BioCane, a fungal-based pesticide from Becker Underwood, is a granular formulation of *Metarhizium anisopliae* FI-1045. This is a soil inhabiting fungus frequently found in nature, and is a pathogen to a range of insect species, particularly canegrubs.

It has a simple lifecycle, remaining dormant as spores in the soil until contact with the Greyback canegrub cuticle (skin). A germ tube forms and penetrates through the insect cuticle. The fungus reproduces to such an extent that it kills the insect. The fungal hyphae then grow out of the insect, producing a mass (chains) of new infectious green spores.

Becker Underwood recommends that BioCane be used as part of an overall integrated pest management (IPM) program to reduce the damage caused by greyback canegrubs. They believe that adding BioCane into an IPM program will result in a financial benefit, improved cane growth in subsequent ratoons, reduced cost associated to replanting cane damaged by greyback canegrubs, and reduced mill costs from processing cane with low sugar and high extraneous matter from canegrub damaged fields.

**BioCane overview**

- Long-term suppression of greyback canegrub;
- Only ONE application to the plant crop is required;
- Effective grub control under a wide range of soil conditions, regardless of pH;
- Stronger cane root systems and an increase in crop vigour;
- Reduction in stool tipping due to grubs and, hence, increased number of stools in ratoon crops;
- Less extraneous matter in harvested cane from canegrub damaged fields;
- No adverse effects on other insects, earthworms, soil microbes or the environment;
- Does not leach into waterways;
- A projected increase in ratoon crops; and,
- An increased yield.

**Application**

BioCane can be killed by UV light, high temperatures or desiccation. To work effectively, the granules must be covered within 15 minutes of application and should be 15–20 cm below the final soil surface after planting OR after fill-in and hill-up is completed. Do not apply after the fill-in stage of the crop.

**EITHER:** Apply granules during the planting operation in a band 15–20 cm wide across the centre of the furrow and level with the sett. Cover immediately with least five cm of compacted soil and add more soil later. (Must only be used with compatible chemicals – see details below.)

**OR:** Apply granules at the fill-in stage in a band 15–20 cm wide across the centre of the furrow, and 5–10 cm above the sett, depending upon row depth. Cover with 15–20 cm of soil immediately, taking care to ensure that no granules remain exposed on the surface, either from application or spillage.

**Grub control**

BioCane acts to reduce the greyback canegrub population but will not give complete control by itself. It is not a knockdown agent but part of the overall IPM program and reduction in crop damage may not be observable before several months after application.

**Chemical compatibility**

BioCane contains living fungal spores that could potentially be harmed by chemicals that are used during planting. No adverse effects on product viability were measured in soils that were treated at registered application rates with the insecticides chlorpyrifos, bifenthrin and fipronil; the canegrub control products suSCon Plus and imidacloprid and the fungicides methoxy ethyl mercuric chloride, flusilazole, prochloraz and propiconazole. Compatibility with other products is unknown.