

Hail Damage

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When hail storms occur, what kind of damage and injury can you expect? A general rule is that the earlier in canola plant development, the more time to recover and the less amount of total hail injury.

Plantings in seedling stages can have stands reduced by 50 percent and still produce acceptable yields (*see tables*). Prior to bolting and flower development, canola can withstand hail without much economic loss. Canola plants with leaves that are torn and shredded suffer only partial loss. Leaf area destroyed will result in seed yield loss. Seed yield losses in canola are approximately 25 percent of leaf area lost. If leaf defoliation were 50 percent, then yield loss would be approximately 12.5 percent in the seedling stage.

Canola plants injured in late bolting or early flowering stages seldom die. The well-developed root systems and ability to rebranch and develop secondary flower clusters help the plants recover. When buds or flowers are destroyed, the canola recovers rapidly by developing flowers that normally would have aborted. New branches also develop from

growth buds lower on the plant. Seed yield loss will depend on both the percentage of leaves and branches lost. For example, if canola has 60 percent lost branches seven days into flowering, seed yield loss is estimated at 18 percent, whereas 21 days into flowering, yield loss would be an estimated 60 percent.

If hail strikes late, such as during pod filling or ripening, plant recovery is not possible. The time needed to develop new growth, flower, and mature is limited before a killing frost. Canola seed yield loss, if injury occurs at the ripening stage, depends directly on the loss of branches, individual pods and seed knocked out of pods. Severe hail losses have occurred in canola swaths, with excessive shattering of pods causing economic seed loss.

Percent yield loss from canola stand reduction.

Original plants per 10 feet of row	Percent stand reduction									
	10	20	30	40	50	60	70	80	90	100
30-80	0	0	4	7	12	27	47	72	90	100
less than 30	10	20	30	40	50	60	70	80	90	100

Percent yield loss from defoliation of canola.

Stage of Growth	Average percentage of leaf area destroyed									
	10	20	30	40	50	60	70	80	90	100
Vegetative through start of flowering	2	4	6	10	12	15	18	20	22	25
5 days after flowering	2	3	5	6	8	10	11	13	14	16
10 days after flowering up through branching	1	2	2	3	4	5	6	6	7	8

Source: National Crop Insurance Service.