Fiscal Year 2025 (FY25) NMDA's Healthy Soil Program Resource Concern Guide Sheet for CROPLAND

This guide sheet is designed to help you select agricultural/conservation practices to address your existing soil health-related natural resource concerns on cropland. It is intended as a starting point rather than as an exhaustive list of all resource concerns and agricultural practices that can address existing resource concerns. These agricultural practices align with those promoted by the New Mexico office of USDA's Natural Resources Conservation Service (NRCS). The three-digit codes associated with NRCS New Mexico Practice Standards are listed and hyperlinked below to provide you additional information.

The soil health principles as defined in the 2019 Healthy Soil Act are listed below. They correspond with the numbers in the right-hand column of the chart that follows.

- 1) keeping soil covered
- 2) minimizing soil disturbance on cropland and minimizing external inputs
- 3) maximizing biodiversity
- 4) maintaining a living root
- 5) integrating animals into land management, including grazing animals, birds, beneficial insects or keystone species, such as earthworms

| Resource Concern | Agricultural Practice on Cropland | Soil Health Principle |
|--|--|--------------------------|
| | | |
| Erosion (wind and water) | Cover crops to protect soil surface (340) | 1, 2, 3, 4 1, 2, 3, 4 |
| Presence of eroding soil (soil movement both on to and off of the field) due to wind, rain, or irrigation water application | No-till (329) or reduced-till (345) farming techniques | 1, 2, 3, 4 |
| | Field borders (unharvested crop residue and/or high-residue plantings along field edges; shrub establishment) (<u>386</u>) | 1, 2, 3, 4, 5 |
| | Mulching (484) | 1, 2, 3 |
| | | |
| Low soil organic matter | Cover crops (340) | 1, 2, 3, 4 3 |
| Lack of organic materials at various stages of decomposition | Organic-based soil amendments (compost, manure, biochar, etc.) (590), (484) | 3 |
| within the soil | Diverse crop rotation (cash crop) (328) | 1, 3, 4 |
| | No-till (329) or reduced-till (345) farming techniques | 1, 2, 4 |
| | Proper grazing of cover crops/cash crops (528) | 3, 5 |
| | | |
| Water infiltration and | Cover crop mixes with various rooting | 1, 2, 3, 4 |
| percolation | depths (340) | |
| Poor water movement into and within the soil (ponding of water | Organic-based soil amendments (compost, manure, biochar) (590), (484) | 3 |
| after rain events or irrigation) | Short-duration, high-intensity grazing (528) | 5 |

Fiscal Year 2025 (FY25) NMDA's Healthy Soil Program Resource Concern Guide Sheet for CROPLAND

| Resource Concern | Agricultural Practice on Cropland | Soil Health Principle |
|---|---|--------------------------|
| | | |
| Soil compaction Layers of compacted soil on the | Cover crop mixes with various rooting depths (340) | 1, 2, 3, 4 |
| soil surface (surface crusting) and/or within the subsoil (plow | No-till (<u>329</u>) or reduced-till (<u>345</u>) farming techniques | 1, 2, 4 |
| layers) that prevent water | Short-duration, high-intensity grazing (528) | 5 |
| movement and root growth | One-time deep tillage (during initial transition period) * (324) | |
| | Mulching (484) | 1, 2, 3, 4 3 |
| | Organic-based soil amendments (compost, manure, biochar, etc.) (590), (484) | 3 |
| | | |
| Poor soil structure Aggregate instability, poor | Cover crop mixes with various rooting depths (340) | 1, 2, 3, 4 |
| aggregate size distribution, and poor distribution of pore sizes | Organic-based soil amendments (compost, manure, biochar, etc.) (590), (484) | 3 |
| | Diverse crop rotation (cash crop) (328) | 1, 3, 4 1, 2, 4 |
| | No-till (<u>329</u>) or reduced-till (<u>345</u>) farming techniques | 1, 2, 4 |
| | | |
| Lack of biodiversity | Cover crops (multi-species mix) (340) | 1, 2, 3, 4 |
| A lack of diversity among the | Diverse crop rotation (cash crop) (328) | 1, 3, 4 |
| plants, animals, and soil | Field borders (unharvested crop residue | 1, 2, 3, 4 |
| organisms interacting with the | and/or high-residue plantings along field | |
| soil | edges; shrub establishment) (<u>386</u>) | |
| | Organic-based soil amendments (compost, manure, biochar, etc.) (590), (484) | 3 |
| | Minimized use of pesticides (herbicides, insecticides, etc.) (595) | 1, 2, 3, 4, 5 |
| | Pollinator habitat establishment (327) | 1, 3, 4, 5 |

* Deep tillage can be utilized where a considerable compaction layer exists that needs to be broken up to allow root penetration. This tillage operation is to be used only one time during the initial transition into a soil health system.