



## Business benefits

- Top ranking (4-5 out of 5) in trials for disease control, weed control and yield
- Plant-back times down from 28 to 14 days
- Potential annual savings of approximately \$10,000 due to reduced labour costs for weeding

# EDN<sup>®</sup> FUMIGAS. Australian strawberries better than ever with innovative fumigation solution from Linde.

## The customer

Handasyde Strawberries is a family-owned organic and conventional farm located near the West Australian township of Albany, a rich agricultural and wine-producing area. The farm specialises in strawberries but is increasingly diversifying into other crops. Lyn and Neil Handasyde are highly regarded strawberry producers in Australia, renowned for their innovative and environmentally conscious farming practices. Operating a parallel farming system, the owners have been gradually converting sections to organic. Strawberry fruits are grown all year around in Australia with Victoria contributing 35%, Queensland 35% and Western Australia 19% to the national total.

Soils used for strawberry production are mostly fumigated and covered with plastic prior to planting to control soil-borne pathogens, nematodes and weeds. Methyl bromide has been used for the past 50 years to control these soil-borne pests, diseases and weeds.

## The challenge

Methyl bromide is considered an ozone-depleting compound. International restrictions have been placed on its usage and the product is being gradually phased out around the world, including Australia.

Despite its environmental impacts, the use of methyl bromide for soil disinfestation has been effective at preventing yield loss over the years. In fact, experts estimate that it has prevented approximately 35% of yield loss for Australian growers, equating to approximately \$40 million annually.

The main challenge for growers such as Lyn and Neil Handasyde and the Australian strawberry industry as a whole is to find an alternative to methyl bromide that can nonetheless match its yield performance.

Linde Group member BOC is leading the way in the development of eco-friendly alternatives to methyl bromide such as EDN<sup>®</sup> FUMIGAS. These innovative alternatives are proving increasingly popular for strawberry farmers and other sectors of the agriculture industry.



“Looking beyond efficiency gains, one of the biggest benefits of EDN FUMIGAS is that it aligns nicely with our growing emphasis on organic farming and responsible care.”

Lyn Handasydes

## The solution

Handasyde and BOC have been working closely together on trials using EDN FUMIGAS as a replacement for methyl bromide and have achieved highly encouraging results. Ethanedinitrile (trade name EDN FUMIGAS) was developed as an alternative fumigant by leading scientists at CSIRO, Australia’s national science agency, with the assistance of BOC and government agencies.

It has been tested in the laboratory and field by CSIRO and BOC Australia on strawberry soil-borne pathogens, weeds and nematodes. These trials showed that EDN FUMIGAS is a promising alternative to methyl bromide in controlling a variety of strawberry pathogens. It has also been successful on weeds such as rye, winter and bent grass and on nematodes including *Steinernema carpocapsa*. Owner Neil Handasyde says studies underway in control plots at his Albany property were producing exciting results, including. “We are finding EDN FUMIGAS a very viable replacement for soil fungicides and nematicides, with similar rates of control for weeds and in-soil pathogens,” he said. Looking beyond the environmental benefits, Mr Handasyde said using EDN FUMIGAS meant strawberries could be planted quicker, reducing the typical 28-day replant times of soil fungicides and nematicides to just 14 days.

“Getting our plants in the ground earlier means we can get in production earlier,” he said. These trials are also pointing towards potential savings of approximately \$10,000 per annum due to reduced labour costs for weeding. The Handasydes believe these types of savings could easily flow on to other strawberry growers through the use of EDN FUMIGAS.

## Benefits

Handasyde has given BOC excellent feedback following the drip irrigation trials using EDN FUMIGAS. When asked to provide an overall rating from 1 to 5 (with 1 being worst and 5 being very good) based on disease control, weed control and yield, Handasyde rated EDN FUMIGAS 4-5 (good to very good) compared with 2 (below average) for the traditional fumigant. Lyn Handasyde sees even wider benefits of EDN FUMIGAS: “Looking beyond efficiency gains, one of the biggest benefits of EDN FUMIGAS is that it aligns nicely with our growing emphasis on organic farming and responsible care. EDN FUMIGAS is considerably more environmentally friendly than methyl bromide – it is made up of naturally occurring active ingredients that degrade to earth-friendly metabolites. Plus it has no known global warming potential.”

## Benefits of EDN FUMIGAS at a glance:

- Effective in controlling soil-borne pathogens, nematodes and weeds
- Can be applied to the soil when the soil temperature is below 10°C
- Shortens post-treatment plant-back time for strawberry seedlings to just 14 days, which is less than currently available fumigants
- Promotes the growth of beneficial microorganisms found in the soil that induce increased growth response in plants
- Healthier strawberry plants and higher yields
- No known global warming potential
- Strong environmental performance – with naturally occurring active ingredients

BOC is optimistic that it will gain government approval of EDN FUMIGAS for strawberry use in the near future, supported by encouraging results from testing in Albany WA and elsewhere. “Essentially, we’d switch to EDN FUMIGAS tomorrow if approval was available. We’ve already switched to BOC for other gases we use on the farm – based on our positive experiences with BOC during the trial,” concludes Neil.



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