



The National Wild Pheasant Conservation Plan

Pheasant Habitat Management Recommendations for Croplands

Last Updated: September 2013

Note: The material below was originally written as part of the *National Wild Pheasant Conservation Plan* as approved in September 2013. These recommendations may be periodically updated by the National Wild Pheasant Technical Committee.

Cropland Management

Beth (Cole) Emmerich, Missouri Department of Conservation, 3500 S. Baltimore St., Kirksville, MO 63501

Michael A. Wefer, Illinois Department of Natural Resources, One Natural Resources Way, Springfield, IL 62702

Status

From the pheasants' introduction through the 1930s, the diverse style of farming they encountered provided ideal habitat. Starting in the 1940s, new farming techniques and technologies started to erode the quality and quantity of pheasant habitat. Chemical fertilizers allowed for more acres to be planted to grains. Herbicides and pesticides resulted in cleaner fields that provide much less food and cover. Small fields were often consolidated to create much larger fields. As corn and soybeans became more profitable, the amount of acres of these crops grew at the expense of hay, pasture, small grains, and sorghum. Warner et al. (1999) chronicled declines pheasant chick survival tied to these changes in land use in east central Illinois. These changes have occurred at differing rates with those states receiving rainfall rates most suitable for corn production experiencing quickest and most dramatic changes. Even those states that have maintained decent hay, wheat, and sorghum acreages have been impacted by technology changes. Modern varieties of alfalfa can be harvested earlier and more often, disrupting nesting and brood rearing. Changes in wheat farming in semi-arid portions of the pheasant range, especially Kansas, have also harmed pheasant numbers (Rodgers 2002). Increased herbicide use, the use of shorter wheat varieties and the resulting reduced wheat stubble height, and adding row crops into cropping rotations have all contributed to these declines.

Since their introduction in 1996, genetically modified crops have received widespread acceptance by producers. In 2010, it was estimated that 86% of the corn planted nationally was a biotech variety (Bt, Roundup Ready, or stacked) and 93% of soybeans were Roundup Ready varieties. These varieties provide producers with fields that are almost completely free of weeds and insect pests. Work continues to develop more herbicide resistant crops. In 2011, USDA approved Roundup Ready alfalfa for use. This trend can only continue to erode the habitat value of cropland for pheasants.

Cropland Recommendations and Opportunities

Corn Belt

Specific Problem

Changes in farming techniques and technology have changed the cropland landscape from one typified by a patchwork of small grains, hay, fallow areas, and weedy row crops to one dominated by large, clean fields of corn and soybeans. This intensive farming has contributed to reduced nesting, brood rearing, and winter cover.

Possible Solutions

- *Promote Small Grains and Hay* – Planting more small grains and late-mowed hay could improve nesting and brood rearing habitat. Incentive based programs like the Conservation Stewardship Program (CSP) or other Farm Bill programs could be used to encourage producers to diversify their crop rotations.
- *Promote Grasslands and Wetlands* – Protecting or expanding grassland and ephemeral wet-land habitat in the pheasant range could help provide nesting, brood rearing, and winter cover in areas where corn and soybeans dominate. Farm Bill programs like the Conservation Reserve Program (CRP), the Wetland Reserve Program (WRP), and the Grassland Reserve Program (GRP) could be used to encourage producers to establish permanent cover on their farms. The replacement of farmed terraces and tile outlets with native-grassed waterways in conjunction with grass-backed terraces or grass contour strips could be encouraged.
- *Establish a Set-Aside (Flex Fallow) Program* – Authors of the 2002 Northern Bobwhite Conservation Initiative (NBCI) (Dimmick et al. 2002) suggested a strategy of retiring cropland acreage for a two or three year period will provide quality nest and brood habitat for quail. Pheasants would similarly benefit from such a program.
- *Designate Focus Areas* – Scattering habitat randomly across the landscape would not have nearly the impact as a focused and concentrated approach. Authors of the NBCI (Dimmick et al. 2002) suggested designating focus areas to benefit quail. Pheasants could also benefit from large focus areas. Some states have employed the strategy of using CP38 - State Acres For Wildlife Enhancement (SAFE) to develop focus areas for pheasants and other grassland birds.
- *Encourage Organic Farming* – Organic farms tend to have smaller fields and are weedier than conventional farms. Organic farms often have small grains and hay in their rotations and sometimes include fallow. The weedy nature of their corn and soybean fields could provide good brood habitat. Organic farming is not perfect as mechanical and manual weed control could be disruptive to nesting. The 2008 Farm Bill contains several provisions to promote organic farming. Transition to organic production is included as part of the Environmental Quality Incentives Program (EQIP). Also included is a provision streamlining coordination between CSP and the National Organic Program (NOP). This provision is intended to make it easier for organic producers to qualify for CSP.
- *Encourage the use of seasonal cover crops* – These cover crops not only conserve soil and increase water quality, but can provide winter cover and forage for pheasant and other wildlife.

Wheat Belt

Specific Problem

Changes in wheat farming in semi-arid portions of the pheasant range, especially Kansas, have also harmed pheasant numbers (Rodgers 2002). Increased herbicide use, the use of shorter wheat varieties and the resulting reduced wheat stubble height, and adding row crops into cropping rotations have all contributed to these declines.

Possible Solutions

- *Encourage Modified Wheat-Fallow Rotation* – Rogers (2002) determined that that increased stubble height and post-harvest weed growth in wheat stubble are keys to a modified wheat-fallow rotation that provides superior habitat quality, soil conservation benefits, and greater profitability than other wheat-fallow systems. Farm Bill programs like CSP or EQIP could be used to encourage modified wheat-fallow rotations.
- *Encourage the use of stripper headers* – Stripper headers allow farmers to harvest wheat and other small grains while leaving the “stubble” at virtually the same height it was before harvest. This taller stubble provides better cover than stubble left after harvest with a conventional sickle-bar header. Leaving the extra stubble helps the soil retain more moisture in the dryer parts of the Midwest. Farm Bill programs like CSP or EQIP could be used to encourage the use of stripper headers.

Literature Cited

- Dimmick, R.W., M.J. Gudlin, and D.F. McKenzie. 2002. The northern bobwhite conservation initiative. Miscellaneous publication of the Southeastern Association of Fish and Wildlife Agencies, South Carolina. 96 pp.
- Rodgers, R.D. 2002. Effects of wheat-stubble height and weed control on winter pheasant abundance. Wildl. Soc. Bull. 30:1099-1112.
- Warner, R.E., P. C. Mankin, L. M. David and S. L. Etter. 1999. Declining survival of ring-necked pheasant chicks in Illinois during the late 1900s. J. Wildl. Manage. 63:705-710.