United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E328J

CONSERVATION STEWARDSHIP PROGRAM

Improved crop rotation to provide benefits to pollinators

Conservation Practice 328: Conservation Cropping System

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Improve the existing crop rotation by adding pollinator friendly crops into the rotation. The crop rotation shall include a minimum of three different crops in a minimum five-year crop rotation. Each year, the pollinator friendly crop will be planted on a minimum of 5% of cropland acres contained within the agricultural operation. Use of insecticides is limited for the pollinator friendly crop.

Criteria

- Crops will be grown in a planned sequence over a five-year rotation. The crop rotation shall include a minimum of three different crops in a minimum five-year croprotation.

- The crop rotation must include at least one pollinator friendly. For these criteria, a pollinator friendly cover crop is considered a different crop. A pollinator friendly crop is defined as a crop, planted for harvest or as a cover crop, which provides nectar for pollinators and other beneficial insects. Examples of pollinator friendly crops are canola, sunflowers, clovers, and borage. To meet the purpose and definition of a pollinator friendly crop, these "flowering" crops must be allowed to bloom prior to harvest or termination.

- Each year the enhancement is planned, the pollinator friendly crop will be planted on a minimum of 5% of cropland acres contained within the agricultural operation. Plan/contract the actual acres planted to the pollinator friendly crop.

- Where applicable, plan suitable crop substitutions when the planned crop cannot be planted due to weather, soil conditions, or other local situations.

- Foliar systemic insecticides may not be applied to the pollinator friendly crop.

- Insecticides may not be applied during crop bloom period of the pollinator friendly crop.

- Insecticides and fungicides applied during crop pre-bloom and bloom period of the canola or sunflower crop must be mitigated through integrated pest management and must follow industry best management practices.
    - Apply pesticides only when economic thresholds are met.
    - Apply pesticides at night or within two hours of sunset as this is when bees are least active.
    - Follow best practices for minimizing drift:
        - Use a low-drift nozzle, calibrate spray equipment, and use medium- to-coarse droplet size if possible.
        - Install cones or shrouds on field sprayers to reduce off-field movement.
        - When spraying fields, consider spot spraying or only applying pesticides to infested areas.
    - Select crop pest products with a residual activity of less than 8 hours.
    - Improve foraging areas for bees and other pollinators. Where possible, include flowering plants in non-crop areas. Avoid pesticide drift onto non- crop areas that include floral resources. Leave areas that include these resources intact whenever possible.

National Reference

National Sunflower Association of Canada. Sunflower Production Guide. http://www.canadasunflower.com/production/sunflower-production-guide/
U. S. Canola Association. 2019. Best management Practices (BMPS) for Pollinator Protection in Canola Fields. https://www.uscanola.com/wp-content/uploads/2019/07/HBHC_Canola_030119.pdf

Documentation and Implementation Requirements
Participant will:

Prior to implementation, provide NRCS with the current and planned crop rotation for all cropland acres on the operation

Prior to implementation, as needed, NRCS can provide technical assistance in selecting pollinator crops for the crop rotation or substitute species that would meet the criteria of the enhancement.

- Prior to implementation, provide maps for review by NRCS of the planned crop rotation, including areas which will include the pollinator friendly crops. Each year the enhancement is planned, at least 5% of the cropland acres on the operation must be planted to a pollinator friendly crop. *See Washington State Guidance.

Current Management Rotation (complete table for each rotation)

Field	Current Crops (in sequence)	Planting Date	Harvest Date

Planned Management Rotation including Pollinator Friendly Crops (complete table for each rotation)

Field	Planned Crops (in sequence)	Planting Date	Harvest Date	Acres in rotation

During implementation, maintain records of any insecticide applications to the pollinator friendly crop, including timing, material/product, application rate, and crop stage.

Field	Crop	Insecticide Applied	Application Date	Application Rate	Crop Stage

- During implementation, notify NRCS of any planned changes in crop rotation, insecticide applications, or management to verify the planned system meets the enhancement criteria.
- After implementation, if changes were made, complete the tables above to document the applied crop rotation for the contract period and provide to NRCS for review.
- After implementation, provide insecticide application records to NRCS for review to verify implementation meets the enhancement criteria.

NRCS will:

- As needed, provide technical assistance in selecting pollinator crops for the crop rotationor substitute species that would meet the criteria of the enhancement.
- As needed, provide additional assistance to the participant as requested.
- Prior to implementation, verify the crop rotation meets the criteria of the enhancement. The rotation must include a minimum of three different crops in a five-year crop rotation and each year the enhancement is planned the pollinator friendly crop must be planted on a minimum of 5% of cropland acres contained within the operation. *Plan/contract the actual acres planted to the pollinator friendly crop.*
- During implementation, evaluate any planned changes in crop rotation, insecticide applications, or management to verify the new system meets the enhancement criteria.

- After implementation, if there were any changes to planned rotation or management evaluate the applied crop rotation using information provided from the participant to verify the applied rotation meets the enhancement criteria.
- After implementation, review insecticide application records to verify implementation meets the enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number_____

Total Amount Applied_____ Fiscal Year Completed _____

_____

NRCS Technical Adequacy Signature Date

E328J Washington Supplement

References and Additional Criteria for Washington

- Prior to implementation, review documentation to verify a record of implementing Conservation Crop Rotation, meeting all NRCS CPS 328, Conservation Crop Rotation, general criteria. Verify reocrds of existing Conservation Crop Rotation Implementation
- A maximum of 10 contracted acres may be included under this enhancement.
- A pollinator friendly crop must be allowed to bloom prior to harvest or termination.
- Use Plant Materials Technical Note 23, Pollinator Habitat Assessment Form and guide, Farms and Agriculture Landscapes to assess benchmark pollinator habitat located in FOTG Section 1/Reference Lists/Technical Notes by discipline/Plant Materials. https://efotg.sc.egov.usda.gov/#/details

Pollinator Biology and Habitat
https://efotg.sc.egov.usda.gov/api/CPSFile/2556/327_NH_OTH_(Con)servation_Crops-Pollinator_Tech_Note_2009 (pages 35-38)

Managing Cover Crops Profitably, 3rd Edition, 2007.
SARE, Sustainable Agriculture Research and Education
https://www.sare.org/resources/managing-cover-crops-profitably-3rd-edition/

Plants for Pollinators in the Inland Northwest:
https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/wapmctn11733.pdf

Western Washington:
Selecting Plants for Pollinators – Pacific Lowland Mixed Forest Province
https://www.pollinator.org/PDFs/Guides/PacificLowlandrx9FINAL.pdf

Use Plant Materials Technical Note, **Beneficial Insect Habitat Assessment Form and Guide, Farms and Agricultural Landscapes** to assess on farm beneficial insect habitat
(efotg – Section 1/Reference Lists/Technical Notes by Discipline/Plant Materials)

Biology Technical Note No. 27, **Habitat Planning for Beneficial Insects**, Guidelines for Conservation Biological Control (*Developed by The Xerces Society (www.xerces.org) For Invertebrate Conservation*). Located in FOTG Section 1/Reference Lists/Technical Notes by Discipline/Biology folder.

The **Xerces Society for Invertebrate Conservation**, Pollinator Conservation Program, www.xerces.org