The Bug World

J. D. VERTREES
MALCOLM EPLEY JR.

An insect but one-sixth of an inch long packs a wallop which is felt by farmers and gardeners throughout the country — and the Klamath Basin isn't excluded.

The aphid is probably the most common pest we have in the flower and vegetable gardens, and at times is the major pest on potatoes and clover. That can hurt in theis area of heavy potato and clover production.

Home gardners are well acquainted with the matted leaves

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on their cabbages, massed "plant lice" on their roses, and curled honey-dripping leaves on plumbs and peaches.

The potato industry in this area is most seriously affected by aphids Two main kinds of aphids—green peach and potato—are known to carry at least five types of virus disease, the most serious being the leaf roll virus which not only affects commercial potatoes but is particularly important to the seed growers.

The several thousand members of the extensive aphid family vary in color from white, black, through brown . . but most of them are green. All of them confine feeding activities to sucking juices out of plants.

They are slow movers, and have oval-round bodies, with prominent "feelers" up front. They are mostly smooth-bodied, and have cornicles or tubes sticking from the back, one on each side, like guns protruding from turrets. These produce honey and wax. This is the famous "milk" that ants so commonly feed on and for this reason ants help culture colonies of aphids.

Like all insects, aphids have six legs. Sometimes they have wings and sometimes they are without.

The aphid's life is complex and really different. It runs like this.

The male and female mate in the fall at the winter feed ground. Eggs are laid and overwinter in the egg form. Comes spring and they hatch into wingless females which gives birth to living young.

These develop into winged females which migrate to the summer "host" plants where they give birth to live young without wings. Following generations, without mating, keep right on producing living young—all females without wings.

The last generation produced, though, are winged females which migrate back to the winter "host" where they produce males and females with wings. They mate, lay eggs, and the whole durned process starts all over again.

Here in Klamath County the potato aphid overwinters on wild roses. The green peach aphid spends the winter on peach and plumb trees. During the summer they migrate to potatoes and certain weeds to build up their numbers. Naturally generations overlap so that on potato plants we can find mature aphids both with and without wings.

The virus diseases — leaf roll, mild mosaic, rugose mosaic, spindle tuber—are carried in insect stomachs. As the aphids feed on potatoes the virus is introduced into the plants, causing serious crop losses.

In tests in the Klamath area where potato seed had about five per cent leaf roll, it increased up to 85 per cent by the end of the season showing the serious spread by aphids from sick to healthy plants.

The summer-time female type aphid is a mass-producing reproducer, needing only two to three weeks from birth to begin bearing her own young. Aphids on spuds produce from 50 to 100 young each.

A bug-man named Herrick back in New York has figured out that one female aphid producing from April to October, with all her offspring's production added on, would have 1,560,000,000,000,000,000,000,000 descendents—if they all lived. Other aphids down south, growing on melons and cotton, will have twice as many offspring and even more generations per year.

Obviously nature helps in control of these insects or the planet Earth would be a good many feet deep in aphids alone. There are fungus diseases, bacteria, birds which all destroy aphids. There are many kinds of beetles, flies, and other insects which feed on them as well (thank goodness).

Some kinds of wasps live their immature life history inside the aphid as eggs and larvae.

Aphids have developed into versatile insects. The common type feeds on leaves and stems. There are several kinds which feed on the ground. You'll find them sometimes on lettuce and apple roots, the latter where they can cause damage.

Some form brightly-colored galls on leaves of plants. One common kind—the woolly apple aphid which we have here—has a deep coat of fur made from waxy fiber secretion from all over its body.

Most of these forms of aphids do economic damage to our forests as well as food and fiber crops. Most aphids transmit certain types of virus. They do such odd things as transmit bean mosaic into gardens form gladiolas. Many other combinations have long puzzled plant disease people.

In the garden nicotine sulphate (Black Leaf-40) as a spray, is still about the best chemical tool we have. In the farm fields newer insecticides such as DDT and parathion are used effectively. These dangerous materials must be used with caution so no more than aphids will suffer; they can be extremely dangerous to human beings.

Tule Growers Meet Feb. 2

TULELAKE—A meeting of all growers from this area, whether or not they are members of the Tulelake Growers Association, is to be held Feb. 2 in the TGA office here, it was announced today.

The growers are to decide on recommendations of policy from this area to be made on the new administration. Local growers recently attended a similar confab in Merrill with members of the Klamath Potato Growers Association.

The more local representatives attending, the more representative the recommendations should be, TGA Pres. Charles Wiese noted.

The meeting is set for 2 p.m.

Saturday PMA Deadline

Saturday is the final day for signup with the Production Marketing Administration for supports on clover and the 1953 agricultural conservation program, County PMA Chairman William Burnett announced today.

Asst. Secy. L. A. Bruner described business in the PMA's Tower Theater offices as "rushing" this week, as the deadline neared.

Burnett reported the PMA office will be open until noon this Saturday for those persons interested in making purchase agreements, commodity loans or program completions who cannot get into town during the week.

Bulk Harvest Spuds Report

Mechanical bulk harvesting of potatoes to reduce labor costs is discussed in a new circular published by the Oregon State college agricultural experiment station.

A recent study of potato combines used in Oregon and southern Idaho is reported by Glen E. Page, OSC agricultural engineer, in circular 519, "Potato Combine Survey."

Types of machines best adapted to different soil conditions, how to operate potato diggers to avoid mechanical injury to potatoes and safety features of various machines are discussed. Copies are available from county agents or OSC.

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Herald and News
FARM NEWS
MALCOLM EPLEY JR. Farm Editor

Germicide Studies At OSC Showing Helpful Results

OREGON STATE COLLEGE — New research findings that will greatly enhance the value of the widely-used quaternary ammonium germicides and aid dairymen, food handlers, workers in many fields of medicine, and public health and pure food administrators have been reported by Oregon State college.

After two years of experiments, methods for measuring minute concentrations of the disinfectant in either water, milk or other food products have been developed by Dr. Paul B. Elliker, acting chairman of the department of bacteriology, and T. E. Furlong, graduate assistant in chemistry.

This will make it possible for dairies, restaurants, and food-handling concerns to prepare germicide solutions — used in disinfecting equipment and utensils—so that excessive amounts are avoided and the risk of carry-over into food products reduced.

At the same time, it will assure enough germicidal action for proper sterilization.

Health officials are particularly interested in the method because of its application in testing food products to insure they are free of adulteration from the germicides.

U.S. public health officials and pure food and drug administrators have already adopted the method for nation-wide use and many foreign countries are expected to use the technique in administering their sanitation laws.

Publication of the OSC research results is scheduled for the Journal of Dairy Science and the book on Standard Methods for the Examination of Dairy Products issued jointly by the U.S. public health service and the association of official agricultural chemists.

Sick Sheep Disease Seen

Sheep raisers were advised today that extra precautions taken now against pregnancy disease will pay big dividends at spring lambing time.

The American Foundation for Animal Health urged that bred ewes receive good rations and exercise during the winter. Neglect on that score now could mean loss of ewes and lambs in the spring, the Foundation said.

"Pregnancy disease is a toxic condition resulting from the extra demands on the ewe's sytem during gestation," says the Foundation's report. "It usually results from faulty diet or lack of exercise, which allows waste products to build up in the body. Ewes carrying twins or tripleta are especially susceptible.

"First sign of pregnancy disease usually is noted a few days before lambing, when some ewes start lagging behind the flock as it is driven. Affected ewes often grind their teeth, appear dull and weak, and tremble when exercised, and go down."

The Foundation emphasized that prevention is the best way to avoid pregnancy disease losses. Although veterinarians can save ewes in some cases, pregnancy disease has a high mortality rate, and the lambs usually are lost, too.

Sugar solutions injected into the bloodstream are most commonly used to treat the stricken ewes.

Machinery Meet Set

MERRILL—Potato bulk harvesting equipment is scheduled for close scrutiny at a meeting to be held here Thursday night at 8 in the Merrill Recreation Hall.

The meeting is being held by the Merrill Farm Bureau Center, but is wide open to the public, according to Chairman Randall Pope.

Movies, slides and special bulletins published by Oregon State College on bulking potatoes are to be shown. Walter Jendrzejewski, Klamath County Agent, and Lawson Kandra and Scott Warren have scheduled the movies and slides.

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ODA Warns Hog Buyers Against Californians

The state department of agriculture is warning everyone concerned that no hogs should be accepted in Oregon for any purpose from any place in the state of California. This warning comes on the heels of fresh appearances of the dread disease of swine, vesicular exanthema, in that state.

Dr. R. R. Younce, state veterinarian with the department, says he has been informed the United States department of agriculture is reimposing its quarantine against Modoc and Siskiyou counties in California because of VE disease there. Those two counties were removed from the quarantine last November. Other areas of California were still under quarantine, which means the whole state will revert to a quarantined status with the new order.

Under Oregon's regulations, no swine may enter this state for any purpose from any quarantined area county or state. Hence the warning against bringing swine from California into Oregon until the federal ban is lifted.

Meantime, Oregon officials are keeping a close tap on two lots of hogs—391 head—brought into Oregon last week from Odessa, Neb. The hogs were being held at Al-

Hop Growers Slate Meeting

Major problems facing Oregon's 10-million-dollar hop industry will be discussed by Oregon State college staff members Jan. 30 at the three-day annual convention of the National Hop Growers association in Portland.

Growers and other industry representatives from Oregon, Washington, Idaho and California will be on hand to reorganize the association which involves moving the national office from San Francisco to Portland. The convention will meet at the Multnomah hotel, Jan. 29 to 31.

O. R. Hoerner, plant pathologist and extension hop specialist at OSC, says the Jan. 30 session will replace the annual hop growers technical conference held at the college for the past three years to report current research.

Hoerner will report on tests with fungicides for control of hop downy mildew, the leading hop disease in Pacific coastal areas. D. E. Bullis, OSC experiment station chemist, will discuss recent research with hop moisture testing equipment, and agronomist D. R. Keller will report cultural and breeding trials with hops.

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