

An Essential Partner for IPM and Weed Control

Parachute[®]
INSECTICIDE

Parachute[®] takes the science of paraffinic oil formulation to new heights. With an unrivaled combination of paraffinic loading, molecular weight efficacy and hyper-spreading of hydrocarbons, Parachute[®] works in partnership with beneficial insects to suppress chewing and sucking pests of Canola and other broadacre crops, whilst also bringing the best out in post-emergent herbicides for grass and broad-leafed weed control.

Features and Benefits

- Registered for insect pest suppression in crops including Canola, Cotton, Chickpeas and other Pulses.
- Extraordinary leaf coverage from a single droplet maximises physical modes-of-action.
- Hyper-spreading ability enhances herbicide and insecticide performance.
- An ideal Integrated Pest Management (IPM) option. Parachute[®] works in partnership with beneficials to suppress insect pests without secondary pest flaring.
- Very highly paraffinic, efficacious *n*C27 oil which provides extra efficacy over horticultural weight paraffinic oils and gives long on-leaf persistence.
- A very effective low-rate (0.5%) adjuvant of selective post-emergent herbicides.
- Formulated with food-grade, biodegradable, phyto-safe emulsifiers.
- Blocks pest respiratory systems and acts as an ovipositional (egg laying) deterrent.
- Ideal rotation option for insecticides under pressure from resistance development.

Recommended Applications

Parachute[®] has a strong fit in Canola crops where early season spraying for Green peach aphid can coincide with the need to control Annual ryegrass with a Group A herbicide. Later in the season, Parachute[®] is an excellent adjuvant for other post-emergent herbicides. With existing insecticide registrations of its own, it also makes an excellent partner for high value insecticides like Exirel[®] when seeking to control DBM, GPA or cabbage moth.

Parachute[®] sets a new benchmark for paraffinic formulations. It combines very high paraffinic loading with high median molecular weight. It also has hyper-spreading properties that distribute the paraffinic molecules widely and evenly over the leaf surface from their original droplet point source.

Hyper-coverage

The image below shows how effectively Parachute[®] droplets spread and cover the surface of a cotton cotyledon. This ability is very important as the physical mode of action of paraffinic formulations demands extensive coverage for effectiveness. Also, this property ensures the coverage is even so that all areas get a similar dose of paraffins, avoiding phytotoxicity issues that can arise in leaf areas that receive concentrated droplets at the expense of other areas that receive no coverage.

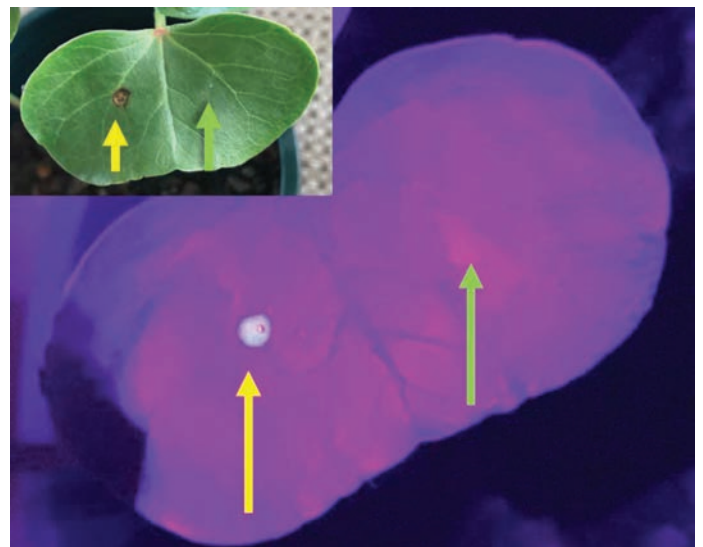


Figure 1: Area covered by conventional paraffinic oil formulation with fluorescent dye (yellow arrow) 1 hour after placement. A similar fluorescent-dyed droplet of Parachute[®] was placed at the same time (green arrow). The Parachute[®] droplet has dispersed over the leaf surface and can no longer be seen. Insert: After 72 hours of mid-summer daylight, a lesion appeared where the conventional droplet was placed while no such issue was evident at the Parachute[®] site.



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Paraffinic Loading

The higher the loading of straight and branched carbon structures (paraffins and iso-paraffins, Figure 2), the more effective an oil is as an insecticide.

Paraffins are more effective than other oils against a range of pests. This is because paraffins have greater persistence on the leaf surface.

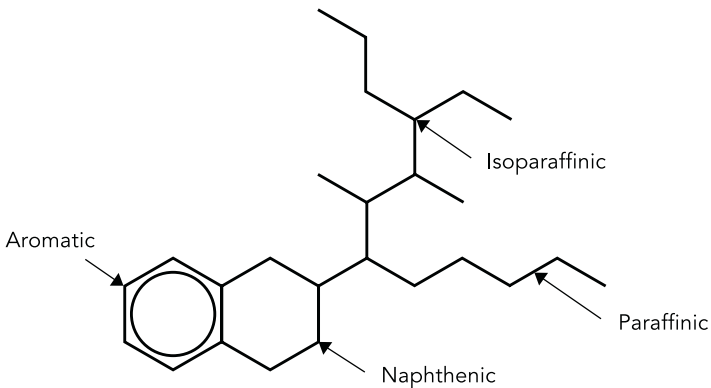


Figure 2: An example of an nC_{26} molecule containing four different carbon types.

Parachute® has a paraffinic loading of over 70%.

Molecular Weight

A paraffinic formulation should be as heavy as possible without damaging the plant. So there is an optimum weight. 'Heaviness' is usually described by a property called median carbon number (e.g. nC_{21}). Typical summer oils have a carbon number between 21 and 23. Higher carbon number oils cover pests more effectively and persists for longer on the leaf surface. However, if too heavy, plant growth processes like transpiration and respiration can be affected.

Parachute® is an nC_{27} paraffinic oil to give superior pest control while not compromising plant safety.

Insecticide Resistance Management role

Resistance management strategies prescribe against successive applications of the same mode of action insecticide and combining different insecticides. However, with a physical mode-of-action, successive Parachute® applications will not increase the risk of resistance development. Applying a mixture of Parachute® and FMC's Exirel® Group 28 insecticide followed by a Parachute-only spray 7-10 days later is an excellent strategy to reduce the development of resistance in Diamond back moth, Cabbage moth and Green peach aphid.

Visit www.fmccrop.com.au/en/contact_us to contact your local representative if you need help with determining the best application parameters for Parachute®.



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