

Primefact

Chemical use for custard apple growers

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Custard apple (*Annona* spp.) production in Australia faces ongoing challenges from various insect and fungal pests that can affect fruit quality and yield. Effective pest management is crucial for maintaining healthy crops and ensuring sustainable production. This Primefact outlines the chemical control options currently available for managing the main diseases (Figure 1) and pests (Figure 2 and Figure 3) of custard apples, including details on registered and permitted pesticides (Table 1 and Table 2).

To access product labels and permits, visit the [APVMA's PubCRIS search engine](https://portal.apvma.gov.au/pubcris) at <https://portal.apvma.gov.au/pubcris> and search using the product name, active ingredient, or permit number. If 'custard apple' is not listed on the label, look for broader terms such as 'orchard situation' or 'tropical and sub-tropical fruit, inedible peel'. Custard apple is part of Crop Group 006: assorted tropical and sub-tropical fruits – inedible peel, as defined by the APVMA's crop grouping system.

The effectiveness of any pesticide depends on how well it is applied. Always read and follow label or permit instructions as they are essential for safe, legal, and effective use. Minimise spray drift by considering wind speed and direction, droplet size, sprayer height and speed, and weather conditions such as temperature inversions. Chemical residues are invisible and only detectable through testing, so it is vital to follow label rates and observe withholding periods. Lastly, always wear the recommended safety gear and handle chemicals with care to prevent injury or exposure.

A note on APVMA minor use permits

An APVMA minor use permit allows legal use of a chemical product in situations not covered by the label, typically for minor crops or seasonal pests where full registration is not commercially viable. These permits help ensure growers can access essential pest and disease control options. Custard apple is classified as a minor crop, making these permits especially relevant when no suitable registered products are available. If you encounter a new pest or significant seasonal damage that existing treatments cannot manage, document the issue and estimate the yield loss or crop/orchard damage to support a potential permit application. Once a suitable product is identified, the APVMA will assess its proposed use for efficacy, safety (to humans, the environment, and the crop), residues, and trade impact.

Table 1. Fungicides registered for use in custard apple. Always refer to the label before using any product.

Target disease; causal pathogen; example common name	Active constituent (example trade name)	Fungicide group(s)	WHP ¹ (days)	Notes
Anthracnose; <i>Colletotrichum gloeosporioides</i> ; pepper spot	Copper (various)	M1	1 (refer to label or permit)	Maximum of 6 applications per crop.
	Cupric hydroxide + mancozeb (Farmalinx Reload), PER11943 , expires 30.04.2027	M1 + M3	14 (refer to permit)	Maximum of 6 applications per crop.
	Mancozeb (KDPC Mancozeb), PER11943 , expires 30.4.2027	M1 + M3	14 (refer to permit)	Maximum of 6 applications per crop.
	Fluopyram + tebuconazole (Luna [®] Experience)	7 + 3	3	Maximum of 3 applications per season (see label).
	Fluopyram + trifloxystrobin (Luna [®] Sensation)	7 + 11	3	Maximum of 3 applications per season (see label).
	Prochloraz (Octave [®]) + mancozeb (KDPC Mancozeb), PER83212 , expires 31.01.2028	3 + M3	Not required when used as directed	Maximum of 3 applications per season. No more than 2 consecutive applications.
Phytophthora; <i>Phytophthora capsicii</i> ; purple blotch	Copper oxychloride (Coppox WP)	M1	1	Registered for use in Qld and WA only.
	Phosphonic acid (Agri-fos [®]), PER13807 , expires 31.07.2027	P07	Not required when used as directed	Can be used as a curative or preventative. Maximum of 8 applications per crop.
Pseudocercospora fruit spot; <i>Pseudocercospora</i> spp.; na	Mancozeb (Dithane [®] Rainshield [®] NeoTec [®])	M3	1	Do not apply during flowering.
Pseudocercospora leaf spot; <i>Pseudocercospora anthonii</i> ; na	Pyraclostrobin (Cabrio [®]), PER13952 , expires 31.08.2026	11	3	Maximum of 3 applications per crop. Alternate with other MOA ² fungicides.

¹ Withholding period. ² Mode of action.Figure 1. Anthracnose caused by *Colletotrichum gloeosporioides*. Photos: George et al (2015).

Table 2. Insecticides registered for use in custard apple, page 1 of 2. Always refer to the label before using any product.

Target pest/s	Active constituent (example trade name)	Insecticide group(s)	WHP ¹ (days)	Notes
Ants (Formicidae)	Fipronil (Warden®), PER87605 , expires 30.06.2026	2B	Not required when used as directed	Not to be applied to foliage or fruit. Dangerous to bees. Maximum of 2 applications per year.
Flatid plant hoppers (Flatidae)	Beta-cyfluthrin (Bulldock®), PER80374 , expires 30.06.2028	3A	7	Maximum of 4 applications per season. Do not use at flowering.
	Trichlorfon (Tyranex® 900), PER14743 , expires 28.02.2030	1B	7	Maximum of 6 applications per season.
Flower-eating caterpillars and loopers	Spinosad (CropSure Kobus®)	5	Not required when used as directed	Adding a non-ionic wetter might improve control.
	Trichlorfon (Tyranex® 900), PER14743 , expires 28.02.2030	1B	7	Maximum of 6 applications per season.
Fruit spotting bugs (<i>Amblypelta nitida</i>) and banana spotting bugs (<i>Amblypelta lutescens</i>)	Acetamiprid + pyriproxyfen (Trivor®), PER89943 , expires 30.09.2027	4A + 7C	28	Maximum of 2 applications per year.
	Beta-cyfluthrin (Bulldock®), PER80374 , expires 30.06.2028	3A	7	Maximum of 4 applications per season. Do not use at flowering.
	Sulfoxaflor (Transform®)	4C	1	Maximum of 2 applications per season.
	Trichlorfon (Tyranex® 900), PER14743 , expires 28.02.2030	1B	7	Suppression only. Also suppresses green vegetable bug and lychee stink bug. Maximum of 6 applications per crop.



Figure 2. Fruit spotting bug damage to a custard apple, resulting in oozing sap.



Figure 3. Fruit spotting bugs have fed over most of the surface of this custard apple.

Table 3. Insecticides registered for use in custard apple, page 2 of 2. Always refer to the label before using any product.

Target pest/s	Active constituent (example trade name)	Insecticide group(s)	WHP ¹ (days)	Notes
Leafrollers	Spinosad (CropSure Kobus®)	5	Not required when used as directed	Adding a non-ionic wetter is recommended.
Mealybugs (Pseudococcidae)	Acetamiprid + pyriproxyfen (Trivor®), PER89943 , expires 30.09.2027	4A + 7C	28	Maximum of 2 applications per season.
	Buprofezin (Applaud®)	16	14	Maximum of 2 applications per season.
	Sulfoxaflor (Transform®)	4C	1	Suppression only. Maximum of 2 applications per season.
Citrus mealybugs (<i>Planococcus citri</i>)	Clothianidin (Samurai®), PER84992 , expires 31.12.2027	4A	Not required when used as directed	Do not apply after petal fall.
Mites, banana spotted mites (<i>Tetranychus</i> spp.)	Abamectin (Genfarm Aba 18)	6	14	Maximum of 1 application per season.
Mites, two-spotted mites (<i>Tetranychus urticae</i>)	Abamectin (Genfarm Aba 18)	6	14	Maximum of 1 application per season.
Queensland fruit flies (<i>Bactrocera tryoni</i>) and Mediterranean fruit flies (<i>Ceratitis capitata</i>)	Acetamiprid + pyriproxyfen (Trivor®), PER89943 , expires 30.09.2027	4A + 7C	28	Suppression only. Maximum 2 applications per season.
	Malathion (Fyfanon® 440 EW)	1B	3	Apply with a fruit fly yeast autolysate product.
	Malathion + 4-(p-acetoxyphenyl)-2-butanone (Eco-Lure®)	1B	Not required when used as directed	Attracts and traps fruit flies.
	Trichlorfon (Dipterex 500 SL), PER12450 , expires 31.08.2030	1B	7	Maximum of 4 applications per season.
Red-banded thrips (<i>Selenothrips rubrocinctus</i>)	Spinosad (CropSure Kobus™)	5	Not required when used as directed	Adding a non-ionic wetter is recommended.
Scale insects (Coccidae)	Acetamiprid + pyriproxyfen (Trivor®), PER89943 , expires 30.09.2027	4A + 7C	28	Maximum of 2 applications per year.
	Buprofezin (Applaud™)	16	14	Maximum of 2 applications per season.
	Paraffinic oil (Sacoa Biopest)	NA	1	Do not spray when shade temperatures are ≥32° C.
	Petroleum oil (Vicol Summer Oil)	NA	Not required when used as directed	Best efficacy at young crawler stages.
Sorghum head caterpillars (<i>Cryptoblabes adoceta</i>)	Spinosad (CropSure Kobus™)	5	Not required when used as directed	Adding a non-ionic wetter might improve control.
Yellow peach moths (<i>Conogethes punctiferalis</i>)	Methoxyfenozide (Caribou)	18	14	Maximum of 3 applications per year.
	Spinosad (CropSure Kobus™)	5	Not required when used as directed	Adding a non-ionic wetter might improve control.
	Tebufofenozide (Mimic®)	16A	14	Maximum of 3 applications per year.
	Trichlorfon (Tyranex® 900), PER14743 , expires 28.02.2030	1B	7	Maximum of 6 applications per season.

¹ Withholding period.

References

- George A, Bradley R, Hutton R, Redpath S, Bignell G, Nissen B, Bruun D and Waite G (2015) *Integrated pest and disease management manual for custard apple, third edition*. Queensland Department of Agriculture and Fisheries, <https://www.horticulture.com.au/globalassets/hort-innovation/resource-assets/cu13001-custard-apple-ipdm-manual.pdf>
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