


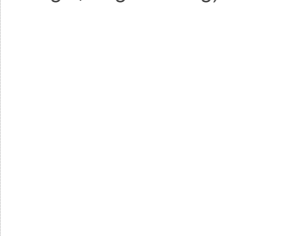


Aphids on cowpea

Aphis craccivora

	Prevention	Monitoring	Direct Control			
	<ul style="list-style-type: none"> • Aphids are small, rounded insects which feed on sap within plant tissues • Avoid planting in fields known to have high incidences of aphid attack • Burn or bury volunteer bean plants and any residues of an infested crop from the previous season. • Select a site without alternate hosts such as Brassicas, cucurbits, pepper, garden eggs and groundnuts • Avoid planting cowpeas on the same piece of land for more than two seasons. Rotate with cereal crops e.g. maize, millet, sorghum or onion. • Plant in time to avoid periods of drought that can encourage pest build up • Intercrop cowpeas with garlic to repel aphids • Use organic mulch such as neem leaves, Siam weed leaves or papaya leaves • Conserve natural enemies such as lady beetles by: <ul style="list-style-type: none"> • Avoiding the use of insecticides if possible, or at least minimising use of broad-spectrum pesticides • Strip cropping 	<ul style="list-style-type: none"> • Regularly visit the crop starting two weeks after planting and examine the whole plant • Monitor multiple sites at field edges and within the field. Aphids usually start migrating from field margins and then spread to patches further in. • Look for: <ul style="list-style-type: none"> • Aphids on the underside of leaves and stems. They are shiny black or dark brown, up to 2 mm long. Infestation often starts at the growing tips and moves down the stem. • Presence of honeydew and sooty mould on leaves • Yellowing or whitening of leaf veins. Wilting, bunching or even shedding of leaves if infestation is severe • Twisting of stems • Stunting of entire plant • Associated organisms such as lady beetles (natural enemies) and ants (protect aphids and eat the honeydew they produce) • Aphids can transmit mosaic viruses so look for symptoms (see the Mosaic diseases of cowpea pest management decision guide for more details): <ul style="list-style-type: none"> • Leaf yellowing and deformation (folding at margin) • Stunted plants • Close to maturation, only heavy infestations across the field may need intervention with direct control • If you find many lady beetles then control may not be needed • Consider applying direct control when 10-12 aphids are observed on young plants (below 25 cm) or 40-50 aphids on older plants. 	<ul style="list-style-type: none"> • Uproot and burn or bury severely infested plants more than 50 cm deep, away from the crop • Spray the infested areas with a strong jet of water to keep aphid numbers down • Apply neem oil e.g. Grow-safe. Add 10 ml soap to 1 litre of water and stir to mix. Add 50 ml neem oil to the 1 litre water-soap solution and mix thoroughly. Add the oil-water-soap solution to 14 ltr water in the knapsack and apply within 8 hrs. Ensure thorough coverage. • Prepare a chilli water soap solution (12 chillies + few drops soap as a spreader per 10 litres water) and spray directly on aphids on the underside of leaves in late afternoon, and not in full sunshine • Spray with <i>Tephrosia</i> extracts. Pound 25 leaves and soak in 10 litres water for 1 day, add few drops (or 50 g chopped soft) soap, and spray. • Repeat sprays after 2 weeks if needed 			
				<p>Cowpea aphid feeding on the stem of cowpea (Ferran Turmo Gort, www.flickr.com)</p>		<p>Aphid infestation on a cowpea plant (IITA, www.flickr.com)</p>
				<p>Cowpea aphid infestation on stem (David Riley, University of Georgia, Bugwood.org)</p>		

Note: Pesticides may be available to control this pest. Please check with the Ministry of Agriculture in your country to find out which pesticides are registered in your country and the local restrictions for their use.