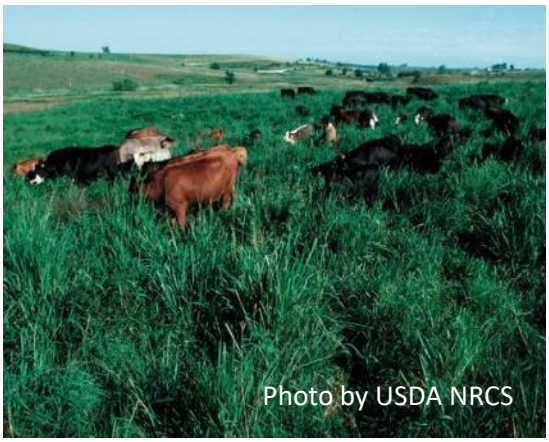
Forage and Biomass Planting (CPS 512)

Conversion of Annual Cropland to Irrigated Grass/Legume Forage/Biomass Crops



NRCS Conservation Practice Standard Summary

DEFINITION: Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production.

PURPOSE:

- Improve or maintain livestock nutrition and/or health.
- Provide or increase forage supply during periods of low forage production
- Reduce soil erosion
- Improve soil and water quality
- Produce feedstock for biofuel or energy production

CONDITIONS WHERE PRACTICE APPLIES: This practice applies all lands suitable to the establishment of annual, biennial or perennial species for forage or biomass production.

COMET-Planner Practice Implementation Information

COMET-Planner estimates for forage and biomass planting assume full conversion, replacing all crops in a conventionally managed, irrigated or non-irrigated, annual crop rotation with continuous unfertilized grass/legume forage/biomass crops. Forage/biomass crops are harvested as hay multiple times per growing season, depending on the length of the growing season. Impacts on greenhouse gases include changes in soil organic matter carbon due to cessation of tillage and increased carbon inputs from plant residues, and decreased nitrous oxide emissions due to ceasing or reducing synthetic nitrogen fertilizer applications.

GHG Estimation Methods

Greenhouse gas emissions were estimated using a sample-based, metamodeling approach with COMET-Farm, which employs the USDA entity-scale inventory methods (Eve et al. 2014). GHG reduction estimates represent the average impact of a conservation practice compared to baseline conditions, over a range of soils, climate and cropland management within multi-county regions defined by Major Land Resource Areas (USDA-NRCS 2006).

Estimates are not meant to apply to any specific site conditions but rather represent the range of expected values to be found over the multi-county region and reflect the assumptions stated.