

Earth Smart

“Farming for the Future”

Pasture and Grazing Management

Implementation of certain pasture and grazing management practices has potential to reduce agricultural greenhouse gas emissions (GHG) by increasing carbon sequestration and/or decreasing methane emissions. In all cases, attention must be paid to effects of implementation on productivity and yield, co-benefits and cost. Increased carbon sequestration depends on climate, soils, topography, pasture composition, tillage and nutrient management and it can be greatly improved using managed intensive rotational grazing (MIRG). The practices selected have the best chance of reducing emissions in Maine, however they will still require careful consideration on a farm basis prior to including in a GHG Management Plan.

Practices eligible for certification include: conversion of marginal cropland to permanent pasture with MIRG, conversion of full confinement operations to partial confinement operations with MIRG, conversion from full or partial confinement to year round MIRG, conversion of unmanaged pasture to MIRG. Any one of these practices generally can be expected to yield a net decrease in emissions via increased carbon sequestration and plant productivity and/or reduction in methane (compared to a confined operation), depending on climate and soils. *“Grazing animals emit more methane than confined ones. However, grazing (particularly MIRG) farms have lower net CO2 emissions because they do not heavily rely on grain for feed. Confined livestock feedstock requires soil tillage, cultivation, irrigation, fertilization, pesticide application, and machinery, transport, drying, processing packaging and delivery. All these processes, if accounted, surpass MIRG carbon emissions. Moreover, a significant feedstock percent is lost due to inefficiencies in the whole process further increasing the carbon emissions toll. The manure pit or lagoon accounts for most of the methane emissions of the confinement system”.* Juan P. Alvez, Ph.D. Gund institute for Ecological Economics, Rubenstein School of Environmental & Natural Resources, University of Vermont.

Pasture and Grazing Management Certification Goals

- Decrease greenhouse gas emissions
- Maintain acceptable productivity

Requirements

- Whole Farm GHG Assessment
- Whole Farm GHG Management Plan
- Nutrient Management Plan (Includes Fertilizer Management)
- Landscape Energy Audit, if available
- Allow regular on-site verification of practices to maintain certification
- Keep annual records of manure, fertilizer and soil amendment use
- Keep annual records of number of cattle grazed and rotation schedule for each paddock
- Site assessment and Pasture Management Plan

Performance Standards

All Practices

- Milk production losses resulting from conversion to pasture, if any, must be offset by an accompanying reduction in expenses.
- Number of animals grazed must be keyed to the seasonal productivity of the pasture, i.e. not overgrazed. Accordingly, rotation must remain flexible not fixed throughout the paddocks.
- Pasture productivity must be maintained or enhanced.
- No-till re-seeding is allowed when necessary.
- Additional grazing management techniques, such as mob grazing, can be added if research

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- supports a decrease in emissions per unit.
- All fertilizer and manure management practices must meet established management guidelines.

Conversion of marginal cropland to permanent rotational pasture

If converting from marginal cropland to pasture, new fields cannot be tilled to offset the loss in crop production. No-till will be allowed in new fields if it does not offset the gains from conversion to pasture. Yields can be increased in current fields with acceptable management practices.

Points required for Pasture and Grazing Management Certification: 15

If a qualifying practice has been implemented on a farm within ten years prior to the assessment, it may be used for certification points if the practice is uncommon for the county in which the farm site is located. An "uncommon practice" is defined as one that is implemented on less than 25% of the same type of farm in the county. If a qualifying practice is classified as "common", in use by more than 25% of same type farm within the county, certification points can be awarded only if additional greenhouse gas reductions are made, such as extended rotations, change in crop, etc.

Certification Period: Five years, renewable

Verification Period: Annually for certification period-depending on practice

Opt out: To be determined on an individual basis for catastrophic events.

Accepted Management Practices

Practice	GHG Benefit	Co-Benefit	Cost, Payback	Certification Period	Verification	Points
Conversion of marginal cropland to permanent rotational pasture	Increase carbon sequestration, decreased emissions	Increased organic matter and increased carbon sequestration. Increased soil health, less erosion, increased wildlife, reduced water quality impact, decreased expenses, decreased nitrogen	Immediate payback via reduced expenses	5 years	Every 2 years	15
Conversion from full confinement to partial confinement and rotational grazing or year round rotational grazing	Increase carbon sequestration, decrease methane emissions	Better herd health, better feed utilization, reduced expenses, less chance of water quality impact from feed yard runoff.	Immediate payback via reduced expenses.	5 years	Every 2 years	15
Conversion of unmanaged pasture to managed rotational grazing	Increased carbon sequestration, reduced emissions	Increased organic matter and increased carbon sequestration. Increased soil health, less erosion, better productivity.	Immediate payback with better utilization.	5 years	Every 2 years	5
Total Points						