Plant Enhancement Activity – PLT08 – Habitat development for beneficial insects for pest management

Enhancement Description
Establishment of habitat to attract and support populations of beneficial insects that provide natural suppress of undesirable insects or other pests. Beneficial insects used for pest management include insect arthropod, predators and parasitoids. Habitat requirements include shelter and food that attract and support beneficial insects. These can include trap crops and insectary strips (both permanent and annual.)

Land Use Applicability
Cropland, including orchards and vineyards

Benefits
Environmental benefits will be operation specific. Benefits may include but are not limited to improved water quality through a reduction in the amount and type of pesticides used, reduced risk of chemical residue on farm products and less exposure of farm worker to pesticides. Increase in habitat for beneficial organisms will also provide food and shelter for pollinators and other wildlife species creating a more biologically diverse farm.

Criteria
Planning Criteria (based on information available through the state land grant university or other known reputable sources such as "Appropriate Technology Transfer for Rural Areas (ATTRA)

1. Identify pest species and associated beneficial insects targeted for control
2. Inventory existing conditions on the farm to determine habitat needs of selected beneficial, include:
    a. Permanent insectary sites
    b. Augmentation of existing hedgerows, field boarders or other odd areas adjacent to fields
    c. Trap crop areas
3. Plant selection matched to attract identified beneficial insect
4. Amount of habitat required based on the beneficial insect dispersal ability and can be either annual or perennial cover
5. Lists of plants suitable for beneficial insect habitat will be developed by NRCS at the state level. The lists must emphasize as many native species as practical.

Planting Criteria

1. Site selection should consider existing weed pressures and available methods of control, delay planting if weed pressure requires excessive treatment

2. Site preparation and plant establishment shall be accomplished according to the appropriate NRCS conservation practice and specifications
3. Successful establishment is determined by comparing field conditions with published plant density recommendations for the species for the region

Operation and Maintenance

1. Management and/or maintenance activities such as mowing, haying, burning, or grazing must be conducted outside of the growing season or bloom period. Maintenance should be done on less then 1/3 of the acreage during any given year.
2. Insecticides and herbicides should not be used in the habitat planting area. Even non-synthetic herbicides and botanical insecticides can harm beneficial insects. If adjacent crop areas are treated use one or more of the following actions to limit insecticides in the pollinator habitat area:
3. Create insecticide free buffers in the first 25 feet of crop area,
4. Use application methods that minimize drift to the adjacent habitat,
5. The planted habitat areas must be regularly inspected for invasive and/or noxious plants or other plants that may compromise the purpose of this enhancement. Undesirable species should be controlled using the method least damaging method.
6. If habitat is part of an organic farming operation, only materials allowed according to the USDA National Organic Program's National List of Allowed and Prohibited Substances may be used.

Documentation Requirements

Written plan documenting:

1. Targeted pest with associated beneficial insects
2. A map showing the location and dimension of the beneficial habitat areas.
3. A list of beneficial insect habitat species planted.
4. List of maintenance activities carried out

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Follow Wisconsin NRCS Conservation Practice Standard 327 (Conservation Cover) and Wisconsin Biology Technical Note 8:

http://efotg.sc.egov.usda.gov/references/public/WI/327.pdf
ftp://ftp-fc.sc.egov.usda.gov/WI/technotes/biology-tn8.pdf

Document the moisture regime, establishment rates and methods. Include maintenance methods and weed control activities.

Reference: Biological Control of Insects and Mites: An introduction to beneficial natural enemies and their use in pest management (UW Extension publication A3842)

http://learningstore.uwex.edu/assets/pdfs/A3842.pdf