Ongoing Experiments to Protect Canola Seedlings from Horned Lark Depredation

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Horned lark (*Eremophila alperestis* L.) depredation of pre-emerged and newly-emerged canola seedlings is an increasing concern for both dryland and irrigated farmers in the Inland PNW. Horned lark (Fig. 1) is a native bird species throughout Canada, the United States, and most of Mexico. They are permanent year-round residents of the PNW.

The first report of horned lark damage to canola was at Lind in 2006 where they destroyed a 0.25-acre winter canola experiment. The geographic range of their canola seedling depredation has since extended into Adams, Grant, Douglas, Lincoln, and Spokane Counties. Some canola farmers have recurrent problems with this bird whereas neighboring canola farmers have never been affected. There are two documented cases at separate locations in Adams County where entire 125-acre irrigated circles of both winter and spring canola were destroyed by horned larks.

Many attempts have been made to control horned lark feeding on canola seedlings. These have included loud propane-powered noise cannons, placement of glittery flags and reflecting ‘disco balls’ in the field, mixing garlic powder with the canola seed before planting, and laser lights. These control strategies have not been effective. The most effective control method tried to date was by an Adams County farmer who hired a falconer from the Tri-Cities to have several of these predator birds fly over his fields for several days when canola seedlings were emerging. This, obviously, is a very expensive control method.

We have a new experiment underway at Lind and Ritzville in 2018 for both spring and winter canola. A nontoxic seed treatment called Avipel™, registered and marketed by Arkion Life Sciences in Delaware, is widely used to effectively control black bird and crow damage to corn and rice seed. The active ingredient in Avipel is anthraquinone, and organic chemical that occurs naturally in dozens of plant species. Avipel imparts a bitter taste to the corn seed. However, horned larks do not eat the canola seed but rather the cotyledon leaves of the emerging seedling. We need the seed treatment to act ‘systemically’ or, in other words, get inside the canola plant tissue to impart a bitter taste in the coleoptile leaves. Dr. Ballinger feels he may have developed a means to do this and has treated some spring canola seed that we sent him. Replicated field experiments with and without seed treatment will be established both this spring (April) and in late August for winter canola.

Horned larks are a native species and are protected by law. Our purpose is not to harm horn larks but rather to deter them. Avipel is a non-toxic bird repellent, not a bird poison. We are following EPA and FDA rules. We will send replicated samples of harvested canola seed for laboratory analysis to ensure there are no traces of the seed treatment in the harvested seed.

Figure 1. The Horned Lark is a ground-dwelling bird commonly found in open areas and in fallow fields throughout North America. Photo by Terry Sohl (with permission).