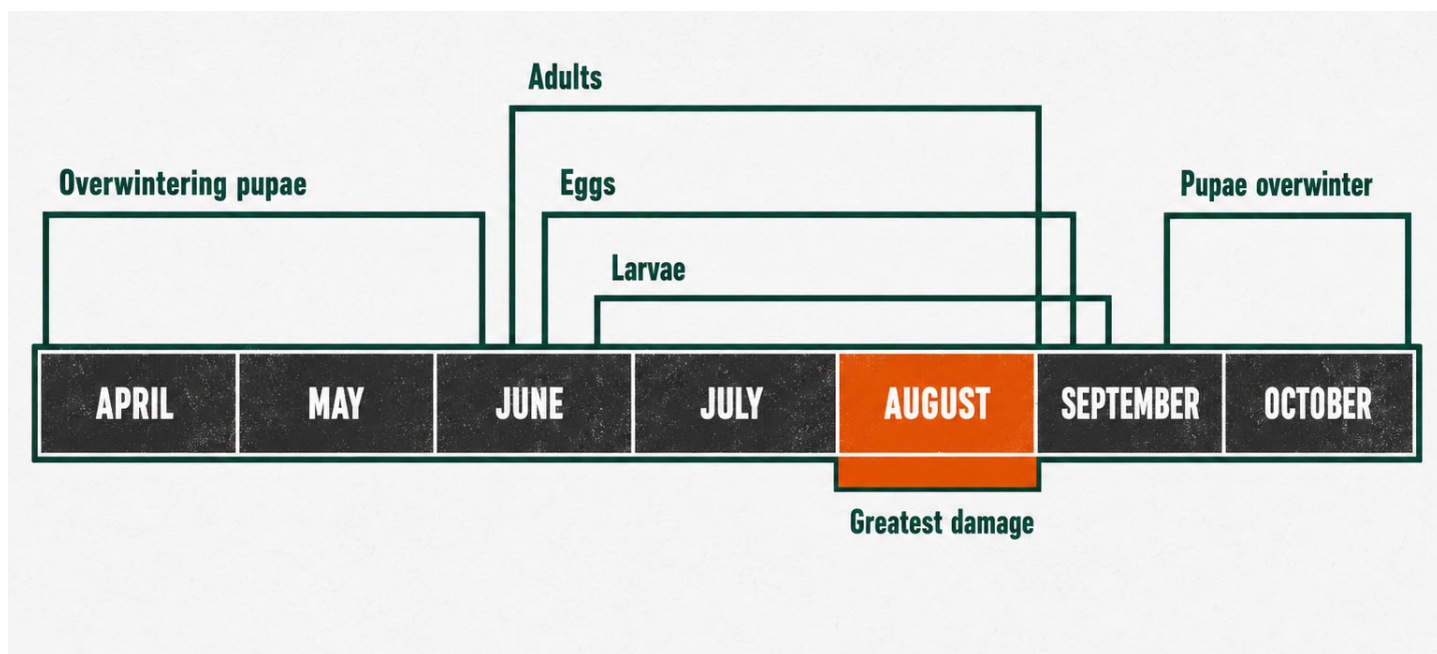




Agronomy Update | Bertha Armyworm

Bertha armyworm has one generation per year, overwintering as pupae in the soil before adult moths emerge from mid-June to late July. Females are highly attracted to flowering canola and can lay over 2,000 eggs on the undersides of leaves. Eggs hatch within about a week, and larvae feed for approximately six weeks, progressing through six growth stages while causing leaf defoliation and potential yield loss. Mature larvae reach about 4 cm in length before burrowing into the soil to pupate in late summer. Producers should begin scouting for feeding damage after peak flowering or roughly two weeks after peak moth trap catches to determine if populations exceed economic thresholds.



Bertha armyworm life cycle Source: <https://www.canolacouncil.org/wp-content/uploads/2020/08/bertha-army-worm-life-cycle-min.png>

Monitoring and Scouting for Bertha Armyworm: Bertha armyworm populations can vary greatly from year to year, making annual forecasts based on previous infestations unreliable. Provincial pheromone trap monitoring programs beginning in June help identify areas at risk by tracking adult moth populations. Producers should begin scouting for leaf feeding and monitor larvae after peak flowering or about two weeks after peak moth trap catches. To assess populations accurately, sample at least three representative locations in a field, each at least 50 metres apart, avoiding headlands and unrepresentative areas. At each site, inspect a one-square-metre area by shaking plants and searching the soil and leaf litter for larvae. Calculate the average number of larvae per square metre across all sites and compare it to economic thresholds to determine whether insecticide application is warranted.

Crop Damage from Bertha Armyworm: Bertha armyworm larvae feed on leaves, stems, pods, and seeds, with the most significant damage typically occurring between late July and late August. Young larvae feed on the



undersides of leaves, creating irregular holes but generally causing minimal economic damage. As larvae mature, they consume larger amounts of plant material and can feed directly on stems and pods once leaf material is depleted. Heavily infested canola fields may appear pale or whitish as larvae strip the green outer tissue from stems and pods. Larvae can also chew into pods and consume seeds, causing substantial yield losses. Additionally, pod injury can increase the risk of premature shattering and further losses. Swathing is not an effective control measure, as larvae may continue feeding until the crop dries.

Scouting: Scouting and economic thresholds need to be considered rather than trap counts alone. Check several one square meter squared areas within canola fields. Larvae will hide in soil cracks and leaf litter during the day, so make sure to shake plants and inspect the ground carefully. Spraying is only recommended when larvae are causing damage and populations exceed the threshold based on crop value and spray cost. Timely scouting is important as mature larvae move from leaf feeding to pods quickly where they can cause significant yield damage.

Spraying Cost - \$/acre	6	7	8	9	10	11	12	13	14	15	16
Number of Larvae/metre ²											
7	20	17	15	13	12	11	10	9	9	8	8
8	23	20	17	15	14	13	11	11	10	9	9
9	26	22	19	17	16	14	13	12	11	10	10
10	29	25	22	19	17	16	14	13	12	11	11
11	32	27	24	21	19	17	16	15	14	13	12
12	34	30	26	23	21	19	17	16	15	14	13
13	37	32	28	25	22	20	19	17	16	15	14
14	40	35	31	27	24	22	20	19	17	16	15
15	43	37	32	29	26	23	22	20	19	17	16