

NATURAL RESOURCES CONSERVATION SERVICE
MONTANA CONSERVATION PRACTICE SPECIFICATION

CONSERVATION CROP ROTATION (ACRE)

CODE 328(E)

FLEXIBLE COVER CROP MIX-CEREAL CROPPING

DEFINITION: A sequence of adapted crops designed to maintain, protect, or improve the health and productivity of the soil and related natural resources. This practice applies to all cropland where at least one-third of the rotation on a time basis is planted to annual crops.

Flexible Cover Crop Rotation: In this rotation a cover crop “Cocktail Mix” is seeded in lieu of fallow in the standard dryland crop-fallow or flexible crop rotation for purposes of building soil quality, soil fertility, organic matter or weed control. The timing of seeding depends on whether cool or warm season species are predominant in the mix, and then the management of the cover crop is flexible, dependent on growing season precipitation.

CONSERVATION MANAGEMENT SYSTEM: A conservation crop rotation is established as part of a conservation management system to address the soil, water, air, plant, animal, and human needs as related to the owner’s goals and objectives. It is important to consider nutrient and pest management, crop residue management, agricultural waste utilization, and other supportive conservation practices when designing a crop rotation. A properly designed crop rotation can also provide substantial forage for livestock and improve soil health and the overall sustainability of the agricultural production system. A crop rotation is most effective in providing conservation benefits when used in combination with other agronomic or structural practices.

The crop rotation, in combination with other supporting practices, must include enough high residue producing crops to protect soil from erosion (planned to “T” or below). High residue crops include corn or sorghum for grain, small grains harvested for grain, alfalfa and grass cut for hay, winter cover crops, or the addition of manure (10 tons per acre is approximately equal to 20-30% residue).

Current wind (WEPS) and water (RUSLE2) erosion prediction technology should be used to ensure that adequate residue is maintained. The crops grown shall produce a positive OM (Organic Matter) sub-factor value over the life of the rotation, as determined by the Soil Conditioning Index, with appropriate adjustments for additions to or subtractions from biomass.

Crops should be planted whenever there is adequate soil moisture to prevent the development of high water tables. Fallow only when soil moisture is inadequate to produce a crop. During fallow years cover crop “cocktail mixes” will be planted. Subsoil moisture should be monitored and fallow cover terminated by chemical or mechanical means so as to allow adequate subsoil moisture for the following year’s crop. As a rule of thumb, vegetation should be terminated when stored subsoil moisture in the profile is depleted to 3-4 inches. Grazing of cover crop mix may also be scheduled as long as adequate residue is left to prevent soil erosion and improve soil quality. Generally a “take one-half and leave one-half” management with a minimum of six inches of residue left standing after all grazing is done should protect and improve soil health. A site-specific inventory of cover crop production and guidance for the estimated number of AUMS of grazing should be provided for each field. Fields should be monitored for residue levels and animal health to ensure soil quality and animal health objectives are met.

WILDLIFE AND POLLINATORS: Crop rotations can enhance wildlife and pollinator objectives depending on the vegetative species used and management practiced. Consider using species that can provide food and cover for important wildlife and/or pollinators.