

## **Effect of carbon dioxide and cold anaesthesia on the hoarding behavior of the honeybee.**

### **ABSTRACT**

Hoarding behaviour of groups of newly emerged adult honeybees was measured after they had been exposed to CO<sub>2</sub> for 10 min, or exposed to CO<sub>2</sub> for long enough to immobilize them, or exposed to cold. Both CO<sub>2</sub> and cold affected hoarding behaviour. Bees exposed to CO<sub>2</sub> for 10 min initially hoarded less, and later hoarded more, than controls. The hoarding rate of bees exposed to CO<sub>2</sub> only long enough to immobilize them, or exposed to cold, was generally depressed throughout the experiment. Due to the complex changes in hoarding that follow CO<sub>2</sub> treatment, cold is judged to be the preferred anaesthetic for use in hoarding experiments.

**Keyword:** Carbon dioxide; Cold anaesthesia; Hoarding; Honeybee.