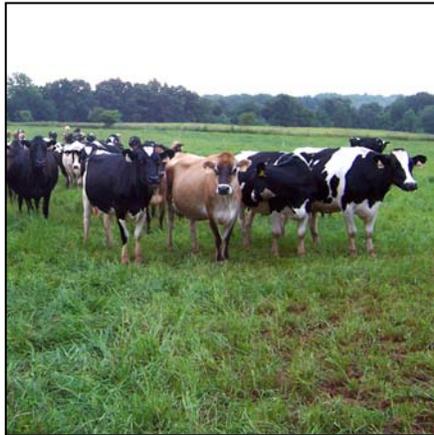


## Water Quality Enhancement Activity – WQL19 – Transition to organic grazing systems



### Enhancement Description

Transition to Organic Grazing Systems supports the conversion of a conventional to an organic livestock grazing system. Key to the enhancement activity is following ecological and pasture-based grazing requirements, applying materials according to the National List of Allowed Synthetic and Prohibited Natural Substances, and managing livestock according to National Organic Program (NOP) rules (Subpart C – Organic Production and Handling Requirements) for organic certification. This enhancement activity facilitates compliance with NOP rules for organic certification.

### Landuse Applicability

Pastureland, rangeland, and forestland

### Benefits

Environmental benefits will be operation specific. Benefits may include, but are not limited to improved forage, soil, and animal health, and improved water quality.

Managing for recommended time and timing of grazing, minimum and maximum grazing heights, pasture/paddock rotation, and rest periods improve plant health, diversity, and productivity. Sufficient pasture/paddock rest or pasture/paddock avoidance that minimizes livestock contact with viable internal parasite populations can break parasite cycles, reduce ingestion of parasites and the need for treatment, and improve animal health. Soil organisms and soil quality are benefitted by the reduction or elimination of natural or synthetic pesticides typically used on forage and/or livestock. Rotating livestock through several pastures/paddocks minimizes the development of loafing areas and improves the distribution of manure nutrients for plant uptake. Nutrients are more uniformly available to forage crops and the potential for polluted runoff from high traffic areas is reduced.

### Criteria

1. Manage pasture grazing and rest periods to follow NRCS Prescribed Grazing practice standard (528) criteria for recommended maximum (begin) and minimum (end) grazing heights by forage species or Ecological Site Description interpretations. Begin and end grazing heights are followed to maximize forage quality and palatability and promote rapid recovery and forage regrowth.
  - a. Maintain a livestock watering system that accommodates a high frequency of livestock rotation through several different pastures or paddocks during the grazing season. Follow NRCS practice standard criteria for Prescribed Grazing



- (528), Watering Facility (614), Pipeline (516), or other related standards for appropriate supply and travel distance to water.
- b. Use fencing that is permanent, semi-permanent, and/or temporary to facilitate pasture rotation. Follow the NRCS Fence practice standard (382). Additionally, follow NOP rules for allowable fence materials.
  2. Apply all materials, including plant nutrients and pesticides for forage production and animal health, in accordance with the National List of Allowed Synthetic and Prohibited Natural Substances.
  3. Comply with all NOP rules for livestock management (NOP § 205.236 - .239 for livestock origin, feed, healthcare, living conditions)
  4. Complete organic transition within three (3) years as verified by obtaining an approved Organic System Plan from a valid certifying agency.

### **Documentation Requirements**

1. Provide a written grazing plan following the 'Plans and Specifications' guidelines in the Prescribed Grazing standard. Include time and timing of grazing, minimum and maximum grazing heights, and date rotated in and date off of pastures/paddocks in the grazing plan, as appropriate for the landuse.
2. Provide a record of the application of inputs according to the NOP rules, e.g., type, date, rate, and amount of allowed nutrients and pesticides for forage and livestock.
3. Provide a copy of the Organic System Plan when approved by the certifying agent.

NRCS Pasture Notes, graziers notebooks, or other record keeping systems for pasture livestock operations can be used to facilitate record-keeping.

## Michigan Supplement

### Water Quality Enhancement Activity WQL19- Transition to Organic Grazing Systems

The National Organic Standard defines pasture as land used for livestock grazing that is managed to provide feed value and maintain or improve soil, water, and vegetative resources (section 205.2). Land is not considered pasture if it is overgrazed, bare soil or a dry lot. Ruminants, such as cattle, goats, and sheep must have access to pasture (section 205.239(a)(2)), and managers have the responsibility to maintain the ecological integrity of the pasture resource with proper grazing management. For more information, see the National Organic Standard at [www.arms.usda.gov/nop/indexNet.htm](http://www.arms.usda.gov/nop/indexNet.htm). Pasture is a crop whether it is harvested by animals through grazing or made into hay, silage, baleage, etc. All the standards for organic crop production apply to pasture.

Organic management aims to build healthy soils and provide natural nourishment to pasture plants. Conventional fertilization with commercial products may not meet the manager's objectives. A well managed organic pasture benefits from the functioning of an undisturbed soil ecosystem with regular inputs of organic matter. Plant residue from roots and surface are important inputs to the soil ecosystem. Grazing management creates cycles of growth and die back contributing to building soil organic matter and feeding soil organisms. Root exudates also feed soil organisms. Grazing livestock also contribute nutrients through the recycling of manure. Therefore, maintaining or improving plant health and vigor is essential in an organic system.

The most economical and environmentally safe source of nitrogen in organic systems is from legumes. Legumes may be introduced to the pasture stand, overseeding, no-till interseeding, or frost seeding are methods to add legume seed. Pasture management, soil fertility and grazing, must change to favor legume growth. Legumes become the key species to monitor. Lime may be required to raise the soil pH to a level acceptable for the growth of legumes. The target pH value for legumes is 6.5. Soil testing is an essential management tool.

Optimize the recycling of manure nitrogen. When animals congregate in areas around feeders, water tanks and mineral boxes, manure nutrients become concentrated there. To better distribute manure nutrients around the pasture, move water tanks, feeders and shade structures as frequently as possible.

Organic materials, including manure, may contain prohibited substances. Other natural fertilizer materials, for example fish emulsion, may be prohibited due to the manufacturing process. The certifier makes the determination on any material or activity related to certifying an organic pasture. Managers should work closely with certifiers and inspectors when selecting nutrient amendments.

Healthy pasture forages are able to out-compete weedy species. Mowing, brush-hogging, hoeing and hand pulling weeds may be used alone or in complement to the grazing management. Weed identification is important with mechanical weed control when selecting the time and method. Weed species that produce rhizomes or stolons may be spread through actions that attempt to cut

out the weed. Deep rooted weeds are not easily hand pulled, and may require removal of a portion of the roots for successful elimination. Mechanical weed control can take several years before results are seen.

Multispecies grazing may provide weed management as livestock species differ in preferred forages. Goats prefer to browse brushy weeds. Sheep prefer broadleaf forage to grass. When considering utilizing small ruminants to enhance weed management, the stocking density may need to be adjusted. Often, two to five small ruminants may be added without changing the regular livestock herd size. Adjustments to the number of small ruminants to large stock will be necessary if eradication of weedy species is the goal.

Monitoring forage height and grazed residue height is essential in organic pasture systems to promote forage health, provide a healthy grazing environment for the livestock, and control soil erosion. Riparian areas should be stabilized and protected under flash grazing. All waterways should be protected from livestock wastes by limiting access, flash grazing, and providing alternate water sources.

Organic pasture systems may require multiple levels of management. Ensuring that the pasture remains organic may require field borders or buffer strips. Neighboring field runoff should be diverted from crossing the organic pasture or have the grassed waterway excluded from grazing.

Grazing management must be the primary method for sustainable control of internal parasites. Dewormers are severely restricted or prohibited for use in organic systems. Grazing livestock are exposed to parasites on pasture and in bedding or manure areas. Parasites are the major health concern for grazing animals in organic pasture systems. Sheep and goats are more susceptible to internal parasites than other livestock.

If pastures are not overstocked, there may be little difficulty with internal parasites. When livestock are forced to graze close to the ground tends to increase the occurrence of ingesting the infective larval stage of the parasites. The amount of acres available for pasture may be increased compared to a non-organic management system. The increased acres are a result of taller grazing heights and/or longer rest periods.

Safe and/or Clean pastures should be part of the grazing acres. Safe pastures are ones that have been used for hay, silage or small grains. Safe pastures carry some parasite load but if managed properly provide a good way of controlling infection. Clean pasture can be a new seeding grazed for the first time or a pasture grazed the previous year by only a different livestock species that does not have common parasites, for example cattle grazed the year before sheep.

