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Farming and pheasants in Colorado

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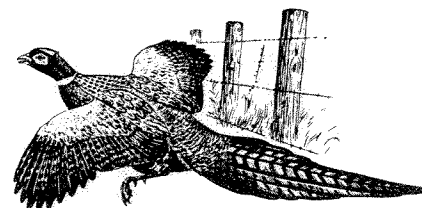


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Quick Facts

- Decline in pheasant numbers occurs at the same time that farming intensifies.
- Agriculture and pheasants can thrive simultaneously.
- Pheasants can become part of farming profits.
- Some agricultural practices benefit pheasants and farmers.
- Some agricultural practices benefit pheasants at the cost of farm profits.
- Some agricultural practices benefit neither pheasants nor farmers.

Pheasants are decreasing throughout their range in the United States. In Colorado, weather conditions and intensive farming have contributed to their decline. Bad weather affects nesting, brood rearing and survival during winter. Intensive farming decreases the amount of protective habitats; therefore, weather affects pheasants more severely. The following tables will introduce various agricultural practices and their effects on pheasants, agricultural productivity and economy on the farm.



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Table 1: Positive Agricultural Practices and Pheasants.

| Positive agricultural practices | EFFECTS | | |
|--|---|--|---|
| | Pheasants | Agriculture | Economy |
| Pheasants. | Encouraging pheasants as a crop is economically, aesthetically and ecologically pleasing. There is no threat of overharvesting roosters even when densities are very low. | Pheasants are a crop of the land when properly managed. | Access for pheasant hunting has been a free commodity on most agricultural land. Farmers also can manage for pheasants and charge a fee for access to hunt. Profits will depend on the quality of experience provided, which means good pheasant production and reasonable fees for access. |
| Minimum tillage or chemical fallow of wheat stubble. | Leaves winter foods, provides cover, reduces drifting of snow into shelterbelts and marshes. | Soil moisture is increased by increased penetration, reduced evaporation and reduced blowing snow. Erosion from wind and water is reduced. Protective organic mulch remains above ground over water. | Saves labor and fuel. Less machinery is required. Different machinery must be purchased. |

Table 1: Positive Agricultural Practices and Pheasants. Continued.

| Positive agricultural practices | EFFECTS | | |
|--|--|---|---|
| | Pheasants | Agriculture | Economy |
| Complete spring plowing by May 1 or earlier. | Promotes use of other cover for nesting; whereas late spring plowing destroys many nests and hens. Crop residues left over the winter provide food, cover and reduce drifting snow into shelterbelts and marshes. | Soil moisture is increased by increased penetration, reduced evaporation and reduced blowing snow. Erosion from wind and water is reduced. Protective organic mulch remains above ground over water. | Costs are similar to fall plowing. |
| Chisel plowing. | Food is available on the soil surface for pheasants. Pheasants are attracted to nest and re-nest in chisel-plowed fields; however, nests are destroyed in subsequent tillage operations. | Chisel plowing maintains a protective cover on the soil surface and reduces erosion. | Chisel plowing is less expensive than moldboard plowing. |
| Plant permanent grass and legume vegetation in sprinkler corners, ditch-banks, roadsides and odd areas.* | Provides nesting, brood rearing and winter cover. | Reduces weed problems and soil erosion. Use of legumes will increase soil fertility and retain greater quality of cover for longer period of years. Enhances aesthetic values of roadsides. | Costs of planting 1 mile (1.6 kilometers) of roadside 15 feet (4.6 meters) wide is about \$27. Weed prevention and soil stabilization increases long-range benefits. |
| Leave two or more rows of corn adequately spaced across the field when corn is utilized as harvested forage. | Standing stalks reduce drifting of snow into winter habitats and shattered ears provide food. | Standing stalks reduce wind losses and increase snow retention. Entry into the field may be delayed in the spring due to added moisture. | Snow retention will increase soil moisture. A small loss of income will result from leaving forage but added moisture should increase yields. |
| Fieldbelts and shelterbelts. | Provides winter cover and nesting cover when plants are mature enough to no longer require weed maintenance. At least five to seven rows of trees should be planted. Shrub borders provide shelter at ground (through 5 foot (1.5-meter) levels), which is useful for pheasants. Food should be available within one-fourth to one-half mile (.4 to .8 kilometer). | Tree belts reduce wind erosion and add moisture to fields by retaining snow and reducing evapotranspiration. A reduction of soil moisture occurs near belts as they mature. Crops planted immediately adjacent to belts will have lower yields. | Tree belts occupy productive land and will reduce income until added soil moisture on adjacent areas provides greater crop yields. Establishing and maintaining belts is a cost. However, cost sharing programs are available from the Agriculture Stabilization and Conservation Service. Fences must be built to exclude livestock. |
| Shrub thickets. | Provides winter cover and escape shelter for broods at tailwater pits and other odd locations. | Small odd areas can be utilized with little detriment to farming. | Cost is approximately \$250 to plant, control weeds and fence a 50- x 100-foot (15 x 30.5-meter) shrub clump. Youth can receive total reimbursement through the wildlife habitat improvement program from the Colorado Division of Wildlife and the local Cooperative Extension office. |
| Greater variety of crops in farm rotations. | A variety of crops rotated within each section or farm is more likely to provide the basic needs of pheasants than monocultures. | Crop rotation reduces erosion, seriousness of disease, insect damage and weed problems. Rotation may improve efficiency of fertilization. | Diversified farming creates more stable income. Efficiency of field operations may be reduced. |
| Strip farming. | Increases edge and diversity of cover. | Strip cropping reduces erosion from wind and results in better crop production on marginal lands. | Some increase in farming costs. Costs should be offset by increased production. |

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Table 1: Positive Agricultural Practices and Pheasants. Continued.

| Positive agricultural practices | EFFECTS | | |
|--|---|--|--|
| | Pheasants | Agriculture | Economy |
| Fenced water sources. | Provides small areas of nesting cover and fall shelter. | Fencing extends the life of water sources, reduces maintenance cost and prevents cattle from loafing near the water area. | Fencing adds costs to water projects but may reduce accidental livestock losses and structural maintenance. |
| Delay cutting of alfalfa for one week or longer. | Delaying cutting would increase spring populations of pheasants. The peak of pheasant hatching usually is about two weeks after normal alfalfa cutting times. | Cutting at 10 percent bud stage usually provides optimum forage quality. A delay of one week decreases quality and increases fiber at the expense of protein. Protein composition is reduced 2 percent by delaying cutting one week from first flower. | Quality of alfalfa cut one week late would be adequate for beef cows. Dairy cows require grain and supplement. A 1,200-pound (544 kilogram) cow producing 40 pounds (18 kg) of milk would require at least \$3 worth of additional feed per month. |
| Develop odd areas for food and cover. | Pheasants will use odd areas for nesting and winter cover. Losses of pheasant reproduction due to alfalfa cutting may be avoided if permanent nesting habitat is located elsewhere. | Leaving odd areas should be considered where cultivation would cause serious soil loss. Noxious weeds may be a problem unless the areas are planted to a perennial cover crop such as a tall wheatgrass and alfalfa mixture.* | There are no production losses if the area has no agricultural use. Weed control by herbicides or by permanent cover plantings may be necessary. |
| Maintain and re-establish wetlands. | Wetlands with associated plants are excellent winter and roosting cover. Adjacent dry areas are useful for nesting. | Usually, soils on such sites are poorly drained and not conducive to agronomic production. Some wetlands help to recharge ground water sources and serve as natural sponges for water accumulation. | Expense of removing wetlands must be balanced with costs and expected benefits. |
| Leave fences and associated strips of grass cover. | Undisturbed grass strips provide an important habitat for nesting, fall cover and food. These areas offer a change that breaks up large monocultures. Pheasants use diversified habitats. | There will be a loss of crop production on areas covered by fences and grass strips. An 8-foot (2.4-meter) width by one-half-mile (.8-kilometer) length of fence and grass represents 1 acre (.4 hectare). Use of large machinery may be hampered by fences. | Weed control may be necessary along fence rows unless favorable grasses and legumes are encouraged.* |
| Grow grass and alfalfa for late summer seed harvest. | Provides nesting cover, brood rearing and winter survival cover. | Utilizes productive land for non-surplus production. | Provides diversified income. Requires limited equipment modifications. |

*Instructions for planting grasses and legumes in odd areas and roadsides are available from the author.

Table 2: Negative Agricultural Practices and Pheasants.

| Negative agricultural practices | EFFECTS | | |
|---|---|---|---|
| | Pheasants | Agriculture | Economy |
| Fall plowing (in most soil types.) | Fall plowing buries food and reduces cover. Snow is more likely to drift into shelterbelts and marshes affecting cover in those areas. | Most moderately to well-drained soils can be fall chisel-plowed or sub-surface tilled. Fall tillage usually is not needed unless weeds are a problem or adverse soil conditions exist. Fall plowing is necessary only on poorly-drained bottomland soils in most cases. | Cost of fall plowing with a moldboard plow is greater than comparable methods. |
| Burning ditches, roadsides, odd areas and fields. | Burning destroys nests, eggs, young and some adult pheasants. Habitat along with food, nesting, brood rearing, escape and winter shelter is destroyed. | <p>Burning creates bare seedbeds ideal for weed production. Weed seeds already are in the ground at time of burning. Organic material is lost from soil through burning. Loss of ground cover increases soil erosion and siltation of water areas. Grass yields are reduced 50 to 70 percent from fall and spring burning.</p> <p>Burning aids weed removal from ditches that are not accessible by mechanical means.</p> | <p>Residue from a 30-bushel-per-acre (1 cubic meter per .4 hectare) wheat crop will contain nitrogen valued at \$2.25 per acre (.4 ha). If the residue is burned, all nitrogen and some phosphate, calcium and other minerals are lost. Burning ditch banks, roadsides and odd areas increases farming costs but does not give longterm weed control in return.</p> <p>Fence posts can be damaged if burning is not done correctly.</p> |
| Heavy grazing of shelterbelts. | Heavy grazing destroys the value of shelterbelts for nesting, brood rearing and general cover. | Heavy grazing of shelterbelts decreases control of wind erosion, harms trees and reduces longevity of trees. | Wind erosion and loss of moisture decreases profits to farmers. Replacement of damaged shrubs and trees is expensive. |
| Removal of old tree blocks and belts. Planting single-row belts instead of multi-row belts. | These practices remove cover for brood rearing and winter survival. | Single-row belts reduce their effectiveness for moisture retention and control of wind erosion. | Acceleration of soil and moisture loss will reduce long-term income. |
| Livestock trampling and grazing around water sources. | Reduces vegetation used for nesting and winter shelter. | Vegetation loss and trampling reduces bank stabilization and increases siltation of water areas. Water areas may be destroyed and livestock may be accidentally lost. | Cost of replacing water areas and livestock could be spared by restricting access. |
| Overuse of herbicides. | Herbicides reduce some species of plants important as food for pheasants. Density of nesting cover is reduced. Wood cover may be lost if trees or shrubs in adjacent shelterbelts are killed. | <p>Noxious weeds must be controlled. Other weeds can be left as wildlife cover in nonuse areas.</p> <p>Overuse of herbicides is detrimental to animals and crops. Serious pollution of surface and ground water may occur.</p> | Extra herbicides increase costs but add nothing to income. |

Appreciation is extended to the Pheasant Task Force Committee at South Dakota State University for the research conducted on farming and pheasants.