should work with other academic fields to submit proposals for an engineering project to construct a chicken coop, possibly reaching out to Frank Hyman for guidance. Further down the line, farm staff should develop a plan for care of chickens in the event that student crew members and other farm staff be absent from the farm for an extended period of time.

Once chickens are successfully implemented, the farm may look to bring **other livestock**, such as goats. Other plans for expansion might include incorporating chickens at the future Central Campus farm location.



The project team at a Volunteer Work Day



Acknowledgements:

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