BEE BETTER CERTIFIED™
Xerces Society for Invertebrate Conservation

Bee Better Certified™ Farm Plan (BBCFP) Template

Version 1.5 (September 2022)

SAMPLE PLAN

Do Not Use for Application

This material is based upon work supported by the Natural Resources Conservation Service, U.S. Department of Agriculture, under number 69-3A75-17-37. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the U.S. Department of Agriculture.

► Please complete this Plan for all operations seeking Bee Better Certification (BBC). This plan, along with any other forms required by the certifier, are required to begin the process of certification to the Bee Better Certified standards.

► Bee Better certification is valid for a period of three years, however, annual updates must be submitted to your certifier covering the following:

- Newly added or removed habitat, or when habitat value changes significantly (e.g., after the loss of numerous species from the initial planting)
- New pest issues
- New pesticide applications
- Alterations to protective measures related to managed bumble bees

► An updated BBC Farm Plan (BBCFP) must be submitted to your certifier at least 3 months prior to your certification renewal due date.

►A farm entity does not need to certify entire holdings. A portion of the holdings can be certified as long as buffer and other requirements are met. Only those acres included will be certified and subject to the Bee Better Certified standards.

☐ Check box if you have worked with a consultant, including the Xerces Society, to complete this form
Name and contact information of consultant:

_____

_____

Contact Information

Farm Operation Legal Name:	Magnolia Family Farms, Inc
Primary Contact Person: **(name, title, phone number, and email)**	Tanner Magnolia, Co-Owner, (530) 555-0101, tanner@magnolia.com
Secondary Contact: **(name, title, phone number, and email)**	Ralph Magnolia, Co-Owner/Operations Chief, (530) 555-0103, ralph@magnolia.com
Mailing/Billing Address: **(Street, City, State and Zip Code)**	555 Rd X, Knights Landing, CA 95991

The primary contact person is responsible for managing the Bee Better certification as it pertains to the operation and is involved in the day to day operations of activities associated with the production of Bee Better certified crops

The secondary contact person is preferably a legally responsible party and/or owner of the operations and will only be contacted if the primary contact cannot be reached

Bee Better Certified™ Farm Plan (BBCFP) Contents

1. LOCATION AND DESCRIPTION OF PRODCUTION PARCELS TO BE CERTIFIED

- Some habitat should be prioritized to be on the parcel or adjacent to crop fields or within 1 mile of the farm to be certified.
- If parcels are disconnected, habitat should be distributed throughout the properties, and the sum of the habitat established on all properties must meet the Bee Better Certified habitat requirements.
- As long as some permanent habitat is within 1 mile of a certified crop field, the remaining required permanent habitat may be situated up to 100 miles of at least 1 certified crop field.
- If no permanent habitat is situated within 1 mile of at least 1 certified crop field, habitat may be established farther away in conformance with the incremental increase in acreage outlined in Production Standard 1.1(a)(ix)

List parcels with crops for certification and/or permanent habitat

Approximate start and end times

Table 1. PARCEL INFORMATION			
Parcel location name or code: NR5	**Parcel address (Street, City, Zip) or GPS coordinates:** 38.857022, -121.988235	**County Assessor's parcel number, Section/ Township/ Range, or other legal description:** 10005864883	**Date parcel was bought, lease began, or became your responsibility:** D _15__ M __5_ Y_2015___
	Crop(s) grown: Almonds	**Crop(s) bloom time:** Late February – Early April	**Crops(s) harvest time:** Late September-mid October
	Crop acreage: Almonds 36.85	**Permanent habitat acreage:** 0.72	**Temporary habitat acreage:** 0
Parcel location name or code: PL76	**Parcel address (Street, City, Zip) or GPS coordinates:** 38.716069,-121.565412	**Legal description:** 10003948493	**Date:** D _21__ M ___3_ Y__2015__
	Crop(s) grown: Almonds	**Crop(s) bloom time:** Early Feb-End of March	**Crops(s) harvest time:** Mid October
	Crop acreage: 264.06	**Permanent habitat acreage:** 0.76	**Temporary habitat acreage:** 0
Parcel location name or code: Greenhouse	**Parcel address (Street, City, Zip) or GPS coordinates:** 38.716069,-121.565412	**Legal description:** 10008876489	**Date:** D __18__ M __6_ Y___1986_
	Crop(s) grown: Tomatoes	**Crop(s) bloom time:** April-July and December – Jan	**Crops(s) harvest time:** September and March
	Crop acreage: 1.48	**Permanent habitat acreage:** 0.97	**Temporary habitat acreage:** 0

Parcel location name or code: Reese's	**Parcel address (Street, City, Zip) or GPS coordinates:** 500 RD X, Knight's Landing, CA 95991	**Legal description:** 54303058818	**Date:** D _18___ M __6__ Y__2015__
	Crop(s) grown: Almonds Walnuts	**Crop(s) bloom time:** Early Feb – End of March April - May	**Crops(s) harvest time:** Late September
	Crop acreage: Almonds – 343.74 Walnuts - 171	**Permanent habitat acreage:** 10.11	**Temporary habitat acreage:** 41.66
Parcel location name or code:	**Parcel address (Street, City, Zip) or GPS coordinates:**	**Legal description:**	**Date:** D _____ M _____ Y______
	Crop(s) grown:	**Crop(s) bloom time:**	**Crops(s) harvest time:**
	Crop acreage:	**Permanent habitat acreage:**	**Temporary habitat acreage:**
Parcel location name or code:	**Parcel address (Street, City, Zip) or GPS coordinates:**	**Legal description:**	**Date:** D _____ M _____ Y______
	Crop(s) grown:	**Crop(s) bloom time:**	**Crops(s) harvest time:**
	Crop acreage:	**Permanent habitat acreage:**	**Temporary habitat acreage:**
Parcel location name or code:	**Parcel address (Street, City, Zip) or GPS coordinates:**	**Legal description:**	**Date:** D _____ M _____ Y______
	Crop(s) grown:	**Crop(s) bloom time:**	**Crops(s) harvest time:**
	Crop acreage:	**Permanent habitat acreage:**	**Temporary habitat acreage:**

For parcels with multiple crops, list acreage and bloom time separately for each crop

MAPS ☒ Attached or included in BBC Application Package

Please attach map(s) of the parcels listed above. At least one map must be an Assessor's Parcel Map, an aerial photo, or other map that **clearly shows the boundaries of the parcel.** Please include the following information on your map(s):

1) Parcel name or code
2) Indication of north
3) Location of *temporary* habitat with identifiers
4) Location of *permanent* habitat with identifiers
5) Location of areas where nitroguanidine neonicotinoids were used in the past two years
6) Location of buffer areas
7) Neighboring land uses to habitat areas
8) Useful landmarks (e.g., other buildings on-site, distinctive features, roads, etc.)
9) Location of tillage practices as described in this plan
10) Location of known bee nesting areas or resources, as applicable.
11) Locations of greenhouses that commercial bumblebees are housed, as applicable.

A detailed map with all required information is essential for the review process. Please submit the map as a separate file or document when submitting the plan to your certifier

Contact support@beebettercertified.org for additional assistance completing your map

2. POLLINATOR HABITAT

See BBC Farm Management Assessment Guide and BBC Production Standards for definitions and descriptions of habitat and planting types

Pollinator habitat is defined as areas containing flowering plants and/or nesting sites. Remnant natural habitat, mature created and newly created habitat are all considered pollinator 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 habitat.
- The Operation must have at least 5% of the farm in pollinator habitat at all times. Of the 5% required, at least 1/5 (equivalent to 1% of certified production acreage) must be in permanent habitat.
- If mass-flowering, pollinator-attracting crops are identified as part of the temporary habitat, they may only account for 1/5 of the required acreage in habitat (equivalent to 1% of certified production acreage).
- 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 (as outlined in Production Standards 1.1(a)(vii-ix)).

2.1 TEMPORARY HABITAT

Temporary habitat must include one or more flowering, pollinator-attractive plant species. Flowering/pollinator-attractive species can include trees, shrubs, or forbs known to provide pollen and/or nectar to pollinators. This does not include most grass species such as rye and wheat.

Temporary habitat may die back annually or be moved around the certified parcels (as is the case with rotating cover crops). Examples of temporary habitat: Cover crops, insectary strips, mass-flowering crops.

INSTRUCTIONS: Please fill out the table below to list each temporary habitat area. To add additional habitat areas, add more rows to the table below or attach additional tables.

PLEASE NOTE: Your application package must also include a completed **BBCFP Plant List** or your own plant list with the required information for temporary habitat species (species, native status, and habitat location).

Table 2.1. TEMPORARY HABITAT

Temporary Habitat Location/Unique Identifier (must match the map legend and BBCFP Plant List):	Date Planted:	Number of Acres:	Does it contain native species?	Is the temporary habitat planted within crop production boundaries?	Is the temporary habitat a mass-flowering, pollinator-attracting crop?
Reese's Understory	November 2020	33	☒Yes ☐ No	☒Yes- identify crop: Almonds ☐ No	☐Yes- identify crop: ☒ No
Reese's crop	January 2015	8.66	☐Yes ☒ No	☐Yes- identify crop: ☒ No	☒Yes- identify crop: Almonds ☐ No
			☐Yes ☐ No	☐Yes- identify crop: ☐ No	☐Yes- identify crop: ☐ No
			☐Yes ☐ No	☐Yes- identify crop: ☐ No	☐Yes- identify crop: ☐ No
			☐Yes ☐ No	☐Yes- identify crop: ☐ No	☐Yes- identify crop: ☐ No

Identifiers should match all permanent habitat references including your Plant List, other relevant tables in this document and your map(s)

Examples of mass-flowering crops: almond, blueberry, canola, and sunflower. When differentiating between mass-flowering crops and temporary habitat, we a) consider whether the crop was already a core part of the crops planted, and b) whether the primary purpose of the crop is revenue.

2.2 PERMANENT HABITAT

General Requirements
Permanent habitat is present year-round, although the plants may be in a vegetative or dormant state during the winter or naturally occurring dormant season. Examples of permanent habitat: Hedgerows, perennial or re-seeding wildflower strips, riparian forests, filter strips.

Permanent habitat areas must be situated in proximity to certified production acreage. Refer to the Production Standards 1.1(a)(vi-ix) for a full explanation.

Buffer and Boundary Requirements
All permanent habitat areas must be protected from chemical drift. The operation must establish pesticide-free spatial buffers around permanent pollinator habitat. Buffers must be established for the following:

- 40 foot buffer for most ground-based applications within your own property
- 60 feet for air blast and aerial applications within your own property
- Minimum 30-foot buffer must be set aside between the habitat and neighboring farms or land where *insecticides* are known or suspected to be applied not on your property (including insecticide treated seed).

When spatial buffers are not feasible, a vegetative buffer can be planted to capture chemical drift. See Appendix P for guidance.

Plant Species Requirements
For new permanent habitat, at least 70% of the vegetation established must be native to the region and preferably acquired from local sources. In natural or mature created permanent habitat, at least 35% of the species must be native.

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

Bloom Abundance Requirements
In permanent habitat areas there must be at least three (3) flowering species in each part of the growing season (spring/early, summer/mid, fall/late). Flowering species can include trees, shrubs or forbs known to provide pollen and/or nectar to pollinators. The growing season is defined as the natural growth period of native vegetation in the area. Permanent habitat may be free of flowering species during natural, cyclical, locally-occurring dormant seasons

In temperate and tropical regions (receiving greater than 25 cm [10”] of precipitation a year on average), the combined vegetative cover of the plant species in bloom should be classified “abundant” or “common” in each season.

In desert regions (receiving fewer than 25 cm [10”] of precipitation a year on average), the combined vegetative cover of the plant species in bloom should be classified “common” or “sparse” in each season.

Abundance categories:

- *Abundant*: Numerous individuals of the flowering species are present (51 – 100%).
- *Common*: Several individuals of the flowering species are present (11 – 50%).
- *Sparse*: Only a few individuals of the flowering species are present (1 – 10%).
- *Absent*: No flowering species are present (0%).

Refer to Appendix F-G of the Production Standards for pithy-stemmed and nest cell materials species and USDA PLANTS database for native status.

INSTRUCTIONS: Complete one (1) table below for EACH permanent habitat area. If you have more than three (3) permanent habitat areas, copy and paste one of the blank tables below directly beneath the preceding table until you have the correct number of tables listed for the number of permanent habitat areas you wish to include in your certification.

PLEASE NOTE: Your application package **MUST** also include a completed **BBCFP Plant List** or your own plant list with the required information for each species in the permanent habitat area (species, species location, native status, bloom period, and pithy-stemmed and nest cell material status).

Identifiers should match all permanent habitat references including your Plant List, other relevant tables in this document and your map(s)

Refer to Appendix B for guidelines on measuring habitat

This acreage does not include buffers.

Table 2.2	PERMANENT HABITAT	_1_ of _5_

Habitat Location or Unique Identifier (must match the map legend and Plant List):	PL76-HR	**Acres:**	0.96
How many miles from the nearest certified crop field?	0.01 miles	Which is the nearest certified crop field? (must match parcel location name or code in Section 1)	PL76
Date Planted:	11/19/22	**Habitat area is:** ☐ Remnant/Mature ☒ New	

New habitat was planted within the last 3 years

Buffers and Boundaries of this Permanent Habitat Location:

The buffer is the distance between permanent habitat plantings and acreage treated with pesticides or acreage utilizing pesticide-treated seed

Type of Adjoining Land Use:	N	Country road – neighboring almonds on other side	Width and description of buffer:	N	31 ft
	E	Neighboring row crops, grain and hay crops		E	31 ft
	S	Country road – neighboring almonds on other side		S	30 ft
	W	PL76 almonds		W	40 ft

Type of Pesticide Application on Adjoining Land:	N	Unknown
	E	Unknown
	S	Unknown
	W	Organic ground applications

☒ Spatial buffers only/no vegetative buffers are used for this habitat area

☐ One or more vegetative buffers are in use for this habitat area and I confirm the following:

- ☐ The vegetative buffers are designed to maximize drift capture, including ensuring optimal airflow.
- ☐ The vegetative buffers utilized on my property are comprised of densely planted, small-needled evergreen species. See Appendix P.
- ☐ The vegetative buffers utilized are designed to grow above spray release height.

Plant Species and Bloom of this Permanent Habitat Location:

Number of native plant species present:	11	Number of non-native plant species present:	0	Total number of plant species present:	11
Percentage of native species:	100%	Percentage pithy-stemmed or nest cell material species:	56%		

Total Abundance of Blooming Species: *(Abundant, Common, or Sparse)*	Early	Common	Number of species blooming:	Early	5
	Mid	Common		Mid	9
	Late	Common		Late	5

Must be at least 3 for each season across all habitat areas

$$\frac{number\ of\ native\ species}{number\ of\ total\ species} * 100$$

Sum the abundance of the blooming species for each season

$$\frac{number\ of\ pithy\ stemmed\ or\ nest\ cell\ material\ species}{number\ of\ total\ species} * 100$$

Table 2.2	PERMANENT HABITAT	_2_ of _5__

Habitat Location or Unique Identifier (must match the map legend and Plant List):	NR5-HR	Acres:	0.72
How many miles from the nearest certified crop field?	0.02 miles	Which is the nearest certified crop field? (must match parcel location name or code in Section 1)	NR5
Date Planted:	11/28/22	Habitat area is: ☐Remnant/Mature ☒ New	

Buffers and Boundaries of this Permanent Habitat Location:

Type of Adjoining Land Use:	N	NR5 Almonds	Width and description of buffer:	N	121 ft of farm roads and mowed grass area
	E	Road		E	
	S	Neighboring field crops		S	49 ft of farm road
	W	Road		W	
Type of Pesticide Application on Adjoining Land:	N	Ground and airblast applications	☒ Spatial buffers only/no vegetative buffers are used for this habitat area ☐ One or more vegetative buffers are in use for this habitat area and I confirm the following: ☐ The vegetative buffers are designed to maximize drift capture, including ensuring optimal airflow. ☐ The vegetative buffers utilized on my property are comprised of densely planted, small-needled evergreen species. See Appendix P. ☐ The vegetative buffers utilized are designed to grow above spray release height.		
	E				
	S	Unknown			
	W				

Plant Species and Bloom of this Permanent Habitat Location:

Number of native plant species present:	11	Number of non-native plant species present:	0	Total number of plant species present:	11
Percentage of native species:	100%		Percentage pithy-stemmed or nest cell material species:	56%	

Total Abundance of Blooming Species: *(Abundant, Common, or Sparse)*			Number of species blooming:		
	Early	Common		Early	5
	Mid	Common		Mid	9
	Late	Common		Late	5

Table 2.2	PERMANENT HABITAT	_3__ of _5__

Habitat Location or Unique Identifier (must match the map legend and Plant List):	Reese's HR	Acres:	2.41
How many miles from the nearest certified crop field?	0.01 miles	Which is the nearest certified crop field? (must match parcel location name or code in Section 1)	Reese's
Date Planted:	2/7/17	Habitat area is: ☒Remnant/Mature ☐ New	

Buffers and Boundaries of this Permanent Habitat Location:

Type of Adjoining Land Use:	N	State road to neighbors crops	Width and description of buffer:	N	30 ft +
	E	Country road, conventional rice		E	60-90 ft of unmanaged berm and country road
	S	Neighbor's grain, hay crop and row crops		S	52 ft
	W	Reese's organic almond orchard		W	44 ft +

Type of Pesticide Application on Adjoining Land:	N	N/A	☒ Spatial buffers only/no vegetative buffers are used for this habitat area ☐ One or more vegetative buffers are in use for this habitat area and I confirm the following: ☐ The vegetative buffers are designed to maximize drift capture, including ensuring optimal airflow. ☐ The vegetative buffers utilized on my property are comprised of densely planted, small-needled evergreen species. See Appendix P. ☐ The vegetative buffers utilized are designed to grow above spray release height.
	E	Aerial has been observed	
	S	Unknown	
	W	Ground applications only in first few rows. Airblast starts 20 ft from the edge of the buffer (60 ft from habitat)	

Plant Species and Bloom of this Permanent Habitat Location:

Number of native plant species present:	11	Number of non-native plant species present:	0	Total number of plant species present:	11
Percentage of native species:	100%		Percentage pithy-stemmed or nest cell material species:	56%	

Total Abundance of Blooming Species: *(Abundant, Common, or Sparse)*	Early	Common	Number of species blooming:	Early	5
	Mid	Common		Mid	9
	Late	Common		Late	5

Table 2.2	PERMANENT HABITAT	_4_ of _5__

Habitat Location or Unique Identifier (must match the map legend and Plant List):	Riparian strip	**Acres:**	7.7
How many miles from the nearest certified crop field?	0.03 miles	Which is the nearest certified crop field? (must match parcel location name or code in Section 1)	Reese's
Date Planted:	N/A	**Habitat area is:** ☒Remnant/Mature ☐ New	

Buffers and Boundaries of this Permanent Habitat Location:

Type of Adjoining Land Use:	N	State road, unmanaged	Width and description of buffer:	N	
	E	Country road, conventional rice		E	20 ft to rice fields with vegetative buffer (Italian cypress will be 25 ft tall at maturity)
	S	State road, unmanaged		S	
	W	Slough and farm road, then neighbors crop		W	170ft +

Type of Pesticide Application on Adjoining Land:	N	N/A – no crops	☐ Spatial buffers only/no vegetative buffers are used for this habitat area ☒ One or more vegetative buffers are in use for this habitat area and I confirm the following: ☒ The vegetative buffers are designed to maximize drift capture, including ensuring optimal airflow. ☒ The vegetative buffers utilized on my property are comprised of densely planted, small-needled evergreen species. See Appendix P. ☒ The vegetative buffers utilized are designed to grow above spray release height.
	E	Aerial applications are observed in neighbor's field	
	S	N/A	
	W	N/A	

Plant Species and Bloom of this Permanent Habitat Location:

Number of native plant species present:	12	Number of non-native plant species present:	7	Total number of plant species present:	19
Percentage of native species:	63%		Percentage pithy-stemmed or nest cell material species:	31%	

Total Abundance of Blooming Species: *(Abundant, Common, or Sparse)*	Early	Abundant	Number of species blooming:	Early	7
	Mid	Abundant		Mid	5
	Late	Common		Late	6

Table 2.2	PERMANENT HABITAT	_5_ of __5__

Habitat Location or Unique Identifier (must match the map legend and Plant List):	GH Wildflowers	**Acres:**	0.97
How many miles from the nearest certified crop field?	0.01 miles	Which is the nearest certified crop field? (must match parcel location name or code in Section 1)	Greenhouses
Date Planted:	12/1/22	**Habitat area is:** ☐Remnant/Mature ☒ New	

Buffers and Boundaries of this Permanent Habitat Location:

Type of Adjoining Land Use:	N	Greenhouses	Width and description of buffer:	N	N/A – Greenhouses are enclosed
	E	Greenhouses		E	N/A – Greenhouses are enclosed
	S	Unmanaged area		S	
	W	Mowed grass and slough		W	

Type of Pesticide Application on Adjoining Land:	N	N/A – Greenhouses are enclosed	☒ Spatial buffers only/no vegetative buffers are used for this habitat area ☐ One or more vegetative buffers are in use for this habitat area and I confirm the following: ☐ The vegetative buffers are designed to maximize drift capture, including ensuring optimal airflow. ☐ The vegetative buffers utilized on my property are comprised of densely planted, small-needled evergreen species. See Appendix P. ☐ The vegetative buffers utilized are designed to grow above spray release height.
	E	N/A – Greenhouses are enclosed	
	S	N/A	
	W	N/A	

Plant Species and Bloom of this Permanent Habitat Location:

Number of native plant species present:	7	Number of non-native plant species present:	0	Total number of plant species present:	7
Percentage of native species:	100%		Percentage pithy-stemmed or nest cell material species:	57%	

Total Abundance of Blooming Species: *(Abundant, Common, or Sparse)*	Early	Common	Number of species blooming:	Early	3
	Mid	Common		Mid	7
	Late	Common		Late	3

2.3 LAND HISTORY OF PERMANENT HABITAT

Non-nitroguanidine neonicotinoids are not prohibited, as long as they are used in accordance the Pesticide Mitigation standards (Production Standards 2.1-2.4)

Have you used any nitroguanidine neonicotinoids (clothianidin, dinotefuran, imidacloprid, or thiamethoxam) or seeds treated with nitroguanidine neonicotinoids within areas now identified as permanent pollinator habitat in the last 24 months? ☐ **Yes, fill out table below** ☐ **No - If No, skip to the next Section**

Identifiers should match all permanent habitat references including your Plant List, other relevant tables in this document and your map(s)

Please provide land history for all **new permanent habitat areas** that have been exposed to nitroguanidine neonicotinoids (clothianidin, dinotefuran, imidacloprid, or thiamethoxam) or seeds treated with nitroguanidine neonicotinoids in the 24 months prior to application for certification. Permanent habitat on exposed sites cannot be counted towards habitat total until 2 full years after last application.

Table 2.3. NITROGUANIDINE NEONICOTINOIDS

Year	Habitat Location or Unique Identifier (must match the map legend and Plant List):	Material Information	
		Nitroguanidine Neonicotinoid Name/ Manufacturer.	Date Materials Applied
Current year: 2022	PL76, NR5	None	none
Previous year: 2021	PL76, NR5	None	none
2 years ago: 2020	PL76, NR5	Scorpion	January 28, 2020

2.4 POLLINATOR HABITAT PLANTINGS AND STOCK AND SEED

Native plants are defined as species that are indigenous—and occurred historically in the area without human intervention—to a region. Please review the USDA PLANTS database for information on native plants in North America.

☒ In each new permanent habitat plantings, at least 70% of the species present are native
and/or
☒ In each mature created or remnant permanent habitat area, at least 35% of the species present are native

1) Native plant materials should be prioritized over non-native materials. If you utilize non-native materials please provide justification for the use over native species.

Non-native plants only occur in remnant rangeland habitat, which has some legacy flowering non-natives.

All planted (new and mature) habitat areas are 100% native.

2) Plants should be ecologically appropriate for your site, meaning seeds or other materials were collected from similar climate/ecological region to your property. What characteristics do you look for when purchasing planting materials or what information do the nurseries provide you with about where the seeds were collected?

Plants are all native to the CA central valley region and were purchased from nurseries within 100 miles of our sites.

The nurseries provided records of the seed collection locations within the region and they were all appropriate ecotypes.

2.5 TOTAL HABITAT ACREAGE

Habitat calculations must follow the guidelines in Appendix B: Habitat Measurement Guidelines.

Permanent habitat that is **outside** the one-mile radius must conform to Production Standard 1.1(a)(viii-ix).

Provide the total number of acres that make up all crop production acreage, permanent habitat acreage, and temporary habitat acreage across all parcels to be certified:

Table 2.5. ACREAGE		
Temporary habitat		
1.Total temporary habitat acreage outside of crop production boundaries: 0	2.Total temporary habitat within crop production boundaries: 33	3.Total temporary habitat acreage that is mass flowering crops: 8.66
Total habitat percentages		
4.Total crop production acreage of farm for certification: 853.13		
5.Total acreage of temporary habitat (add boxes 1, 2 and 3 together): 41.66	6.Percentage of production acreage in temporary habitat: 4.88%	
7.Total acreage of permanent habitat: 12.56	8.Percentage of production acreage in permanent habitat: 1.47%	
9.Total percentage of production acreage in habitat: 6.35%		
Total certified acreage		
10.Actual acreage area for certification* (add boxes 1,4 and 7 together): 865.69		

**Actual acreage area for certification does not include temporary habitat acreage that is mass flowering crops or located within crop production boundaries, since that area is already accounted for in the production acreage area.*

Table 2.5 Calculations:

5. *Total acreage of temporary habitat (ac)* = $Box\ 1\ (ac) + Box\ 2\ (ac) + \ Box\ 3\ (ac)$

6. $Percentage\ of\ production\ acreage\ in\ temporary\ habitat\ (\%) = \frac{Box\ 5\ (ac)}{Box\ 4\ (ac)} * 100$

8. $Percentage\ of\ production\ acreage\ in\ permanent\ habitat\ (\%) = \frac{Box\ 7\ (ac)}{Box\ 4\ (ac)} * 100$

9. $Total\ percentage\ of\ production\ acreage\ in\ habitat\ (ac) = \frac{Box\ 5\ (ac) + Box\ 7\ (ac)}{Box\ 4\ (ac)} * 100$

10.Actual acreage area for certification (ac) = $Box\ 1\ (ac) + Box\ 4\ (ac) + Box\ 7\ (ac)$

FOR INTERNAL USE BY CERTIFIER ONLY

Minimum acreage of permanent habitat needed based on production acreage requested:	Minimum acreage of temporary habitat needed based on production acreage requested:	Maximum number of acres allowed to be counted as temporary habitat based on production acreage requested:	Maximum number of acres allowed to be counted as mass-flowering temporary habitat:

Percentage of production acreage in total habitat (must be more than 5%) :	Percentage of <u>total permanent habitat plantings</u> comprised of pithy-stemmed, nest cell or butterfly host plants. (Must be at least 5% of the total permanent habitat)	Percentage of production acreage in mass-flowering pollinator attracting crops (must be ≤1%)

3. NESTING FEATURES

Pollinator nesting site must be identified and protected and known nesting areas outside crop fields must be left undisturbed.

Plants that provide nest sites or nesting materials for native bees must be incorporated into habitat plantings. It is also recommended that host plants for butterflies be included. See Appendices D- G for more information on nesting.

1) If known, please describe pollinator nesting areas and how they are protected and identified to workers. (Note: please ensure that these areas are identified on your submitted maps)

We identified one potential ground nesting area put up a sign to workers not to disturb. We continue to look for other sites and plan to leave them undisturbed after planting except for limited mowing.

2) Describe how your farm provides nest cell plant materials for above-ground nesting bees.

We included pithy-stemmed plants and plants used as nest materials for above ground nesting bees into our hedgerow plantings (according to Xerces plant list materials). These include *Rosa californica(petals and leaves), Solidago velutina ssp. Californica(pithy stems), Cercis occidentalis(leaves used by leafcutter bees), and Sambucus mexicana (pithy stem).*

3) If they have been prioritized describe how your farm provides host plants for butterflies in permanent habitats.

We planted plants for Monarchs and other butterflies including *Penstemon spectabilis, Eriogonum fasciculatum, Asclepias fascicularis, Salvia mellifera, Acer negundo, Artemesia douglassiana, Rosa californica*

4. TILLAGE

A tillage standard operating procedure must be in place to reduce the impact of tillage activities in cropped areas on ground-nesting bees nesting areas.

Examples of Standard Operating Procedures (SOP):

- *Row crop: (1) Crop fields containing crops known to be attractive to bees will only be disked at 4" depth 1 -2 x per year for the year following planting. Fallow fields will be mowed instead of tilled. (2) Field edges will be mowed instead of cultivated.*
- *Perennial crop: (1) Every other alley between rows will be scraped annually instead of tilled. (2) Use chemical fallow in field edges.*
- *Example if already using no-till system: No till will continue to be practiced throughout the farm.*

1) Do you use tillage practices on your farm? ☒ Yes, describe below ☐ No - If No, skip to the next Section

2) What is the total area* of your farm covered by the practices described in this section? __288.56 acres____

*Total area managed under the Tillage SOP must encompass at least 1/3 of the total farm acreage, and include cropped and non-crop areas. Please note that the tilled area can rotate each year.

3) Your tillage practices plan described below must include at least two (2) of the following. Please check the applicable practices:

☒ Tillage depth

☒ Timing of tillage

☒ Frequency of tillage

☒ Equipment type

☐ Location of tillage

4) Outline your Standard Operating Procedure (SOP) by describing the tillage practices employed to reduce the impact of tillage on ground-nesting bees nesting (see above for examples):

We only use shallow tillage (6 inches or less) for weed control around our orchard. We use a disc tiller set to a shallow depth and only till to control weeds during their growing season in the spring and early summer. The tillage is undertaken between the rows in areas where we do not have a cover crop planted. This is around a quarter of our certified acreage.

5. PREVENTATIVE NON-PESTICIDE MANAGEMENT

Practices that can help prevent the use of pesticides, including scouting and monitoring of pests and diseases to help inform pesticide application decisions, are required on all certified farms.

1) List the pests/diseases (or potential pests/diseases) that threaten your crops. Add more rows or attach additional documentation if needed.

Please provide an exhaustive list

Table 5.1. PEST OR DISEASES		
Crop(s) affected:	**Pest or disease:**	**Do you intend to use pesticides (including organic pesticides) to treat for this pest/disease?**
Almonds, Walnuts	Navel orange worm	☒ Yes ☐No
Almonds	Peach Twig Borer	☒ Yes ☐No
Almonds	Scale	☒ Yes ☐No
Almonds, tomatoes	Spider mites	☒ Yes ☐No
Almonds	Anthracnose	☒ Yes ☐No
Almonds	Rust	☒ Yes ☐No
Almonds	Scab	☒ Yes ☐No
Tomatoes	Thrips	☒ Yes ☐No
Walnuts	Aphids	☐ Yes ☒No

2) Do you monitor for presence and pressure for each of the pests/diseases listed above that you intend to treat for? ☒ Yes ☐No

If yes, please describe your monitoring protocols and method of recordkeeping, for each pest/disease in the table below. Add more rows or attach additional documentation if needed.

Table 5.2. MONITORING PROTOCOLS		
Pest(s) or disease(s):	**Monitoring Protocols:**	**Method of Record Keeping:**
Navel orange worm	Sample for mummy nuts in January and set egg traps in March (1 trap per 10 acres)	Paper records kept at each ranch
Peach Twig Borer	Monitor 4 time/year for emerging and overwintering larvae	Paper records kept at each ranch
Scale	Collect spurs during dormant season	Paper records kept at each ranch
Spider mites	Weekly from May through August with five trees in each sampling area	Paper records kept at each ranch
Anthracnose	Visual inspections of leaves in sampling areas 1/month	Paper records kept at each ranch
Rust	Visual inspections of leaves in sampling areas 1/month	Paper records kept at each ranch
Scab	Visual inspections of leaves in sampling areas 1/month	Paper records kept at each ranch
Thrips	Plant parts checked for thrips (using UC IPM method) 1/month during warm weather	Paper records kept in the headhouse

Please see Appendix I in Production Standards. Consult industry, academic extension or a PCA for monitoring protocols. Software platforms are acceptable means for recordkeeping as long as a log can be generated as a word or .pdf file.

3) List the preventative management practices you intend to use in the upcoming season in the following table:

Implement and maintain at least two (2) preventive non-chemical pest management strategies, and one (1) more if fungicides are used during pre-bloom and/or bloom time of the certified crop(s). Fungicides may only be used on a crop during its prebloom or bloom-time if at least one non-chemical pest management strategy is used to directly address the fungal concern prompting the application(s).

Table 5.3 NON-PESTICIDE PEST MANAGEMENT PRACTICES				
Additional Preventive Practices (Physical, Cultural, Mechanical, or Biological)				
Practice	**Currently used?**	**Description of how practice *is* applied (where/when) including area affected (acres)**	**Target Pest(s)/Disease(s)**	**Description of how the practices *will be* applied (when/where) if not already**
Conservation cover (in perennial crop systems, maintain permanent ground covers of native grasses and forbs for weed control and natural enemy refuge)	Yes	Year-round understory plantings are high-mowed	All pests identified in question #1 above	
Beetle banks (establish bunch grasses to promote predatory ground beetles)	No			
Companion planting (plant species next to one another that enhance one another's growth and protect on another from pests)	Yes	Potted snap beans are grown in greenhouses to attract spider mites and thrips	Spider mites, thrips	
Intercropping (with crops that are attractive or useful to beneficial insects)	No			
Timing of planting or harvest to avoid pest damage (including choice of crop maturity date)*	No			
Physical barriers (e.g., floating row covers, fruit bagging)	No		Navel orangeworm	Nets for mummy nut capture during removal and catch nuts before hitting orchard floor pre-harvest
Mechanical pest removal (e.g., hand picking, vacuuming, or pure water sprays to remove pests)	Yes	Removing mummy nuts before March 1	Navel orangeworm	
Cultural practices to improve air flow (e.g., plant spacing, row orientation,	Yes	Dormant pruning	All	

pruning) *				
Trap cropping (note that flowering trap crops are not permitted to be sprayed during bloom)	No			
Crop rotation *	No			
Use of resistant varieties (for insect pest and disease control)†*	No		Navel orangeworm	Hard-shelled varieties are planned for next planting
Use of cover crops, green manures, and composts (for improved soil fertility)	Yes	We have understory cover plantings	All	We will be adding more native understory plantings and reduce mowing
Mating disruption (including use of pheromone traps for pest reduction)	No		Navel orangeworm, scale	We will install in every orchard in late March for navel orangeworm and early March for scale
Mulching, hand weeding, mechanical weeding, or grazing (for weed control)	No			
Mulching plant material (for disease control) *	No			
Sanitation – removal of debris/infested plant material *	Yes	Routinely all year	All	
Sanitation - equipment *			Rust, anthracnose	We will be improving equipment sanitation
Eliminate alternate hosts or sites for pests and disease *	Yes	Removal of alternate hosts with mowing and physical pulling	All	
Soil solarization (for nematodes, soil borne diseases, or weed seeds)	No			
Strip cropping (to disrupt pest movement)	No			
Late water (cranberries) *	No			
Other (please describe)				
Additional Preventive Practices (Physical, Cultural, Mechanical, or Biological)				

† Cannot be genetically modified crops that express pesticides or are resistant to herbicides.

*Denotes fungal preventative non-chemical pest management strategies.

6. PESTICIDE MITIGATION

JUSTIFIED USE OF PESTICIDES

Use of pesticides must be justified and be supported by evidence that a severe pest or disease outbreak exists or has strong potential to exist. Farm-specific monitoring records can be used to demonstrate an outbreak. Additional documentation (e.g., extension publications, newspaper articles) that supports the severity of the issue may also be submitted.

Monitoring documentation should provide evidence that an economic threshold has been exceeded. If no threshold is available, provide an expert opinion. Experts may include a certified pest control adviser, accredited crop consultant, extension agent, or other approved credentialed independent pest management specialist. Advice or recommendations from pesticide or seed company representatives is not considered sufficient evidence to justify pesticide use.

Prior to using a new pesticide, check that it is not rated as Level I under the Bee Precaution system maintained by the University of California Statewide Agricultural and Natural Resources IPM Program (see Bee Better Appendix K). To ensure pesticides don't synergize to increase toxicity to pollinators, screen the proposed application through the University of California Integrated Pest Management Bee Precaution tool. Pesticides that are flagged by Bee Precaution as interacting may not be applied in the same tank mix or within 3 days of one another. See Appendix N for instructions on how to use Bee Precaution. Other limitations are placed on the type or locations of pesticide applications; see Production Standard 2 for details.

Pesticides are any substance or mixture of substances intended for preventing, destroying, repelling or mitigating a pest or disease. Pesticides can also be plant regulators, defoliants, desiccants or nitrogen stabilizers. The term pesticide includes bactericides, fungicides, herbicides, insecticides, miticides, molluscicides, nematicides, avicides, repellents and piscicides. Pesticides may be conventional, biopesticides, or antimicrobials.

Pesticide applications include any activity that introduces a pesticide into the environment for purposes of controlling pests, including but not limited to spraying, dusting, and chemigation. We also consider the planting of pesticide-coated seed a pesticide application.

1) Do you use pesticides (including organic pesticides)? ☒ Yes ☐No

If yes, please select the evidence used to justify use:

☒ Scouting and monitoring records. ☒ Documented damage exceeding pre-determined thresholds

☐ Degree day models ☐ Moisture and temperature records. ☐ Spore counts

☐ Other, please describe:

2) Provide the contact information of any professional crop consultants or crop advisors that provide pest scouting and monitoring services and/or pest control recommendations.

Name: Ron Nopest

Company (if applicable): PCA Co.

Email: Nopest@PCACO.com Phone number: (530) 555-0980

3) If you use pre-determined thresholds to justify the use of pesticides, please describe the thresholds identified for each pest in the table below. Add more rows if necessary. See Appendix I for guidance.

Consult industry, academic extension or a PCA for action thresholds.

Table 6.1. PESTICIDE JUSTIFICATION THRESHOLDS

Crop(s) affected	Pest or disease	Action threshold (e.g. # eggs/plant)	Threshold source (example: State Extension)	Monitoring Time of Year and Frequency (e.g. daily, weekly, etc.)
Almond	Naval Orange Worm	2 mummy berries per tree after bud swell	University of California IPM	Every 2 weeks between bud swell and hull split
Almond	Peach Twig Border	PCA rec	University of California IPM	Every 2 weeks, Dec-May
Almond	Scale	Above 20% infested spurs	University of California IPM	Every 2 weeks, Nov-Jan
Almond	Spider Mites	Presence on >25% of leaves sampled (refer to attached presence/absence form)	University of California IPM	Weekly, May-Aug
Almond	Anthracnose	PCA rec to spray with fungicide	University of California IPM	Spray every 10-14 days if blight persists starting with 5-10% bloom
Almond	Brown rot	PCA rec to treat if present	University of California IPM	1 application at 5-10% bloom
Almond	Jacket rot	PCA rec to treat with fungicides if present	University of California IPM	Treat during rain
Almond	Rust	If orchard has history, PCA rec to treat before symptoms become visible	University of California IPM	Treat at petal fall, early spring and late summer
Almond	Scab	Presence on leaves	University of California IPM	Weekly after petal fall, spray 2-5 wks after petal fall if found

4) How often do you calibrate your application equipment? Must be at least once annually.

Before bloom and mid season

5) Do you foresee the need to apply fungicides using aerial methods in the coming year? ☐ Yes ☒No

If answer is yes, please submit a justification and application/drift prevention plan to comply with Production Standard 2.3(a), including all the components discussed in Appendix O.

6) Do you foresee the need to apply pesticides to crops that contain blooming temporary in-field habitat (e.g., understory plantings)? ☒ **Yes- answer #7 & #8 below** ☐**No- skip to next section**

7) What conditions must exist for you to apply pesticides to crops that contain blooming temporary in-field habitat (e.g., understory plantings)? See Production Standard 2.4(b)

In order to apply pesticides to crops that contain in-field blooming habitat our economic threshold for pest damage must have been exceeded and there must be no blooms present in the field at least 24 hours before the application. For our understory plantings, we will do a high mow at least 24 hours ahead of time to remove all blooms.

Fungicides without restriction on use will be applied during crop bloom (i.e. not rated as UC IPM Level 1)

8) Please confirm that blooms from temporary in-field habitat will be removed at least 24 hours prior to the application of pesticides to crops that contain blooming temporary in-field habitat (e.g., understory plantings):

☒ **Yes- blooms from temporary in-field habitat will be removed at least 24 hours prior to the application of pesticides to crops that contain blooming temporary in-field habitat AND records of bloom removal will be maintained to document compliance with this requirement**

It is recommended that all individuals involved in production, such as the crop / orchard managers, pesticide applicators, and PCAs, confirm that these actions will not take place.

PROHIBITED ACTIONS

The following actions are prohibited. Please check each box demonstrating your understanding of these requirements:

☒ I will not apply pesticides without a justified use.

☒ I will not apply any pesticides rated as Level I under the UC IPM Bee Precaution during bloom for crops that are visited by or pollinated by insects.

☒ I will not apply pesticides that jointly may increase toxicity to bees within three days of one another.

☒ I will not use nitroguanidine neonicotinoids (clothianidin, dinotefuran, imidacloprid and thiamethoxam), including the planting of treated seeds.

☒ I will not use genetically modified crops that express pesticides or are resistant to herbicides.

☒ I will not apply pesticides aerially (the only exception being fungicides under conditions listed in 2.3 a. of the standards).

☒ I will not use soil fumigants.

☒ I will not use paraquat dichloride within permanent pollinator habitat areas or within spatial buffers around permanent pollinator areas.

☒ I will not use pesticides other than herbicides within designated permanent pollinator habitat.

☒ I will not apply herbicides to plants in bloom, including weeds, in designated permanent pollinator habitat.

☒ I will not apply any herbicide nor pesticides rated as Level I under the UC IPM Bee Precaution to temporary blooming in-field habitat (e.g., cover crops, in-field insectary strips) or to crops with temporary in-field blooming habitat growing beneath or adjacent. Except that, if pesticide applications

need to occur during habitat bloom, mow or otherwise remove blooms at least 24 hours prior to any pesticide applications.

7. MANAGED BUMBLEBEES

Commercial bumblebees cannot be used for open field pollination. Commercial bumblebees may only be used in secure indoor facilities, such as screened greenhouses, in which they are not able to interact with wild bumblebees. Managed bumblebees may only be used within their native ranges.

Records must be maintained of all colony purchases, steps taken to secure greenhouses and disposal dates/procedures.

Note: This does not apply to managed honey bees

COMMERCIAL BUMBLEBEE MANAGEMENT

1) Do you use commercial bumblebees on your farm? ☒ Yes, describe below ☐ No - If No, skip to next section.

We release bumble bees (*Bombus vosnesenskii*) 2x/year inside the greenhouses. We collect all individuals and soak in hot soapy water prior to disposal and incinerate all non-plastic materials on site and dispose of the rest in sealed trash bags.

a) Do you use native species within their native ranges? ☐ Yes ☐ No - If No, see above requirements

b) Describe the location of your indoor facility and how entrances are screened or sealed to prevent individual bumblebees from entering or exiting the facility.

Once annually we do greenhouse inspections to ensure proper sealing of the greenhouses. During pollination periods (2x/year) we close all vents, seal the back doors of the greenhouses and only have controlled entrances through the front door with a plastic sheet divider.

Please confirm the following required actions are maintained:

☒ Queen excluders are used on all colonies.
☒ Individuals are not released from commercially acquired bumble bee colonies into the wild.
☒ Individuals are properly disposed of through incineration, freezing or hot soapy water (complete submersion for at least two minutes).
☒ Materials (pollen, nectar, bedding and cardboard) are disposed of through incineration.

8. RECORDKEEPING

All records must be submitted and maintained by the applicant / certified farm.

Required forms and records must be made available to the certifier upon request and to farm inspectors. Farmers may submit their own plans and forms, or they can use Bee Better Certified plans and forms as listed below each record. If their own forms are used, they must include all the information required in the Bee Better forms.

1) Submit the following forms and records as part of your Bee Better Certified Plan submission:

Attached	Description	Forms/Examples Reference
☒	List of planned pesticides to be used in the first year of the certification period. The list must include active ingredient names.	Bee Better pesticide application record form (Appendix I to the Production Standards).
☒	Pesticide use records for the past 2 years. You may submit pesticide use forms required by your state, the Bee Better pesticide use record (Link/Appendix I), a form containing all the same information as the Bee Better form, or similar documents required by an organic inspector. Pesticide use records must include active ingredient names.	Bee Better pesticide application record form (Appendix I to the Production Standards).
☒	Plant list record identifying all plant species within permanent habitat areas.	Bee Better Certified Plant List Record form *(https://beebettercertified.org/docs/).*
☒	Pest/disease scouting and monitoring protocols you intend to use.	*Bee Better Certified scouting and monitoring guidance (Appendix I to the Production Standards).*
☒	Pest/disease scouting and monitoring record keeping form you intend to use.	*Bee Better pest monitoring and scouting guidance (Appendix I to the Production Standards).*
☒	Non-pesticide management records or the form/template you plan to use to maintain these records.	*Bee Better Certified non-pesticide management record (Appendix J to the Production Standards).*

2) The following forms and records must be maintained on-site and accessible for the inspector to review during the inspection (digital records are okay). They must also be made available to the certifier upon request. Note that photos may be requested by your certifier to confirm habitat characteristics that cannot be observed during the on-site inspection. Please confirm that they are being maintained and available.

Are they Maintained?	Description
☒ Yes ☐ No ☐ NA	Pesticide use records. Operations may use their own forms or the Bee Better Pesticide Application Record form. If using your own forms, you must ensure that forms contain all the same information as that within the Bee Better Pesticide Application Record form and include the active ingredient for all pesticides.
☒ Yes ☐ No ☐ NA	Records of all commercial bumblebee colony purchases, steps taken to secure greenhouses and disposal dates/procedures, as applicable.
☒ Yes ☐ No ☐ NA	Records of non-GMO status of seeds.
☒ Yes ☐ No ☐ NA	Non-Pesticide Management Records
☒ Yes ☐ No ☐ NA	Evidence justifying pesticide use: Evidence should demonstrate that conditions on the farm are conducive to the targeted disease and or pest. Examples of acceptable evidence include scouting and monitoring records, documented damage exceeding pre-determined thresholds, degree day models, moisture and temperate records, or spore counts.
☒ Yes ☐ No ☐ NA	Additional evidence that can help verify compliance includes but is not limited to: photo verification of habitat establishment and habitat bloom abundance across the various growing seasons, photo verification of vegetative buffers or spatial buffers around permanent habitat, etc.

9. LABELING

Before the Bee Better Certified Product Seal, Ingredient Seal or Program Mark may be used on products or to represent a farm operation in marketing and sales information, a farm must be certified by an approved Certification Agent. All uses of the Bee Better Certified Product Seal, bee Better Certified Ingredient Seal, and Bee Better Certified Program Mark are trademarked by The Xerces Society and may only be used in accordance with the labeling standards as specified by the Branding and Trademark Guidelines. All packaging and promotional materials that use the Bee Better Certified Product Seal and Ingredient Seal must be submitted to a licensing agent for licensing and approval prior to use.

For more information on allowable uses of the Seals and Program Mark, consult the Bee Better Labeling Standards.

For more information about the Licensing Application and accredited licensing agents please send questions to Bee Better Certified (info@beebettercertified.org).

1) Do you plan to use the Bee Better Product Seal, Bee Better Ingredient Seal, or Bee Better Program Mark to represent crops as Bee Better certified?

☐ **No**

☒ **Yes- indicate below which seal or mark will be used:**

☐ Product Seal ☐Ingredient Seal ☒ Program Mark

Please see the Bee Better Certified Labeling Standards (www.beebettercertified.org/docs) for definitions and guidelines

A license for the use of the Bee Better Program Mark is granted upon certification of a farm through an approved certification body. Please refer to the labeling standards document for guidance on correct use of the Bee Better Program Mark. For information about using the Bee Better Product Seal or Bee Better Ingredient Seal please contact Bee Better Certified (info@beebettercertified.org).