Prairie Conservation Strips on My Land: Frequently Asked Questions

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Abstract
VISIT STRIPS in Jasper County: Neal Smith National Wildlife Refuge 9981 Pacific Street, Prairie City, Iowa (515) 994-3400, NealSmith@fws.gov. FIND more resources on the web: The STRIPS research team website includes information on partners and participants, as well as upcoming field days and demonstration site locations. Find more at: www.prairiestrips.org. The Leopold Center for Sustainable Agriculture has compiled various multimedia resources, including: A Landowner’s Guide to Prairie Conservation Strips, The Cost of Prairie Conservation Strips and Small Changes, Big Impacts: Prairie Conservation Strips. Find more at: www.leopold.iastate.edu/strips-research-team.

Keywords
prairie strips, sustainable agriculture, rowcrops, financial support

Disciplines
Agricultural Economics | Agronomy and Crop Sciences | Biodiversity | Environmental Education | Natural Resources Management and Policy | Sustainability

Comments
This is a report of the STRIPS research team, Leopold Center for Sustainable Agriculture (2014): pp. 1-8.
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Science-based trials of rowcrops integrated with Prairie Strips

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May 2014
STRIPS: Science-based Trials of Rowcrops Integrated with Prairie Strips

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LEARN more about prairie restoration:
The following resources may be helpful: Incorporating Prairies into Multifunctional Landscapes by Meghann Jarcow and Matthew Liebman (available online from ISU Extension); The Tallgrass Prairie Center Guide to Prairie Restoration in the Upper Midwest, by Daryl Smith, Dave Williams, Greg Houseal and Kirk Henderson; and A Practical Guide to Prairie Reconstruction by Carl Kurtz.

FIND financial support:
The following Natural Resources Conservation Service (NRCS) programs offer financial and technical assistance to Iowa landowners. Learn more: www.ia.nrcs.usda.gov/programs
» Conservation Reserve Program (CRP) offers 10-15 year contracts
» Environmental Quality Incentives Program (EQIP) may assist with prairies you plan to harvest or graze, depending on county.
» Wildlife Habitat Incentive Program (WHIP) offers a maximum of $30,000 to install and maintain habitat on private land. Funds are limited and vary by state. Contact your local NRCS office for more.

You also can receive assistance from these programs:
» U.S. Fish and Wildlife Partners Program works with landowners to restore wildlife habitat: www.fws.gov/midwest/partners
» Resource Enhancement and Protection (REAP) gives small grants for soil and water protection: www.iowadnr.gov/Environment/REAP
» Trees Forever funds community projects: www.treesforever.org
» Pheasants Forever offers cost-share options: www.pheasantsforever.org
» Plant Iowa Natives offers a seed suppliers directory under “Professional Services & Plant Materials”: www.tallgrassprairiecenter.org/plantiowanative/
Possible to reduce sediment loss by 95% with only 10% land in prairie strips

Possible to reduce water runoff by 40% with only 10% land in prairie strips

Possible to reduce phosphorus loss by 90% with only 10% land in prairie strips

Possible to reduce nitrogen loss by 84% with only 10% land in prairie strips

Prairie strips increase plant diversity for birds and other wildlife

Prairie strips increase number of pollinators and insect pest enemies
1) Prairie seed contains numerous plant species, adding valuable bands of diversity to landscapes dominated by row crops.
2) In diverse, multifunctional landscapes, even if an individual species performs poorly due to yearly nutrient or water fluctuations, the community as a whole thrives, staying resilient when faced with climate extremes.

Cost reduction and income sources

Cost-share options

- Conservation Reserve Program (CRP) contracts through USDA Farm Service Agency, Natural Resources Conservation Service (NRCS)*
- Contour buffer strips (Practice code 332)
- Filter strips (Practice code 393)

Added income

- Trees Forever [www.treesforever.org](http://www.treesforever.org)
- Pheasants Forever [www.pheasantsforever.org](http://www.pheasantsforever.org)
- Seed supplier discounts
- Grazing
- Bioenergy (Biomass harvest)
- Seed production
- Potential ecosystem service credits
- Hunting
- Honey
- Game bird production
- Forage, bedding, biomass sales
- Water purification and flood control
- Pollination
- Carbon sequestration
- Reduced nitrogen emissions to air and water

*Contact your NRCS district conservationist

What are some current and future income possibilities with prairie strips?
1) Strips of prairie between row crops create healthier, diverse habitat for numerous plant and animal species. They support species of ecological, commercial and recreational significance, including 2) native pollinators, 3) cattle and 4) game birds.

**Planting options**

**Where do I start?**

- Keep up with current events: Iowa Prairie Network
  [www.facebook.com/IowaPrairieNetwork](http://www.facebook.com/IowaPrairieNetwork)

- NRCS Iowa directory:
  [Native Plant Material Sources: For Iowa and immediately adjoining regions](https://1.usa.gov/1mMa9xo)

- Tallgrass Prairie Center’s Plant Iowa Natives:
  [www.tallgrassprairiecenter.org/plantiowanative/](http://www.tallgrassprairiecenter.org/plantiowanative/)
  Plant species databases under “Native Plant Information”
  Seed sources and other services under “Professional Services & Plant Materials”

**What kind of seed should I use?**

- Native tallgrass prairie grass and forb seeds

- Mix should contain both cool and warm season grasses and a combination of forbs attractive to wildlife, including upland game and grassland birds, pollinators and crop-pest enemies

**What kind of planter should I use?**

- Seed drill planters

- Many NRCS offices and some SWCD boards, Pheasants Forever chapters and seed retailers have drills; lists of contractors are available at FSA and NRCS offices with seed suppliers

NRCS: Natural Resources Conservation Service

SWCD: Soil and Water Conservation District

FSA: USDA Farm Service Agency
How do I put prairie strips on my land?

Where do I put strips?
Depends on field size, slope and soil types; minimally at the foot of a slope, and also potentially upslope within the rowcrops.
Areas of potential concentrated flow erosion should be protected by conservation practices such as grassed waterways. Where contour row curvature becomes too sharp to keep equipment aligned with rows during field operations, increasing the buffer strip width can help avoid sharp ridge points.

How much land should I put in strips?
As little as 10% of the total acreage effectively treats the entire field*.
*Actual amounts may vary depending on farm size, soil quality and existing conservation practices.

How wide should strips be?
Variable; at least 15 feet, 30 feet minimum required for CRP credits.

Do I need to prepare the area?
A soybean crop followed by a burndown herbicide is ideal.

When is the best time to plant?
Spring before crop planting, or fall after crop harvest.

Seeding Calendar For Warm and Cool Season Grasses, from United Seeds: bit.ly/1fyo3kA

CRP: Conservation Reserve Program

Areas 1 and 2) In the first few years after planting, strips may not look much like prairie. They may contain weedy grasses or forbs (such as thistles). Depending on the size of the farm, weed suppression options include hoeing, mowing, spot treatment or burning to promote prairie seedling establishment.

3) Mature prairie plants outcompete weedy plants, and do not require much maintenance.

4) Prairie plants do not move into the crop fields, but become valuable adjacent habitat for pollinators and predators of crop pests.
What to expect after prairie strips are planted

- **Year 1**
  - Strips will look weedy
  - Mowing will be required to give the young prairie plants a competitive advantage over weeds
  - Weeds do not move into crop area

- **Year 2**
  - Strips will begin to look like tallgrass prairie
  - Mowing will be required to give the prairie plants a competitive advantage over weeds
  - Weeds do not move into crop area

- **Year 3**
  - Recognizable prairie of grasses and flowering forbs
  - Prairie plants do not move into crop area

- **Years 4-6**
  - Increased biodiversity
  - Mowing or burning will be required in spring
  - Prairie plants do not move into crop area
  - Some sediment may accumulate along uphill edge of strips
  - Mowing or burning every other year will promote prairie vegetation

- **Years 7+**
  - Increased biodiversity
  - Strips are self-sustaining, require minimal management
  - Mowing or burning every other year will promote prairie vegetation

Apart from prairie planting equipment (above), you should be able to establish and maintain prairie strips with standard farm equipment.
How much will prairie strips cost?

Table: Estimated range of costs for a 15-year management plan of 10% prairie strip planting after soybean (in approximate 2014 dollars).

**Site preparation**
- **Year 0:**
  - Tillage: $6–31 per acre
  - Herbicide: $41–82 per gallon
  - Herbicide application: $21–88 per acre

**Establishment**
- **Year 0:**
  - Seed: $124–$258 per acre
  - Seed drilling: $10–49 per acre
  - Seed packing: $5–31 per acre

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**On average, site preparation and establishment are less than 10% of the total cost per year per treated crop acre**

**Management**
- **Annual:**
  - General operating costs: 1–3% of upfront costs
- **AND**
  - Years 1–15:
    - Mowing: $5–57 per acre
    - Baling: $9–16 per acre
- **OR**
  - Years 2–15:
    - Burning: $31–103 per hour

**Opportunity costs**
- **Annual:**
  - Land rent: Variable

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**Mean price per acre**

<table>
<thead>
<tr>
<th>Item</th>
<th>Year 0:</th>
<th>Year 1–15:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tillage</td>
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</table>

**Figure:**

1 acre in prairie
9 acres in corn or soybeans
Downslope water flow

Treatment costs are calculated over the entire field area. One acre of prairie treats the corresponding 9 acres of row crops. The cost of prairie strips is therefore spread out over 10 acres, 90% of which remain in crop production.

* Several cost-share opportunities are available; for example, the cost to the farmer can be reduced by up to 85% with Conservation Reserve Program (CRP) payments.