

Appendix

Seeds used in the Fall 2023 to Spring Planting on the BEAM Project

BEAM 2023 & 2024 fall cover crop

Common Vetch – able to make its own nitrates, a special nutrient essential for healthy plant growth.

Merit Hairy Vetch – improves soil structure, promotes good drainage, helps retain water and nutrients.

Fixation Balansa Clover – weed control and nitrogen fixation

Austrian Winter Peas – protects against soil erosion, provides habitat for beneficial fungi and insects, adds nutrients, fixes nitrogen and suppresses weeds.

Winter Warrior Hairy Vetch – cold weather hardy, fixes nitrogen

Elbon Cereal Rye – deep roots, returns nitrogen to the soil, reduces parasitic nematodes

Boston Plantain – natural anti-biotic, mines micro-nutrients (zinc, copper and selenium), loosens compacted soils

Nitro Radish – break up compacted soils, increase aeration and water filtration, roots leave large pores in soil that increase microbial and earthworm activity, a natural bio-fumigant, reduce nematode population.

BEAM 2024 & 2025 Spring cover crop

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.