

No-till farming emphasizes minimal soil disturbance, which helps maintain soil structure and health. Effective pest management in no-till systems involves using natural and preventive methods. Here are some DIY pest management strategies suitable for no-till farming:

1. ****Beneficial Insects****

****Attract Beneficial Insects**:**

- ****Plants**:** Grow flowers and plants that attract beneficial insects, such as marigolds, sunflowers, yarrow, and dill.
- ****Insect Habitats**:** Create habitats like insect hotels or leave small piles of rocks and sticks to provide shelter for beneficial insects.

****Release Beneficial Insects**:**

- Purchase and release beneficial insects like ladybugs, lacewings, predatory beetles, and parasitic wasps to control pest populations.

2. ****Companion Planting****

****Plant Companions**:**

- Pair plants that repel pests or attract beneficial insects. Examples include planting basil with tomatoes to repel tomato hornworms or planting nasturtiums near squash to deter squash bugs.

3. ****Natural Pesticides****

****Neem Oil**:**

- Mix neem oil with water and a few drops of liquid soap. Spray on plants to control aphids, mites, and other pests.

****Garlic Spray**:**

- Blend garlic cloves with water, strain the mixture, and spray on plants to repel insects.

****Chili Pepper Spray**:**

- Blend hot chili peppers with water, strain, and spray on plants to deter pests.

****Soap Spray**:**

- Mix a few drops of mild liquid soap with water. Spray on plants to control soft-bodied insects like aphids and spider mites.

4. ****Physical Barriers****

****Row Covers**:**

- Use lightweight row covers to protect plants from flying insects and pests while allowing light and moisture to reach the plants.

****Mulching**:**

- Apply organic mulch (straw, wood chips) to suppress weeds, maintain soil moisture, and deter certain pests.

****Copper Tape**:**

- Place copper tape around the base of plants to deter slugs and snails.

5. ****Crop Rotation and Diversity****

****Rotate Crops**:**

- Change the location of crops each year to disrupt pest life cycles and reduce the buildup of pest populations.

****Polyculture**:**

- Grow a diverse mix of plants to reduce the risk of pest outbreaks and promote a balanced ecosystem.

6. **Trap Crops**

****Sacrificial Plants**:**

- Plant trap crops that pests prefer, diverting them away from the main crops. For example, plant mustard greens to attract flea beetles away from brassicas.

7. **Handpicking**

****Manual Removal**:**

- Regularly inspect plants and manually remove pests like caterpillars, beetles, and slugs.

8. **Biological Controls**

****BT (Bacillus thuringiensis)**:**

- Use BT, a natural bacterium, to control caterpillars and larvae without harming beneficial insects.

9. **Diatomaceous Earth**

****Insect Deterrent**:**

- Sprinkle diatomaceous earth around the base of plants to deter crawling insects. The fine powder damages the exoskeletons of insects, causing them to dehydrate.

10. **Healthy Soil Practices**

****Compost and Organic Matter**:**

- Maintain soil health by adding compost and organic matter, which supports beneficial soil organisms that help control pests.

****Cover Crops**:**

- Grow cover crops like clover or rye to improve soil health and suppress pest populations.

11. **Beneficial Nematodes**

****Nematode Application**:**

- Introduce beneficial nematodes to the soil to target and control soil-dwelling pests like grubs and rootworms.

12. **Intercropping**

****Mix Crops**:**

- Plant a variety of crops together to confuse pests and reduce the likelihood of pest infestations.

By integrating these DIY pest management strategies, you can effectively control pests in a no-till farming system while promoting soil health and biodiversity. Regular monitoring and a proactive approach are key to maintaining a healthy and productive no-till farm.

How to make no-heating JWA

1. Get a 110 L plastic (PE) that is heat-resistant. Wash it clean. Put in exactly 2.5L (kg) of water. Add 3.2 kg of potassium hydroxide. Shut the lid. Roll to dissolve the caustic potash. You must use soft water.
2. Pour in 18 L of canola oil, use an electric drill to mix until it becomes like a thin mayonnaise. It takes about 10 minutes of mixing. In summer, mix well over 10 minutes. Weak drills do not work. You cannot mix with hands.
3. Close the lid and let rest for three days. It will become like butter. If it doesn't harden or separates into layers, drill again to mix until it becomes like mayo. In the winter, do it in a warm place.
4. Put in 20 L of water, use electric drill to separate all pieces from the walls of the container. Do not drill too much or it will turn into cream.
5. Add 60 L of water, use a clean stick to stir. Stir the entire volume. It will dissolve completely in about 24 hours. If you do this in a cold place, lumps can sink down and the dissolving process can be slow.
6. There is no expiry. Store in a tightly sealed bottle.
7. Use 3~15 L for 500 L.

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