

## STATUS OF LEAF MINER INFESTATION IN BENGUET

ROBERT L. DOMOGUEN  
DA-CARFU Newsletter  
Department of Agriculture  
Cordillera Administrative Region Field Unit  
Philippines

Baguio City - No issue is more important to the future vision of a vibrant potato industry in the province of Benguet today than the ways in which the industry's stakeholders will manage the leafminer pest infestation now affecting some 1,111 hectares of potatoes in the municipalities of Buguias, Mankayan, and Atok.

The leafminer fly *Liriomyza huidobrensis* are small insects whose larvae damage growing crops by burrowing into the foliage. Adult females also do damage by puncturing the leaves to lay their eggs.

The leafminer infestation of potatoes in Benguet came into the limelight when councilor Thomas Palileng reported the problem to the DA-CARFU last December 5, 1999. The area affected then was estimated at 100 hectares. A follow-up report on the problem as requested by the DACARFU from the Municipal Agriculture Office of Buguias indicated the barangays' affected, namely: Buyacaoan, Baculongan Norte, Baculongan Sur, Loo and Ban gao. The crops affected include white potato, celery, Chinese cabbage, onions, beans and carrots.

The first response action initiated by the DA-CARFU was to constitute an Ad Hoc inter-agency group to validate the report. The task force constitutes representatives from the Entomology Department of the Benguet State University (BSU), in the persons of Dr. Lita M. Colting and Dr Bonie S. Ligat; BPI Baguio represented by Mrs. Teresita K. Mangili; Office of the Provincial Agriculturist represented by Mr. Nicholas Pawid; LGU Buguias by Councilor Thomas Palileng and MAO Cipriano Bayangan; and DA-CARFU by Dr. Elizabeth A. Verzola and Mr. Nicasio Baucas. The task force visited the affected areas last December 9, 1999 and validated the reported leafminer problem.

The initial recommendations of the Ad Hoc Task Force are as follows:

1. Farmers to do the following: a) Install yellow traps with grease to attract and trap the adult leafminers; b) Practice sanitation and waste management;
2. For the Department of Agriculture and other concerned agencies to: a) FUND quick response researches on the biology of the leafminer fly; host range; screening of insecticides; and, b) PROVIDE assistance to farmers especially those directly affected.
3. Creation of an inter-agency task force on leafminers to be chaired by the DA-CARFU.

Following the ocular validation by the ad hoc leafminer task force to affected areas in Buguias, the inter-agency leafminer taskforce was formally constituted.

On December 14 1999, the newly created task force made another visit to Buguias and reported that the pest has spread throughout Baculongan Sur and the whole Loo Valley involving more or less 2,000 farmers and 500 hectares. The task force then recommended that severely damaged crops and those that are drying up be cut and burned. The farmers were also advised to intensify installation of yellow traps at a 50-meter distance and to immediately clean and re-oil traps filled with leafminers.

Since the farmers themselves reported that they have been using several types of insecticides to no avail, they were also advised to stop spraying with insecticides until the BSU completes its screening for the most effective insecticide against leafminers. In the meantime, the DA CARFU supplied the affected farmers with yellow paint, grease and plastic yellow traps through the Municipal Agriculture Office.

Since late January this year, the pest has spread to 7 barangays in Buguias affecting some 1,000 hectares. Last February 04 Ms. Nora A. Cangat, Municipal Agriculture Officer reported that leafminer flies

also infested some 100 hectares of potatoes in five Barangays in Mankayan, Benguet namely: Balili (50 has.), Bulalacao (15 has.), Guinaoang. (20 has.), Suyoc (5 has.), and Taneg (10 has.). On February 14 Mr. Alfredo, Pilay, Municipal Agriculture Officer of Atok, Benguet also raised the red flag with a report that the leafminers invaded 11.5 hectares potato crops planted in three barangays: Cattubo (4 has.), Paoay (4.5 has.), and Abiang (3 has.).

For the whole duration of the leafminer pest since its outbreak late last year, the following lessons are notable;

- The indiscriminate use of pesticides had apparently resulted to the development of pesticide resistance and resulted in the elimination of natural enemies, particularly predators and parasites;
- The practice of continuous and turn to page asynchronous planting of potato as well as planting of alternate host crops, such as Chinese cabbage and celery provided year-round host and uninterrupted life cycles for the leafminer;
- The use of yellow traps is more effective than spraying pesticides. Its sustainability, however, hinges on how fast support agencies can facilitate FFS farmer graduates and facilitators to establish participatory technology development activities to respond to the following questions: a) What size and number of yellow traps are required per unit area? b) Where and when should yellow traps be installed in the field? c) What shades of yellow and materials must be used for the yellow traps? And, d) what complimentary Activities are needed for the yellow traps to be effective?

To make the yellow traps effective, there is a need to drastically bring down the existing leafminer population in the infested area. This will require a moratorium in planting potato and other alternate host crops, like Chinese cabbage and celery, among others for at least two months to break the life cycle of the leaf miner.

Appropriate sanitation practices in the field should be able to bring down further the leaf miner population in infected areas.

When the leafminer population is brought down low, synchronous planting of potato can be done together with early installation of yellow traps to: maintain pest population at low level; discourage use of pesticides; and, encourage the build-up of natural enemy populations. Follow-up planting of non-host crops must be done to break the life cycle of the pest before planting potato again in the same areas.

Insects such as the leafminer flies are known to reproduce rapidly and since they don't seem to recognize territorial domain, all potato-growing areas in the Cordillera are at risk. These areas include the potato fields of Kibungan, Kabayan, and Bakun, Benguet as well as the town of Bauko, Mt Province.

The only effective remedy available so far is integrated pest management with the use of yellow traps as its major component. Meantime, there is no sleeping on our indiscretions and the nightmares this pest brings to those dependent on the potato industry and the other highland vegetable crops affected.