

Cowpea aphids on cowpeas

Aphis craccivora groundnut aphid, Injina in tonga, Inda in nyanja



Cowpea aphids: soft bodied, 1 to 2 mm (Infonet Biovision)



Bad leaf development due to aphids on cowpeas (E. Phillips)



Heavy aphid attack (Infonet, Biovision)

Prevention	Monitoring	Direct Control	Direct Control	Restrictions
<ul style="list-style-type: none"> • Intercrop cowpeas with garlic to repel aphids • Rotate with cereals like maize, sorghum, millet, or with onion. • Do not rotate with groundnuts and not with legumes as they are also hosts. • Remove volunteer cowpeas in the following crop as they will host aphids. • Avoid using insecticides as they kill the numerous and usually effective natural enemies of aphids. 	<ul style="list-style-type: none"> • Monitor cowpeas for aphids and lady beetles (natural enemies) from young plant stage until harvest every 2 weeks in the mornings • Look for black or green tiny soft bodied insects (1 to 2 mm) on stems and the underside of leaves • At heavy infestation, leaves may curl and have many aphids underneath. • Look for honeydew (sticky substance) on leaves that comes from the aphids. • If 5 to 8 young plants out of 100 plants have several leaves with many aphids, consider green direct control. • If 10 to 20 young plants out of 100 plants have several leaves with many aphids, consider yellow direct control. • If 10 to 20 flowering plants out of 100 plants have several leaves with many aphids, consider green direct control. • If you find many ladybeetles, control may not be needed • Close to maturation, only heavy infestations across the field may need intervention with direct control. 	<ul style="list-style-type: none"> • 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 neem tree extracts on to aphids on the underside of leaves. Pound 2kg of neem leaves & soak in 10 litre water for ½ a day, add some drops of soap, then sieve before spraying. • Spray with Tephrosia extracts. Pound 25 leaves & 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. 	<ul style="list-style-type: none"> • Aphids are often controlled by natural enemies. Thus only spray when aphid threshold is reached. Reach good coverage with the spray and make sure it reaches the underside of leaves and stems, as most insecticides work on contact only. 	
			<ul style="list-style-type: none"> • When using a pesticide (even a botanical home-brew), always wear protective clothing. Follow the instructions on the product label, such as dosage, timing of application, pre-harvest interval, max number of sprays, restricted re-entry interval. Do not empty into drains. 	
			<ul style="list-style-type: none"> • WHO class II pesticides might not be allowed in local IPM schemes. 	
			<ul style="list-style-type: none"> • Always consult recent list of registered pesticides (ZEMA). 	
			<ul style="list-style-type: none"> • Deltamethrin products (Pali, Decis, Netprotect, and others). Pyrethroid contact insecticide. 	<ul style="list-style-type: none"> • WHO Class II moderately acute hazardous, Toxic to bees thus do not use on flowering crop or near bee hives. Fish toxic. Pre harvest interval (p.h.i.) at least 7 days. Restricted re-entry interval (r.e.i.) 1 day. Maximum 1 spray per season.
			<ul style="list-style-type: none"> • Cypermethrin products (cypermethrin, Viraat, and others). Pyrethroid contact insecticide. 	<ul style="list-style-type: none"> • WHO Class II moderately acute hazardous. Toxic to fish, avoid mixing, spraying cleaning near fish ponds. p.h.i. 14 days, r.e.i. 1 day. Maximum 2 sprays per season.
<ul style="list-style-type: none"> • Lambda-cyhalothrin products (Trigger, Boxer, Ninja). Pyrethroid contact insecticide. 	<ul style="list-style-type: none"> • WHO Class II moderately acute hazardous. Toxic to fish, avoid mixing, spraying cleaning near fish ponds. p.h.i. 3 days, r.e.i. 1 days. Maximum 2 sprays per season. 			
		<ul style="list-style-type: none"> • Thiamethoxam products (Actaca, Renova, and others). Neonicotinoid systemic pesticide. 	<ul style="list-style-type: none"> • Not WHO classified, but considered to be slightly acute hazardous in normal use, Toxic to bees thus do not use on flowering crop or near bee hives. p.h.i. 21 d, r.e.i. 1 d. Max 2 sprays/season. 	

Zambia

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