Pollinator Planting, Washakie County, WY

Blaise Allen, NRCS Rangeland Management Specialist July 2019

Objective: Create pollinator habitat
County: Washakie County
Average Annual Precipitation: 5 – 9 inches
MLRA: 32, Northern Intermountain Desertic Basins
Dominant Soil Type: Wallson
Elevation: 4742 ft
Site Preparation: Site was previously cultivated field
Seeding Date: May 10, 2018
Seeding Method: No-till drill seeder
Acres Seeded: 0.5 acres
Previous Site History: Cropland with rotating beets and barley
Herbicide: None applied
Irrigation: Flood irrigation every 12 days after seeding
Grazing: Wildlife only
Monitoring Dates: August 2018

Fig. 1. Rocky Mountain beeplant three months after seeding, Aug 2018.

Introduction:

The goal of this field planting was to create pollinator habitat by planting native flowering plants. Pollinators are threatened worldwide by habitat loss and fragmentation, pesticide exposure, disease, parasites, and the introduction of exotic organisms. This has serious economic implications for humans and for ecosystem diversity and stability. Pollinators are increasingly important as the number and acreage of crops dependent on insect pollination services are steadily growing. This field planting developed pollinator habitat by seeding an array of plants that flower throughout the entire growing season. Creating high quality habitat for pollinators provides a source of nectar for adult pollinators, a diversity of herbaceous material for immature pollinator life stages, and herbaceous material for nesting.

This project drill seeded eight native flowering plants into a previously cropped field. Species were selected from each of the three bloom periods - early (April, May, June), middle (July, August), and late (September, October) season – in order to provide a nectar source for insects throughout the growing season (Table 1). The site is flood irrigated every other week.

Table 1. Seeded species and their seeding rate.

Common Name	Scientific Name	lbs PLS/acre
Blanketflower	*Gaillardia aristata*	3.7
Black-eyed Susan	*Rudbeckia hirta*	3.7
Blue flax	*Linum perenne*	1.25
Dotted gayfeather	*Liatris punctata*	0.05
Prairie coneflower	*Ratibida columnifera*	0.7
Purple coneflower	*Echinacea angustifolia*	1.8
Purple prairie clover	*Dalea purpurea*	2.5
Rocky Mountain beeplant	*Cleome serrulata*	0.9

Results:

- Black-eyed Susan was the top performer with over two plants/ft^2 and up to 70% canopy cover in July 2019 (Table 2, Fig 2). The flood irrigation clearly benefited this species.
- Blanketflower and prairie coneflower also established well with approximately 1 plant/ft^2 and up to 10% canopy cover in 2019.

- Blue flax and Rocky Mountain beeplant were present in small amounts only in the drier portions of the field.
- All species that established had 95% or more of the plants flowering except for purple coneflower that remained a seedling without a flowering stalk.
- Orchardgrass volunteered on the site with approximately 10% canopy cover. Adding small amounts of a grass species to a pollinator planting is beneficial for insect nesting habitat.
- The successful establishment of the flowering plants left little room for weed encroachment. Weeds present in small amounts were foxtail, barely, horsetail, and kochia.

Fig. 2. Rows of black-eyed Susan, blanketflower and prairie coneflower established with flood irrigation, July 2019.

Table 2. Species establishment and characteristics, July 2019.

Common Name	Density (plants/ft^2)	Canopy Cover (%)	Height (inch)	Percent Flowering (%)	Notes
Blanketflower	0.8	10	17	95	
Black-eyed Susan	2.6	70	25	98	
Blue flax	0.1	1	21	98	Only in drier areas
Dotted gayfeather	0	0	-	-	
Prairie coneflower	1.0	5	12	98	
Purple coneflower	trace	1	7	0	
Purple prairie clover	0	0	-	-	
Rocky Mountain beeplant	trace	1	36	98	Only in drier areas

Fig. 3 (above). Blanketflower establishing in drill rows, Aug 2018.

Fig. 4 (right). Lewis flax established in drier areas, Aug 2018.