

ance. The same inverse relationship between egg age and susceptibility to diflubenzuron is observed in *Simulium*³ and mosquito⁴ eggs.

The eggs treated with lethal concentrations of diflubenzuron reached a very advanced stage of development, shortly before hatching, making the heads of the nymphs to be seen through the egg shell which was transformed into a highly transparent shell, due to the action of diflubenzuron. The fully developed nymphs could not successfully hatch out of the eggs because the rigidity of the cuticle is lowered due to poor chitin content and finally nymphs fail to resist the muscular contraction during hatching. Similar observation has also been reported by Ascher and Nemny⁷ in *Spodoptera littoralis* eggs, treated with diflubenzuron.

Topical application of diflubenzuron on the gravid females does not inhibit the fecundity of both *D. cingulatus* and *C. purpureus*. The eggs laid by *D. cingulatus* treated with 1000, 750, 500 ppm of diflubenzuron are totally suppressed from being hatched while at the concentrations of 250, 100 and 50 ppm the hatching is reduced to about 12, 30 and 64% respectively. However, in *C. purpureus*, the total suppression of hatching is observed only in the eggs laid by females treated with 1000 ppm while at other concentrations upto 250 ppm, the hatching is partially suppressed. In

the light of these observations, it is suggested that the eggs of *D. cingulatus* are more susceptible to ovicidal action of diflubenzuron than those of *C. purpureus* and the direct application of this insecticide on the eggs results in the heavy suppression of egg hatching.

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NEWS

WHY DO WE WEEP?

... "Science can now distinguish physiologically between reflex tears (stirred, for example, by onion) and emotional tears (arising mainly from grief or joy). A Minnesota biochemist, William H. Frey II, who directs an ongoing study of tears, has established that emotional tears have a higher protein content than reflex tears. . . . Frey is the only scientist, so far, to concentrate heavily on the chemistry of emotional tears and the biochemical changes related to emotional states. For five years, Frey and his colleagues have been collecting the emotional outpourings of hundreds of volunteers from Minneapolis and St. Paul, who are

subjected to 'four handkerchief' movies to make them start weeping. . . . Such samples permitted Frey to establish the high-protein content of emotional tears. They also led him to a theory he has yet to prove, which is simply that tears, 'like other excretory functions, remove from the body toxic substances that build up as a result of stress. Just exactly what substances, however, Frey does not yet know'. . . . (Reproduced with permission from *Press Digest, Current Contents*® No. 38, September 17, 1984. Copy right by the Institute for Scientific Information®, Philadelphia, PA, USA).