



What's Bugging Your Plants?

An organism which causes damage on plants is called a pest-most crop pests are insects.

Life stages of an insect	How are the plants damaged?	
	<p>Insects bite and chew plant parts. e.g. cutworm</p>	<p>They also pierce and suck sap out of plants. e.g. cabbage aphid</p>

How are pests controlled?



Inspect crops regularly; observe the type(s) of insects present and their numbers and check if they cause any damage to the plants.

Prevention	Correcting
<ul style="list-style-type: none"> ✓ Maintain high level of soil nutrients ✓ Practice crop rotation ✓ Practice companion planting ✓ Promote beneficial insects – these usually prey on other insects ✓ Plant when pest populations are low ✓ Plant pest resistant cultivars 	<ul style="list-style-type: none"> ✓ Remove insects causing damage by hand, especially when they are few ✓ Apply environmentally friendly sprays ✓ Apply insecticides sparingly and with extreme caution

Plant Families

Plant families are key in practising crop rotation and companion planting or intercropping. Avoid planting the same crops (or its relative) on the same plot repeatedly. Intercropping is when different plants are grown on the same plot/field.

Families of common vegetable crops include	
<p>Apiaceae (Carrot Family): Carrot, parsnip, parsley, celery</p> <p>Brassicaceae (Cabbage Family): Cabbage, broccoli, cauliflower</p> <p>Cucurbitaceae (Pumpkin Family): Squash, pumpkin cucumber, watermelon, gourd</p> <p>Chenopodiaceae: Beetroot, Swiss chard (spinach)</p>	<p>Convolvulaceae: Sweet potato</p> <p>Gramineae (Cereals): Maize, sorghum, rice, wheat</p> <p>Fabaceae (Legumes): Beans, soybean, peas, cowpeas, peanuts</p> <p>Solanaceae (Potato Family): Tomato, pepper, eggplant, potato</p>

Homemade solutions

Garlic Spray	Tomato or Comfrey Sprays	Wood ash
<p>Mix 4 large and crushed garlic cloves or onion + 7 tablespoons of cooking oil + 1¼ tablespoon liquid soap + 550 ml hot water and allow to stand for a day. Mix 1 tablespoon of solution to 1 litre of water and spray on plants.</p>	<p>Mix a handful of tomato or comfrey leaves with 2 litres of hot water; allow to stand overnight, strain and spray on plants.</p>	<p>repels cutworms, beetles and some crawling insects. Sprinkle on the ground or on plants.</p>

Beneficial insects

These eat (or parasitise) most of the garden pests such as aphids, caterpillars, mites, whiteflies and scale. They include:

<p>Ladybugs - they eat aphids, mites, whiteflies and scale.</p>	<p>Lacewings - eat soft scales, mites, thrips, and aphids</p>	<p>Praying mantis - are deadly predators to a variety of insects</p>	<p>Spiders – trap insects using their webs. They then catch and devour them.</p>	<p>Wasps – eat a variety of soft bodied insects. They also parasitize some insects.</p>



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