



COMPETITIVE COMPARISON DEMAND® versus CYONARA™ 9.7

Comparative data for Demand represents either treatment with Demand CS at a 9.7% concentration of lambda-cyhalothrin or treatment with Demand EZ at a 2.43% concentration of lambda-cyhalothrin. When applied according to label directions, Demand CS and Demand EZ yield equivalent results.

DEMAND®

CYONARA™ 9.7

DEMAND Insecticide has an advanced microencapsulated formulation

Microencapsulation encloses the active ingredient in protective spheres that are suspended in water (see Figure 1)

Non-microencapsulated "Sigma" technology – unprotected active ingredient (see Figure 1)

Optimal range of capsules provide controlled release and extended residual activity

Active ingredient exposed to environmental conditions resulting in limited residual activity

Caution label

Warning label

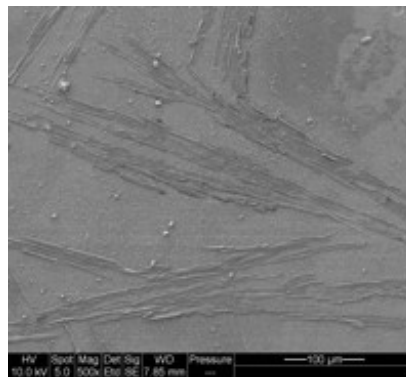
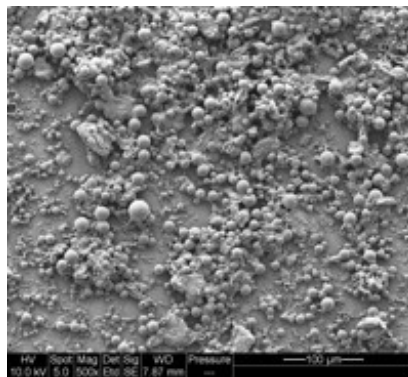
Low to no odor

Strong odor

Can apply to interior areas where cattle or calves are present

Cannot apply to any area where animals are present

Figure 1.



Scanning electron micrograph of Demand, left and Cyonara 9.7, right. Tennessee Technological University, 2007.

DEMAND is more cost-effective due to greater activity and longer residual

- Because Demand is more active than Cyonara 9.7, the lower Demand application rates result in reduced costs.
- The greater stability of Demand microencapsulated formulation provides greater control and reduced callbacks.

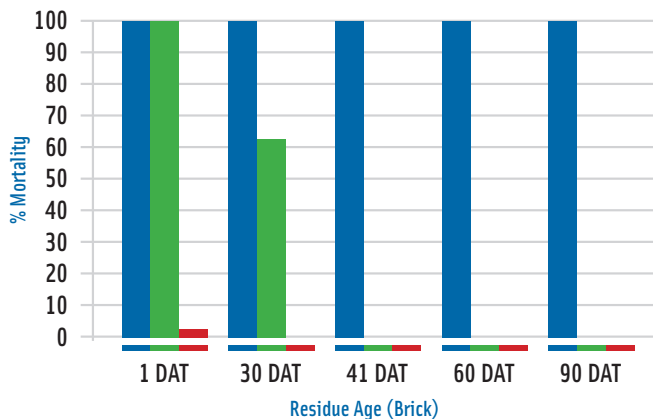
DEMAND is more active

At the 0.015% application rate of Demand EZ, excellent activity against cockroaches observed out to 90 days after application (see Figure 2).

At the 0.015% application rate of Cyonara 9.7, activity against cockroaches was observed at 1 day after application, with a considerable decrease in activity at 30 days. No activity was observed at 41, 60 or 90 days (see Figure 2).

Figure 2.

Mortality (48 h) of American Cockroaches Exposed to Demand EZ and Cyonara 9.7



Mortality of American cockroaches after exposure to bricks* treated with Cyonara 9.7 and Demand EZ, University of Florida, 2007.

■ Demand 0.015%
■ Cyonara 0.015%
■ Control

*Bricks utilized for testing at 1, 41, 60 and 90 days were aged outdoors and exposed to ambient light. Brick conditions at 30 days were simulated by oven aging.

Although DEMAND and Cyonara 9.7 both contain the active ingredient lambda-cyhalothrin, the formulations are very different:

- Demand mixes easily, has excellent compatibility with application equipment and will not clog even fine mesh screens.
- In Demand, the lambda-cyhalothrin is enclosed within polymer spheres (microencapsulation) which protect the active ingredient from UV light, heat and moisture.
- The microcapsules of Demand are engineered to an optimal size range of between 5 and 22 microns.
- When Demand is applied, there are at least 10,000 microcapsules per square inch.
- With a range of capsule sizes for Demand, residual efficacy is increased, allowing for activity against insects at least 90 days after application.
- Once they contact an insect or arthropod cuticle, the microcapsules release the lambda-cyhalothrin rapidly, resulting in insect control within a few minutes.

In comparison, the lambda-cyhalothrin in Cyonara 9.7 is not protected by microcapsules. Therefore, the active ingredient degrades rapidly when exposed to environmental conditions.



