Early Successional Habitat Development/Management

Strip Disking

Illinois Conservation Practices Job Sheet 647A ***Draft March 2006***

DEFINITION

Strip disking is the light disking of strips of well established grass stands that leaves much of the vegetation intact, but exposes 50% of the ground to bare soil.

PURPOSE

Once established, grassland fields need to be managed so that the grasses do not crowd out the forbs and/or legumes over time. In the absence of disturbance, the composition of grassland communities will change over several years through normal plant succession. The vegetative structure changes as annual forbs and legumes are replaced by perennial forbs, grasses, and eventually, woody plants. Changes also occur structurally, as bare ground declines, litter accumulates, and vegetation density increases. These changes lead to a decline in wildlife benefits.

The purpose of mid-contract management activities like strip disking is to enhance the wildlife habitat value of the enrolled acres by increasing the amount of bare soil and by encouraging a diverse forb/legume community. Forbs (any broadleaf herbaceous plant) and legumes in grasslands are beneficial to birds, insects such as butterflies, and other wildlife. Strip disking is an efficient and cost-effective disturbance tool that can be utilized where vegetation has become too thick to benefit the target species. Reduced plant residue and bare ground are critical for young chick mobility in grassland areas.

Disturbance is especially helpful for maintaining brood-rearing habitat for bobwhite quail, wild turkey, ring-necked pheasant and other early successional grassland wildlife species. The insects associated with annual weed communities provide critical nutrients, including protein, and essential amino acids for growing nestlings and chicks. The structural diversity that results from disking also improves habitat for a variety of grassland songbirds, including dickcissels, bobolinks and savannah sparrows. Many of these species have experienced population declines over the last several decades. Disking enhances habitat quality because it inhibits woody growth, promotes favored seed producing plants, reduces plant residue, increases bare ground, and increases insect abundance.

Light disking favors seed producing plants.

SPECIFICATIONS

- Disk strips 2-4 inches deep to expose approximately 50% bare ground after disking.
- Disk between October 1 and April 15.
- Alternate disked strips of <75 feet in width, with undisturbed strips a minimum of 2 times

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the disked width, across the field on the contour or across slope.

- Rotate disked and undisked strips on a 3 year or longer rotation.
- Disked strips shall not exceed the tolerable soil loss.
- Designated filter strips will be left adjacent to all water bodies to maintain water quality. See NRCS Field Office Technical Guide (FOTG) Standard 393 - Filter Strip for additional guidance.
- Do not disk practices that have been established primarily for water quality or erosion control benefits, such as filter strips, riparian buffers, grassed waterways, and contour buffers.

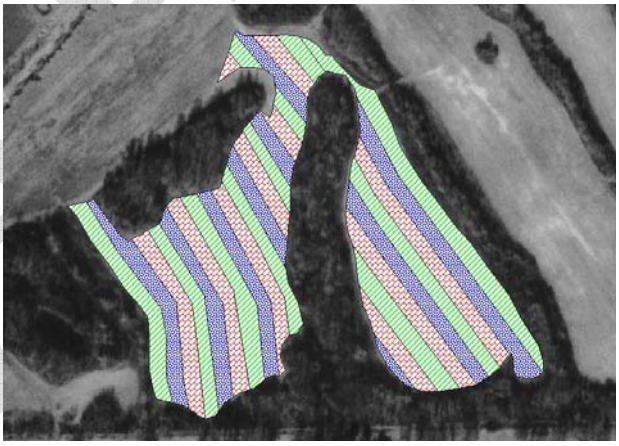
CONSIDERATIONS

- Strip disking should be planned for the least erosive parts of fields and not in places where gully formation is a problem. CAUTION: Disking in the late fall on highly erosive sites may cause erosion to occur over the winter months. Consider broadcasting ½ bushel of winter wheat per acre to reduce erosion potential.
- Consider spot spraying or mowing areas where noxious weeds, such as Canada thistle and Johnsongrass, or other invasive species, such as Reed Canarygrass, exist. This will reduce the potential for unintentional establishment of these species by disking.
- Consider the habitat needs of the target wildlife species. Areas disked in early fall will tend to stimulate the production of hard-seeded plants such as common ragweed. These species provide excellent brood-rearing cover and winter food for quail and pheasants. Quail require more open area at ground level than pheasants.
- Consider seeding areas that have been disked to a mixture of forbs and legumes.
- Where the existing vegetation is extremely thick, tall, or rank, consider first using prescribed burns, herbicides, or mowing on those areas where disking will be performed.
- Landowners should be wary of tile blowholes, groundhog holes, fallen tree limbs, and other hazards that may have developed since they were last in the field.

EXAMPLE: 3-Year Rotation

Divide the field into adjacent plots that are 90 to 150 feet wide. Within each plot, mark three strips of land that are 30 to 50 feet wide.

1. In fall of the first year of disturbance, within each plot, disk the first strip of land and leave the second and third strip "undisked."
2. In fall of the second year, disk the second strip, leaving the first (disked during previous year) and third strip undisked.
3. In fall of the third year, disk the third strip, leaving the first and second strips undisked.
4. In the fourth year, begin the rotation again, as indicated in the conservation plan.



Example of strip layout in a 3 year rotation.

OPERATION AND MAINTENANCE

- Control noxious weeds by spot mowing or spot treatment with herbicide.
- Repeat rotation of strip disking when needed to keep 30 to 70 percent annual species in the grass stand and when the vegetation has become too thick for the target wildlife species.

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Strip Disking - Specifications Sheet

NAME: _____ FIELD NUMBER: _____
COUNTY: _____ DATE: _____
TRACT NUMBER: _____ ASSISTED BY: _____

Specific Recommendations

Wildlife species benefited: _____

Purpose of Strip Disking: _____

Date range (i.e. disking window): _____

Width of strips: _____

Number of recommended passes per strip: _____

Additional considerations:
_____
_____
_____
___
_____
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Site Location Map

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