Overview

Protecting and improving soil health is a nationwide priority for USDA and NRCS. The use of cover crops is a key component to improving the health of America’s cropland soils. The proper selection and management of cover crops can reduce soil erosion, hold nutrients in the field, increase soil carbon, enhance water quality, along with other benefits such as providing habitat for pollinators and wildlife. Cover crop plantings have increased dramatically over the last 8 years, now encompassing an estimated 20 million acres annually and growing.

Plant Materials Centers (PMC) have a long history of evaluating plants to address natural resource concerns. Over the last 7 years, PMC cover crop activities have increased to about half of total program efforts. This action plan provides a framework for increased coordination and collaboration in the Plant Materials Program and with other entities to address NRCS priorities for using cover crops and improving soil health.

Plant Materials Program Goals and Activities

This action plan provides a framework for increased coordination and collaboration in the Plant Materials Program and with other entities to address NRCS priorities for using cover crops and improving soil health on America’s working lands. The activities below represent opportunities to address each goal, though are not exhaustive of the breadth of activities which the Plant Materials Program may undertake. PMCs will accelerate the development of vegetative information and training for field staff to support efforts to increase the adoption and use of cover crops.

Goal 1: Develop recommendations for regionally appropriate cover crop species and varieties so that producers know which cover crops are adapted to their area. Activities include:

- Conduct species and variety trials, coordinated among PMCs when appropriate, to determine characteristics and adaptation of cover crops.
- Collaborate in cover crop breeding efforts for the development of better adapted selections or use-specific cover crops.
- Promote the use of improved cover crops, rather than Variety Not Stated (VNS), for use in cover crop plantings.

Goal 2: Develop guidance and recommendations for lowering the seed cost of cover crops to increase adoption and economic feasibility. Activities include:

- Conduct seeding rate trials to optimize planting density while retaining the benefits of cover crop plantings.
- Provide training on the proper planting of cover crops, including seed placement and equipment calibration.
- Provide updated seeding rate recommendations to state FOTG.
Goal 3: Optimize the management of cover crops to address critical natural resource goals and meet producers’ crop production cycles. Activities include:

- Characterize the growth and termination of cover crops to address conservation goals including reducing soil erosion, holding nutrients in the field, improving soil carbon, and improving water quality.
- Collaborate with ARS and Land Grant Universities on cover crop characterization activities that are outside the scope of PMC authority, such as the management of recycled nutrients from cover crop plantings.

Goal 4: Utilize PMC locations and cover crop information as opportunities for outreach, training, and the development of documents and tools. Activities include:

- Increase the use of PMCs as demonstration, training, and field day locations to increase the adoption of cover crops and the proper management of cover crops.
- Survey PMCs to assess the information that is available and the potential to prepare information appropriate to an area larger than a single PMC location.
- Collaborate with Cover Crop Councils to utilize PMC information on cover crop characteristics and adaptation in decision support tools.
- Continue development of plant guides for cover crop species.

**Tracking Accomplishments**

The Plant Materials Needs Assessment will be used to identify State needs and PMC accomplishments that are associated with this action plan. Accomplishments without an associated State need will be tracked on a supplementary document.

**Reporting**

Plant Materials Program accomplishments towards these goals will be summarized annually into a report that describes the outputs and contributions of plant materials activities towards NRCS and USDA priorities to increase the use of cover crops. The report is due by December 31 each year.

**Partnerships and Connections**

NRCS Soil Health Division (SHD) – Coordinate to provide support to the NRCS mission by providing the best available soil health science, training, guidance, and technical resources to NRCS employees, customers, and partners in order to improve the health and function of our nation’s living and life-giving soil. PMC efforts intersect with SHD cover crop training, demonstration, and outreach as well as cooperative efforts to develop Cover Crop Selection Tools.

Cover Crop Breeding Effort – The current effort led by USDA-ARS includes a team represented by multiple government agencies and offices and University partners. The effort selects for winter hardiness, early vigor, high biomass, disease resistance, flowering time, seed yield, pod retention, and soft seed. The goal is to cooperate and coordinate new cover crop varieties to boost the profitability of farms and protect the environment. PMCs are currently engaged in
breeding efforts to increase new cover crop lines and participate in Advanced Line Trials (ALT) for new cover crop germplasm.

**USDA Climate Hubs** – Link USDA research and program agencies in their regional delivery of timely and authoritative tools and information to agricultural producers and professionals. There is the potential to better link PMC activities and products with the information and outreach efforts of the Climate Hubs.

**Cover Crop Councils** – Councils facilitate widespread adoption of cover crops throughout the country. PMC staff is currently involved with many of these Councils. PMCs will continue to be involved to promote cover crop information, demonstrations, and outreach and to support development of Cover Crop Selection Tools.

**Land Grant Universities (LGU)** – LGUs provide research and education on cover crop characterization activities that are outside the scope of PMC authority. There are opportunities for LGU-PMC collaboration to conduct root biomass studies of cover crops, nutrient management studies specifically related to no-till and cover cropping, and better understand the microbiology of soil under cover cropping and no-till systems.