Introducing Bee Better Certified™

June 20, 2017 Hillary Sardiñas, The Xerces Society Connie Karr, Oregon Tilth

Bee Better's Vision

Bee Better Certified[™] partners with farmers and food companies to conserve bees and other pollinators in agricultural lands. Our work advances more resilient pollinator populations and sustainable crop production. The Bee Better Certified seal identifies and celebrates farmers and businesses that adopt farm management practices that support pollinators, and gives consumers confidence that their purchasing decisions benefit pollinators and the farmers working to protect them.



Partners Behind the Bee



for Invertebrate Conservation





The Xerces Society

Xerces conducts education, conservation, research, and advocacy to protect invertebrates and their habitat. Since 2008 we've supported over 400,000 acres of beneficial insect habitat.





1971-2011: Forty Years of Conservation

the Kerces Society is a nonprofit organization that protects wildlife through the conservation of nvertabrates and their habitat. For forty years, the Society has been at the forefront of invertabrate rotection worldwide, harries and the knowledge of eperitets and the enthusiaem of otheres to implement servation programs.

Features

Dratonity Pond Watch Project

The Migratory Dragonilly Partnership has launched the new Dragonilly Fond Watch project to investigate movements of migratory dragonity species in North America. This project engages otizen scientist monitors to contribute valuable data based on their observations at local ponds. East more

Are Neonicoticolds Killing Dees?

Neoriscotinoid insecticides are undely used in agriculture, commercial, and residential landscaper Studies show that neoncotronid residues in polien and next in may be high enough to harm bees, particularly in plants treated at preamental rates. The report reviews the research and makes recommendations for protecting been Read more

atory Dragonfly Partnership

ces is channy a newly-formed plethership of dragonity experts. NGOs, scademic institutions Inie par email hat

ERCES SOCIETY GUIDE Attracting POLLINATORS





BEE BETTER CERTIFIED XERCES SOCIETY

Photos: Don Keirstead; Paul Jepson; Dick Dewey

Click here to donate

Latest Xerces News

2012134

representation Pastrode Linker

Perturbed been inte future

sectorates can lead to heave

Leers, strenung colorect

Farmers nationwide plant:

CONTRACTOR CONTRACTOR

rosuity, way home. Low dopes d

The Xerces Society

Expertise in

- Beekeeping
- Farming
- Insect pest management
- Pesticide mitigation

- Native seed production
- Research entomology
- Restoration ecology
- Rangeland management



Photos: Xerces Society

Oregon Tilth

Expertise in

- Organic Certification and Inspection
- Policy and Standards development

- Inspection for various standards FairTrade, BCI, Salmon Safe
- Advocacy for Organic
- Education in organic and sustainable agriculture





grant number 69-3A75-17-37

NRCS Funding

Received a Conservation Innovation Grant from USDA to help roll out the certification.

We are working with corporate and EQIP-eligible farmers to demonstrate proof-of-concept.



Photos: Sarah Foltz Jordan

BEE BETTER

CERTIFIED

XERCES SOCIETY

Benefits to Other Wildlife

- 25% of the bird and mammal diets consist of pollinator-produced seeds/ fruit
- Pollinators are food for wildlife
- Pollinator habitat compatible with needs of other wildlife



Valuable to our economy & diets!

- 35% of worldwide crop production
- Service valued at \$217 billion worldwide
- Many necessary vitamins & minerals come from insectpollinated plants

Your options with pollinators

Source: Morse and Calderone 2000; Klein et al. 2007; Eilers et al. 2011

Photo: Whole Foods Market

and without pollinators . . .

Pollinators in decline







Pollinators rebound in response to habitat, benefit when exposure to pesticides is limited.



Ponisio et al. 2016; M'Gonigle et al. 2015; Ponisio et al. 2015; Williams et al 2015; Blaauw and Issacs 2014; Garibaldi et al. 2014; Kennedy et al. 2013; Morandin and Kremen 2013; Morandin et al. 2011; Forup et al. 2008.

Bee Better Certification arose out of a need to have on package claims that are standardized, meaningful for pollinators, and science-based.





Production standards: Rooted in research

The requirements for the Bee Better Certified are based on over a decade of research at a diverse range of farms across the country.





Source: M'Gonigle et al. 2015; Graphic: L. Ponisio

BEE BETTER

CERTIFIED

XERCES SOCIETY

Production standards: Field-tested

And by codifying many of the strategies that the Xerces Society has observed to be successful in practice.



For Farmers of All Types

Bee Better's requirements are flexible enough to suit farms of all types and sizes, from nut and fruit orchards to grain growers and dairies.

Both conventional and organic farms can be certified.



Photos: Jessa Kay Cruz; Sarah Foltz Jordan





5% area of farm in Pollinator Habitat

Floral diversity throughout year

Nesting Habitat

Pesticide Risk Mitigation in place

If use managed bumble bees . . .

Do not use for open field pollination



Nuts and Bolts

 \checkmark

5% area of Farm in Pollinator Habitat

Of the 5% required, at least 1% of the total farm acreage must be permanent habitat.



Permanent habitat is present year-round. Plants may be in a vegetative or dormant state during the winter

Examples of permanent habitat: Hedgerows, perennial or reseeding wildflower strips, riparian forests, filter strips.



Temporary habitat may die back annually or be moved around the farm (e.g., rotating cover crops).

Examples of temporary habitat: Cover crops, insectary strips, mass-flowering crops.



Phacella ciliata Nemophile maculata Layia platygiossa Nemophile menzinsii Phacella tenacettinia Lupinus soccufentus Lupinus densillorus Eschscholzis californica Clarkia unguiculata Gilia capitata Phacella californica

Salvia chevelandii Aschepias fascicularis Lupinus formosus

Grindella camporum Hellanthus annuus Madia elegans Solidago canadensis

Symphyotrichum chilense Trichostema lanceolatum

At least 3 species in bloom in each season (spring, summer, fall)



BEE BETTER CERTIFIED XERCES SOCIETY

Photo: Jessa Kay Cruz

Phaceila ciliata Nemophila maculata Layia platygiossa Nemophila menzinsii Phaceila tanacetitnila Lupinus succulentus Lupinus densillonus Eschschotzia californica Clarkia unguiculata Gilia capitata Phaceila californica Eriogonum fasciculatum

Salvia chevelandii Aschepias fascicularis Lupinus formosus

Grindella camporum Hellanthus annuus Madia elegans Solidago canadensis

Symphyotrichum chilense Trichostema lanceolatum

At least 3 species in bloom in each season (spring, summer, fall)





Photo: Jessa Kay Cruz

Phaceila ciliata Nemophila maculata Layia platygiossa Phaceila tanacettinia Lupinus succulentus Lupinus succulentus Lupinus densillonus Eschschoizia californica Clarkia unguiculata Gilia capitata Phaceila californica

Salvia chevelandii Aschepias fascicularis Lupinus formosus

Grindella camporum Hellanthus annuus Madia elegans Solidago canadensis

Symphyotrichum chilense Trichostema lanceolatum

At least 3 species in bloom in each season (spring, summer, fall)



BEE BETTER CERTIFIED **XERCES SOCIETY**

Photo: Jessa Kay Cruz



Photographs by The Xerces Society/Jessa Kay Cruz.





Protect existing nest sites

Photos: Eric Lee-Mader; Matthew Shepard; Hillary Sardinas

Habitat Overview Reduce within field-disturbance

BEE BETTER CERTIFIED **XERCES SOCIETY**

Photos: Katharina Ullmann; North Dakota State Extension

Create nesting habitat

Photos: Nancy Lee Adamson; Sarah Foltz Jordan; Rob Cruickshank; Jennifer Hopwood

Provide nest construction materials



BEE BETTER CERTIFIED **XERCES SOCIETY** Photos: Rollin Coville; Rob Cruickshank





Pest Management Overview Holistic approach to pest management





Pest Management Overview

Prevention using non-pesticide techniques

- Rotate crops
- Choose resistant varieties
- Use physical controls such as light traps and vacuuming pests
- Implement conservation biological controls
- Support high plant diversity through intercropping, crop diversity, insectary plantings, companion planting or permanent habitat
- Tolerate pests at low levels

Pest Management Overview Justifying use



Monitoring is the main tool used to document if pest problem is sever enough to require action



Pest Management Overview

Eliminate high risk uses





- No nitroguanidine neonicotinoids
- No soil fumigants
- No pesticide mixtures shown to increase toxicity
- No GMOs that express pesticides or are herbicide-resistant

- Broad limits on pesticide use during bloom (including both fungicides and pesticides known to be toxic)
- No aerial applications





Illustration: USDA National Agroforestry Center

Managed Bumble Bee Overview Use bumble bees in their native ranges



Bombus vosnesenskii Yellow-face bumble bee Bombus impatiens Eastern bumble bee Range Map Bombus vosnesenskii Extant, Native Range Map Bombus impatiens Extant. Introduced Extant, Native Sources: Esri, USGS, NOAA

BEE BETTER CERTIFIED XERCES SOCIETY

Maps: Rich Hatfield

Managed Bumble Bee Overview



Use only in controlled, sealed environments







5% area of farm in Pollinator Habitat

Floral diversity throughout year

Nesting Habitat

Pesticide Risk Mitigation in place

If use managed bumble bees . . .

Do not use for open field pollination



Certification Process

- 1. Apply to Oregon Tilth
 - Application
 - Bee Better Certified Plan
- 2. Initial Review
- 3. On-site Inspection
- 4. Review of Report
- 5. Noncompliance Corrective Actions
- 6. Certification; Licensing for use of BBC Logo
- Update Plan Annually
- Full Renewal every 3 years





BEE BETTER

CERTIFIED

XERCES SOCIETY

Certification Process

How to Apply

Submit the following completed documents to <u>beebetter@tilth.org</u> or to Oregon Tilth via mail:

- BBC Plan Completed with maps, records and supporting documents
- 2. Bee Better Certified Application / form
- 3. Bee Better Certification Fee (\$400)



In further pursuit of our mission to support the practitioners of biologically sound agriculture, Oregon Tilth has teamed up with The Zerces Society, Inc. (Zerces), a nonprofit organization working to protect invertebrates and their habitass. Oregon Tilth is approved as a certification body by Xerces to offer certification to farmers to the Bee Better Certified[™] Production Standards and can assist farms with their verification needs to meet these standards.

Bee Better Certified Production Standards may be viewed at http://beebettercertified.org or requested directly from
info@beebetter.org

Bee Better certification is entirely optional and is independent of organic certification.

Please return this completed form along with your completed Bee Better Conservation Plan to the Oregon Tilth office via mail or email to berbetter@tilth.org.office in order to begin the process. Mail: 2525 5E 3* 5t., Corvalis, OR 97333

Oregon Tith will complete the audit and reverw for applying parties and will communicate directly to you any findings. Oregon Tith requires payment of the certification fee in the amount of \$400 to begin the process. Costs of the inspection will be billed directly to you after the inspection has been completed. Areas are \$60 per working hour (includes on-site audit time, report writing, and preparation) or \$25 per hour of travel.

Operation/Company Name:			
DBA's (if any):	- · ·		
Contact Person: For schedule and coordinating subt)			
Mailing/Billing Address: Street, Cts. State and Zp Codel	1		
Location Address(ins): (Street, City, State and Zip Cade)			
Phone Number(s): land, cell, other(100	Email Address	

Bee Better Certified Plan

- Foundation of your certification
- Requests many supporting documents*:
 - o Maps
 - Pesticide use records
 - Pest scouting and monitoring reports
 - Habitat plant lists
- Must be updated when changes occur
- Includes standards references and requirements for ease of completion

our certification

POLLINATOR HABITAT - Complete this section for all parcels. Attach additional pages as necessary.

Polinator habitat is defined as areas containing flowering plants and/or nesting sites. Remnant natural habitat, matured created and newly created habitat are all considered polinator habitat. New habitat is defined as habitat that is less than 3 years old or habitat created following initial certification.

- Areas dominated by invasive or noxious species cannot be considered pollinator habit
- The Operation must have at least 5% of the farm in pollinator habitat at all times. Of the 5% required, at least 1/5 must be in permanent habitat.
- If mass-flowering, polinator-attracting crops are identified as part of the temporary habitat, they may only account <u>spc_1/5</u>, regulast accesses in habitat.
- If certified parcels are disconnected, pollinator habitat should be distributed throughout the parcels, and the sum of the habitat established on all parcels must meet the Bee Better habitat requirements.

PERMANENT HABITAT

ermonent habitot is present year-round, although the plants may be in a vegetative or dormant state during the winter, samples of permanent habitat: Hedgerows, perennial or re-seeding wildflower strips, riparian forests, filter strips.

A minimum 5% of new permanent pollinator habitat plantings must be comprised of pithy-stemmed plants, plants that are used for nest cell materials, and butterfly host plants, and some of each category must be included.

Permanent Habitat Location/Unique Identifier	Plant Species or Plant Mix	# of Acres	Remnant/ Mature/ New	Pithy- Stemmed	Nest cell material	Butterfly host	Native
	1948	1010	-				
	(ment)	1000					
0.01	lar la	100	100				
000		ALC: NO.	1000				
		1000	1000				
(T)(1)	100	ALC: NO	ESC .				
100	No. 1	1000	000				
	No.	100	1000				
10000	C100	10000	10000	m			11

* Plan is considered incomplete without supporting documents



Certification Process

What to Expect

- 1. OT staff will review your BBC Plan for compliance with the standards. Will contact you for any missing information.
- 2. Inspector will contact to schedule a visit. Estimate 4 hours plus, depending on size of operation.
- 3. Review of report in office; Noncompliances or reminders may be issued. Corrective action may be necessary.
- 4. Certificate issued with licensing agreement.
- 5. Update BBC Plan annually, full renewal— including reinspection— every 3 years.



Resources

info@beebettercertified.org
beebettercertified.org/docs

beebetter@tilth.org
tilth.org/certification/
forms/bee-better/



o: Kat