

A decorative graphic featuring a large, light blue dashed circle that frames the central text. Various colored circles and rings are scattered around the page: a large teal ring in the top left, a smaller teal circle below it, a lime green circle in the top right, a green circle with a dashed border below it, a pink circle in the middle right, an orange circle in the bottom right, a yellow ring in the bottom right, a lime green circle in the bottom left, a green circle with a white dot in the bottom left, and a small orange circle in the bottom left. The text is centered within the dashed circle.

How to assess hive placement

Hello!



I am Kirstin Bailey

I work at the Center for Rural Affairs and have had bees for 7 years. I work with beginning farmers, beekeepers, and landowners in my work.



The background features several decorative elements: a large orange ring with a dashed white inner circle in the top left; a large cyan ring with a white inner circle in the bottom right; a large cyan number '1' inside a dashed cyan circle in the top center; and various smaller solid and dashed circles in green, yellow, pink, and cyan scattered throughout.

1

Recommended resources

Tools to help assess habitat



THE XERCES SOCIETY
FOR INVERTEBRATE CONSERVATION

Native Bee Conservation

Pollinator Habitat

Assessment Form and Guide

FARMS AND AGRICULTURAL LANDSCAPES



July 2015

The Xerces Society for
Invertebrate Conservation

www.xerces.org

CONTENTS

INTRODUCTION

BASIC POLLINATOR ECOLOGY 2
OTHER BENEFICIAL INSECTS 2

COVER CROPS ON YOUR FARM 3

OPPORTUNITIES TO USE COVER CROPS 4
PLANTING AND MANAGING YOUR COVER CROPS 5

PLANT SELECTION 6

COVER CROP COCKTAILS 7
COMMON AND SUGGESTED ROTATIONS 7

BALANCING INSECT CONSERVATION WITH USDA CROP INSURANCE RULES 9

TABLE: RELATIVE VALUE OF COVER CROP SPECIES TO BEES AND OTHER BENEFICIAL INSECTS 10

LIMITATIONS OF COVER CROPS 13

BEYOND COVER CROPS 13

INSECTICIDES AND INSECT CONSERVATION 14

AVOIDING PEST INCREASES 14

REFERENCES 15

RESOURCES 16

Available at www.sare.org/cover-cropping-for-pollinators, or order free hard copies by calling (501) 779-3007.



Cover Cropping for Pollinators and Beneficial Insects



Doug Crabtree uses many tools to make his Montana farm bee friendly. — Photo by Jennifer Hopwood; Phacelia is an attractive pollinator cover crop. — Photo by Julie Hayden; Clover fixes nitrogen and provides bee forage. — Photo by Judson Reed

DOUG AND ANNA CRABTREE'S VILICUS FARM RESTS on more than 2,000 acres in northern Montana, and it is a model of how cover crops can be a foundation of pollinator and beneficial insect management. Like many farmers, their approach to cover cropping began with an interest in soil health and quickly grew to encompass much broader goals as they recognized the additional benefits cover crops could provide.

"We want to implement pollinator conservation at the field-level scale," Doug says. "Anyone can create a small wildflower strip, but as we scale up, we need conservation areas distributed across the entire operation."

While the Crabtrees have established permanent native wildflower strips around many of their fields to provide a skeleton of habitat throughout the farm, extensive cover crop rotations provide the muscle that makes their operation a rich landscape for bees and other beneficial insects.

This commitment to cover cropping is having clear and positive impacts. Flax, sunflower and safflower are just a few of the Crabtrees' regular crops that either require or strongly benefit from insect pollination. And, because of their commitment to integrating habitat for wild pollinators throughout their holdings, the Crabtrees have never needed to bring honey bee hives onto the farm for pollination. Instead, a walk through their fields quickly reveals an abundance of wild bumble bees, longhorn bees, sweat bees and more—all supported by the farm's habitat. A farm's ability to support its own pollinator community provides security, especially if managed honey bee hives become scarce or expensive.

In addition to supporting the pollinator community, cover crops have many traditional uses on a farm. These range from preventing erosion and improving soil health to managing weeds and serving as an additional source of income when part of a double-crop system. With cover

Relative Value of Cover Crop Species to Bees and Other Beneficial Insects

Cover Crop	Life Cycle	Seeding Rate (pounds/acre single species)	Seeding Depth (inches)	Honey Bee Value	Wild Bee Value	Beneficial Insect Value (predators and parasitoids)	Alternative Host of Crop Pests	Notes
Clover, red	Perennial	5-20	¼	Moderate	High	Low	Various leafhoppers, true bugs and generalist aphids	Typically short-lived; high value for bumble bees
Clover, rose	Annual	10-25	¼	Moderate	High	Moderate	Various leafhoppers, true bugs and generalist aphids	Excellent bumble bee plant
Clover, strawberry	Perennial	5-15	¼	High	High	Moderate	Unknown	Can be weedy and invasive
Clover, subterranean	Annual	10-20	¼	None	None	Low	Pea aphids, tarnished plant bugs	Flowers are inconspicuous and do not attract pollinators
Clover, white	Perennial	5-15	¼	High	High	Moderate	Various leafhoppers, true bugs and generalist aphids	Considered a top honey plant
Chickpea	Annual	80-120	1½	Low	Low	Low	Pea borers, wireworms	Beneficial insects are attracted to extrafloral nectaries
Cowpea	Annual	30-90	1	High	High	High	Various stink bugs, leaf-footed bugs, aphids	Extensive extra-floral nectaries attract large numbers of beneficial parasitoid wasps as well as other beneficial insects
Fava bean	Annual	80-160	3	Low	Moderate	Moderate	Unknown	
Lablab	Annual	30-40	1-4	Moderate	Moderate	Moderate	Unknown	Vining growth habitat; more common in subtropical climates
Lupin	Annual	40-120	1-2	Low	Moderate	Moderate	Unknown	
Medic	Annual (a few species are perennial)	10-20	½	Low	Low	Low	Alfalfa weevils, pea aphids, tarnished plant bugs	Small, nondescript flowers attract few beneficial insects
Partridge pea	Annual	10-20	¼-¾	Moderate	High	High	Various leafhoppers	Extensive extra-floral nectaries attract large numbers of beneficial parasitoid wasps
Pea, field	Annual	50-100	2	Low	Low	Low	Tarnished plant bugs	
Sainfoin	Perennial	40-80	½	High	High	Moderate	Unknown	Considered a top honey plant
Soybean	Annual	35-120	1	Moderate	Moderate	Moderate	Wireworms, bean leaf beetles, potato leafhoppers and various others	
Sunn hemp	Annual	20-40	¾	Moderate	High	Moderate	Unknown	Attracts wild carpenter and leafcutter bees in tropical farm systems; supports parasitoids of corn earworm in the Pacific Islands region
Sweet clover	Biennial	6-20	½	High	High	High	Unknown	Considered a top honey plant; may be weedy or invasive in some areas

For Beekeepers

The screenshot shows a web browser displaying the Great Plains Master Beekeeping website. The browser's address bar shows the URL `gpm.unhosting.site`. The website has a red header with a logo on the left, the text "ENGLISH" in the center, and notification and user icons on the right. Below the header, the site title "Great Plains Master Beekeeping" and the URL "gpm.unl.edu" are displayed. The main content area features a large banner image of bees on a honeycomb with a logo overlay. The logo consists of a white 'X' with a bee, a flower, and an open book. Below the banner, the text "GREAT PLAINS MASTER BEEKEEPING" is prominently displayed, followed by "REGIONAL BEEKEEPER TRAINING AND CERTIFICATION PROGRAM" in smaller text. To the right of the banner, there is a vertical list of navigation buttons: "How to Navigate the Website", "Resources and Electives", "Volunteer Submission", "External Course Submission", "Field Training Submission", and "Enroll for In-Person Courses". Below these buttons, a user profile section shows "Logged in user" as "Kirstin Bailey" with the email address "kirstinb@cfra.org". At the bottom of the page, there are three buttons: "Go to my Dashboard", "Go to my Profile", and "Go to GPMB .edu Website".

gpm.unhosting.site

FandC shared drive All active grants alp... Latino Farming Gra... Paylocity - Login Financial Edge NXT F&C Grant Balancin... Event Outreach (Re... State Voices - Main... Aries Archives - Ch... Submitted IARF

ENGLISH

Great Plains Master Beekeeping gpm.unl.edu

GREAT PLAINS MASTER BEEKEEPING
REGIONAL BEEKEEPER TRAINING AND CERTIFICATION PROGRAM

How to Navigate the Website

Resources and Electives

Volunteer Submission

External Course Submission

Field Training Submission

Enroll for In-Person Courses

Logged in user

Kirstin Bailey
Email address:
kirstinb@cfra.org

Latest badges

Go to my Dashboard

Go to my Profile

Go to GPMB .edu Website

Resources Mentioned:

Xerces Pollinator Habitat Assessment

-<https://xerces.org/pollinator-conservation/habitat-assessment-guides>

SARE Cover Crops for Pollinators

-<https://www.sare.org/wp-content/uploads/Cover-Cropping-for-Pollinators-and-Beneficial-Insects.pdf>

Great Plains Master Beekeeping

-GPMB.UNL.EDU