

### 3. Biological Control

#### CODLING MOTH BIOLOGICAL AND CULTURAL CONTROL: I. TREE BANDING

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Placing a band of cardboard around the base of an apple tree, i.e., tree banding, is a sanitation technique for removing codling moth larvae which was commonly employed in the nineteen twenties and thirties. Organic growers in eastern British Columbia depend on banding and fruit removal sanitation as a key part of their codling moth management. Unfortunately the efficiency of banding has never been adequately evaluated. A key question is how are codling moth cocoons distributed spatially within trees and the orchard floor. Our manipulative banding studies show many cocoons can occur in the canopy of trees. The studies also suggest that the addition of cocooning sites in the tree canopy and on the ground can reduce the number of larvae that cocoon on the base of the tree. Finally, mark-recapture experiments were used in spring and summer flights of codling moth to measure indirectly the number of larvae that remain in orchards after bands were removed. These studies were inconclusive but plans for improvements for year 2000 studies are described.