

BEAM Project Bosque del Apache National Wildlife Refuge
2025 Spring Cover Crop List of Crop Benefits

Every seed planted on May 5, 2025 was selected for its ability to improve soil health. Collectively, this multi-species cover crop can benefit the soil in ways that no single crop could do on its own. Wildlife at Bosque del Apache NWR will benefit from this approach even if what is later grown is a single crop intended to feed wildlife on the refuge. A key attribute of many of these seeds is that they are drought tolerant, have deep roots and are fast growing. Rapid growth of cover crops is beneficial as they suppress the growth of weeds. This eliminates the need for herbicides. Rapid growth also attracts beneficial insects and pollinators eliminating the need for pesticides. Deep roots are beneficial as this creates pathways for subsequent crops and bring beneficial micro-nutrients closer to the soil surface. The crops from these seeds contribute to increased carbon sequestration. Every 1% increase in soil carbon results in an additional 20,000 gallons of water per acre held in the soil. This results in less runoff and reduced water usage. These are important benefits in a time of reduced rainfall.

Here is a list of the seeds we planted on May 5, 2025 and their beneficial attributes:

Black Oil Sunflower: This sunflower has a deep tap root that aerates the soil. It also absorbs soil contaminants, cleaning up the soil.

Boston Plantain: It contains a natural antibiotic and is a snail and slug deterrent. It also mines micro-nutrients like zinc, copper and selenium from deep in the soil and reduces soil compaction.

Forage Sorghum: Rapid growth inhibits weed development. It breaks up soil compaction and improves water filtration. It controls harmful nematode populations.

Mung beans: A drought tolerant legume with strong nitrogen fixation abilities. Drought tolerant with a high biomass that when degraded improves soil carbon levels. Very drought tolerant.

Pearl Millet: The deep roots break up compacted soil. A high biomass increases soil organic matter and carbon sequestration and it suppresses soil-borne diseases.

Proso Millet: Its deep roots help prevent erosion and its fast growth acts as a weed suppressant and disease break.

Shoshone Sainfoin: A perennial legume that is drought tolerant and a nitrogen fixer.

Purple Top Turnip: The root structure breaks up compacted soil, improving drainage, aeration and erosion control. The deep roots create channels that aid root penetration for subsequent crops.