**University of Illinois Sustainable Land Management Plan**, January 6, 2022

UIUC Sustainable Land Management Committee (SLMC): Adam Davis (chair), Dennis Bowman, Ximing Cai, Emily Heaton, Andrew Margenot, Megan Matthews, Jonathon Mosely, Allen Parrish, and Morgan White.

**I. SLMC charge:** develop a plan to address the following three sustainable land management components and the resources/timeline needed to address these components:

*A. Sustainable land management practices*: develop plan for evaluating, and making an inventory of, sustainable land management practices on the South Farms on non-research land, and for increasing the sustainability of South Farms land management practices.

*B. Agronomy Handbook*: develop plan for updating the UIUC Agronomy Handbook with best management practices for sustainable land management.

*C. Outreach to university tenants:* Work with interested tenants on University-owned land to showcase selected sustainable land management practices in the updated Agronomy Handbook.

**II. Plan components:** In the following sections, we propose a plan to address each of the charge elements, following the timeline shown in Figure 1.



**Figure 1**. Timeline for implementation of sustainable land management plan components.

A. Review of Sustainable Land Management Practices on South Farms non-research lands

1. Overview: The University of Illinois South Farms encompass 3600 acres, with over half of this land managed in non-research activities. These non-research lands have certain constraints imposed upon them (e.g., the Animal Sciences managed areas must produce sufficient grain, in a cost-effective way, to provide feed for research animals and feedstocks for dietary formulation research; the Crop Sciences non-research areas, a.k.a. ‘fill’, are managed uniformly to erase legacy effects of experimental treatments to prepare fields for new research projects). Within these operating constraints, there is wide latitude to adjust land management practices to balance productivity and sustainability. A first step towards adjusting South Farms management practices is to conduct a review that includes:

a) an inventory of existing conditions;

b) evaluation of land management options (including those not currently being implemented on the South Farms);

c) prioritization and recommendations of options to pursue, and

d) key steps for implementing the identified options to pursue.

2. Logistics and other considerations

a. Component leads:

i. Farm inventory: Jonathon Mosley (ANSC), Nick Eisenmenger (CPSC)

ii. Evaluation and implementation plan: need lead here

b. Resources needed:

11111111111i. Management records: South Farms records from previous growing seasons of sustainable management practices on various fields are available. Detailed records on SLMPs will be collected during 2022 growing season. iCAP Land and Water Team water pollution efforts.

ii. Map of land included in the plan; should include information about unit control of land, whether a given parcel remains in non-research status over time, or cycles between research and non-research uses, potential for building projects to influence proposed activities.

iii. Evaluation and prioritization of sustainable management options: the Crop Sciences and Animal Sciences staff and faculty are the relevant experts for evaluating the suitability and costs/benefits of various land management options relevant to the South Farms. There should be opportunities for department members to provide input on, and review, any land management plan that is created. Dimensions of management that should be considered include: crop rotations, soil management, nutrient application, and pest management. The plan should offer detailed recommendations, benefits and costs of implementation and estimated reductions in greenhouses gases from the adopted practices.

iv. Implementation plan: This needs to include input on needs and wishes from responsible parties, as well as a mechanism for annual reporting of progress and probably something like a five year follow up.

v. Financial resources: For implementation of sustainable land management practices that have a negative impact on the finances of the farm management units, the shortfall should be projected and a proposal made for campus funds to help support implementation of the new practices.

c. Timeline: See Figure 1.

d. Progress to date: Information on cover crops was assembled by Mosley and Parrish in Fall 2021. Additional information on crop rotations, soil management, nutrient management and pest management forthcoming.

B. Agronomy Handbook chapter: ‘Sustainable Land Management Practices’

1. Overview: The University of Illinois Agronomy Handbook is currently undergoing a long-overdue [revision](https://uofi.app.box.com/s/0owqp6os5s09f76k0eeit2dg2vsvm14w), with new chapters included that address sustainability issues within other primary topics (e.g., alternative crops within cropping systems; water quality; water management, weather impacts). Embarking upon the creation of a separate, cross-cutting chapter that addresses agricultural sustainability as an integrative topic, should begin with vetting the plan with Illinois Extension, which manages the Agronomy Handbook. Assuming that the inclusion of a cross-cutting SLMP chapter in the Handbook is approved, production of this chapter will follow the below steps:

* Assemble writing team with appropriate expertise;
* Identify major topics and practices that will be included in the chapter; assign sections to appropriate team members;
* Create draft chapter
* Conduct chapter review with relevant stakeholders (including, but not limited to: department members, Illinois Extension, Agronomy Handbook revision committee, farmer groups, government agencies)
* Revise chapter based on stakeholder feedback, and submit final version for inclusion in revised Agronomy Handbook

2. Logistics and other considerations

a. Component leads: Marty Williams and Dennis Bowman

b. Resources needed:

i. Writing team members with relevant expertise (may include members of the SLM committee)

ii. Stakeholder session(s) for chapter review.

c. Timeline: See Figure 1

d. Progress to date: As mentioned above, there is already some sustainable land management information embedded within chapters being produced for the during the current update to the Agronomy Handbook. Marty Williams and Dennis Bowman have worked together to create a preliminary list of topics to be considered in this chapter.

C. Implementation of Sustainable Land Management Practices on University-owned land

1. Overview: The University of Illinois owns over 17,000 acres of agricultural land in Illinois and leases this land to tenant farmers under cash-rent agreements. The university’s land holdings (including both leased land and the research farms) account for about 1% of the productive agricultural land in Illinois. With this role as a leading landowner in Illinois comes considerable responsibility, both through the message that our land management approach sends to our stakeholders, and also through the direct impact of these choices on water, soil and air quality. Given that land-tenure agreements are competitive and can cause hard feelings under the best of circumstances, any process that the university begins to implement more sustainable land management practices on its leased acres must be undertaken in a way that builds stakeholder buy-in. We recommend a process that includes the following steps:

* Assemble implementation team that includes members with expertise in SLMPs as well as UIUC land leasing arrangements
* Present the draft SLMP chapter (described in section B of this document) to tenant farmers and other stakeholders at open meetings around the state, and use this to begin a discussion with them regarding sustainable land management practices in field crop production;
* Conduct a survey of UIUC tenant farmers to determine their level of interest in adopting SLMPs
* Begin a pilot project with tenant farmers to a) develop guidelines for a stepwise pathway to adoption, and b) begin implementing guidelines; and
* Evaluate pilot project outcomes with evaluation of economic impact of SLMPs and recommendations for next steps.

2. Logistics and other considerations:

Component leads: TBD

Resources needed: TBD

Timeline: See Figure 1.