

Checklist to Assess the **Potential** Risk of MD Failure in Pome Fruit Blocks

This checklist is provided for growers and advisors to assess the **potential** risk of failure of mating disruption in pome fruit blocks and to plan accordingly to prevent or minimize codling moth damage. The identified risk factors are characteristics of the blocks or of their location that only become risks when sources of mated female codling moths are present near-by. The influences of these risk factors are mainly to disrupt the uniformity and concentration (saturation) of the pheromone released from the dispensers along the block edges and within the blocks. These gaps in proper pheromone saturation allow codling moth males to find calling females for mating.

The two major threats to blocks treated with mating disruption, regardless of the risk factors presented, are unmanaged sources of mated female moths outside the treated blocks, and high populations within the blocks.

Risk Factor	Influence on Mating Disruption Performance
Crop type	Codling moth larvae overwinter better on pear trees.
Block size	Blocks less than one ha in size have increased risk of insufficient or inconsistent pheromone saturation due to high area-to-edge ratio.
Proximity to other pome fruit trees	Codling moth can readily move between orchards separated by 20 m, increasing the risk of codling moth emigration if the nearby blocks are infested.
Irregular or narrow shape	Increased risk of insufficient pheromone saturation due to lack of depth and higher area-edge ratio.
Uniformity of tree density	Gaps in pheromone saturation can occur in blocks with irregular grouping of host trees separated by open space or other trees or vegetation.
Slope of block	Increasing slope increases risk of infestation in upper portion of block as pheromone flows downhill leaving upper portion with less pheromone saturation (unless another treated block adjacent to upper edge).
Tree size	Increased risk of problems with larger tree canopies (> 4-5 m high).