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Our esteemed former editor of "Spud Notes," John McLean, has accepted a position as manager of the Kern County Certified Seed Growers Association in California. We are going to miss John, but wish him the best of luck in his new position.

POTATO CONFERENCE

On March 9, 1945, a meeting of the federal and state potato research and extension workers in Colorado was held at Colorado A & M College.

Pertinent problems such as seed treatment, general disease control, and flea beetle and psyllid control were discussed. In addition, in the light of present research and extension work, recommendations for the 1945 season were decided upon.

Recommendations

Seed Treatment

Scab

Treat only scab-infected seed being planted in soils infested with little or no scab.

Rhizoctonia

Treat rhizoctonia-infected seed being planted under cool or low-soil-temperature conditions.

Chemicals

Use Semesan Bel or acid-mercury dip treatment on whole unsprouted seed only.

Cutting Knives

- a. Use power-driven rotary knife. An economical method regardless of the presence of ring rot.
- b. Use boiling water for knife disinfection if facilities are available; otherwise use mercuric chloride bath (1-500). Where a 5-gallon tank is used, replace solution after cutting every twentieth sack, on fairly dirt-free seed. It is better to use a tank holding at least 5 gallons to each disc. Experimental work has shown the boiling-water method to be the most effective.

Late Blight Disease

Preventive Measures

1. SPREAD CULL POTATOES OUT SO FREEZING WILL KILL LATE BLIGHT ORGANISM.
2. DO NOT DUMP CULL AND DISEASED POTATOES OUT WHERE THEY WILL GROW, SINCE THEY SERVE AS A SOURCE OF LATE BLIGHT, AND ALSO A SOURCE OF EARLY PSYLLID INFESTATION.
3. Eliminate all volunteer potatoes.
4. Do not harvest late-blight-infected potato fields until all vines are dead.

Seed

1. Buy the best seed obtainable.
2. Discard all discolored or rotten tubers.
3. Continue planting same varieties.
4. Seed treatment is not effective in late blight control.

Spray

1. At first warning from county agent apply 4-4-50 Bordeaux mixture at heavy rate of application (at least 125 gallons per acre).
2. It is advisable to spray following any period of high humidity (rain or continued cloudy weather with frequent dews).
3. Report immediately to county agent anything that looks like late blight on the vines.
4. Bordeaux mixture will not mix with lime-sulfur.
5. Zinc arsenite can be applied with Bordeaux spray.
6. Use a combination of lime-sulfur for psyllids and zinc arsenite for flea-beetle on present spray program.
7. If late blight shows up, use a combination of Bordeaux mixture and zinc arsenite for spraying.
8. If late blight appears after regular program is completed, spray with Bordeaux mixture.
9. Dusting is not recommended for the control of late blight unless the conditions are such that it is impossible to get a sprayer through the field.

Since no experimental results have been released on the use of dust fungicides in Colorado for the control of late blight, no specific recommendations can be given. However, for the benefit of the grower who wishes to use dust, the following recommendations of workers of the Maine Agricultural Experiment Station for growers in Maine are directly quoted:

*"Copper-Lime Dust.—This material is less effective as a fungicide than Bordeaux. However, it will give good commercial control of diseases if properly used. It has the advantage that it can be applied to large acreages in a comparatively short time. This feature makes it a valuable fungicide for use in time of emergency or when blight is spreading rapidly. It is a convenient fungicide also for fields where water is difficult to obtain.

"A 9 percent copper-lime dust applied at the rate of 25 to 35 pounds per acre is recommended. Dust can be prepared on the farm by thoroughly mixing 25 pounds of monohydrated copper sulphate with 75 pounds of spray lime. It is preferable to dust in the evening, providing the air is quiet and dew is forming. Much of the dust that is applied when the plants are dry and a wind is blowing is wasted. The dust must stick to the potato tops to be effective. Moisture on the leaves will enable it to stick.

"Insoluble or Factory made Copper Fungicides.—Several good insoluble copper fungicides are on the market. These materials are easy to mix and do not discolor the potato foliage, which are qualities in their favor. The fact that they do not leave a colored residue on the potato foliage is a distinct asset when spraying seed plots and other fields that are rogued for the control of virus diseases.

"Some farmers have mixed lime with insoluble copper fungicides in an attempt either to control flea beetles or to provide a means of

determining the extent of coverage that is being obtained. This is an undesirable practice since it causes an early maturity of plants and a correspondingly lower yield. The directions given by the manufacturers should be followed when growers use the commercial insoluble copper fungicides.

"Experimental fields sprayed with the insoluble copper fungicides have as a general rule yielded somewhat less than those sprayed with Bordeaux. The insoluble copper fungicides give good control of late blight, provided the fields are kept well sprayed."

Irrigation

1. Light irrigation with good drainage will reduce chances of tuber infection or decay.
2. Deep irrigation furrows may also reduce chances of tuber infection or decay or rot.
3. If late blight is present, avoid late irrigations.
4. Avoid irrigation of late-blight-infected potato fields at night or early morning.

Storage

1. Ventilate storage so that condensed water does not form on potatoes or drop on them from ceiling.
 - (a) Introduce air near floor of cellar to avoid condensation of water on potatoes.
 - (b) Higher humidities can be carried in well insulated cellars before ceiling condensation of water occurs.
2. Repair cellar roofs so they will not leak.
3. Disinfect cellars with CuSO_4 spray, 1 pound to 10 gallons of water.

Flea Beetle Control

- a. Either spray or dust may be used.
- b. Both must be applied thoroughly and well.
- c. The 1942 and 1943 tests by the Experiment Station have shown that four applications of insecticide are necessary for flea-beetle control; in years when conditions in August are favorable for flea beetles, five applications are needed.
- d. Growers should follow a definite control program throughout the season. The first, second, and third applications can be made at 10-day intervals. The fourth and fifth should be made 1 week apart. If indications of a serious late-blight epidemic are prevalent, Bordeaux spray 4-4-50 should be applied in a separate spray as often as needed.
- e. Complete coverage of the potato foliage with spray or dust is necessary to obtain results in psyllid and flea-beetle control.

Formulas:

Sprays

- | | |
|--------------------------|-------------|
| 1. Basic copper arsenate | 2 pounds |
| Liquid lime-sulfur | 1 gallon |
| Water | 40 gallons |
| 2. Zinc arsenite | 2 pounds |
| Lime-sulfur | 1 gallon |
| Water | 40 gallons |
| 3. Cryolite | 6 pounds |
| Wettable sulfur | 10 pounds |
| Water | 100 gallons |

Caution: Do not mix cryolite with lime-sulfur!

Dusts

- | | |
|--------------------------|---------|
| 1. Basic copper arsenate | 1 part |
| Sulfur | 2 parts |
| 2. Calcium arsenate | 1 part |
| Sulfur | 4 parts |
| 3. Cryolite | 1 part |
| Sulfur | 1 part |

Stay with recommended insecticides and fungicides.

Dusts should be applied at the rate of 25 to 30 pounds to the acre, until research results justify a change.

Psyllid Control

Spray or Dust

1. Liquid lime-sulfur (1-40)
2. Wettable sulfur (10 pounds to 100 gallons)
3. Dry lime-sulfur (8-10 pounds to 100 gallons)
4. Dusting sulfur (25-30 pounds per acre)

Be sure to dust for late psyllid infestation.

Necrosis

A new type net necrosis common in some fields last year is being investigated. The cause is as yet unknown but is thought to be associated with late psyllid injury.

Scab (Irrigation)

See that the tuber-forming area is moist from the time of first tuber set until the spuds are two-thirds developed. This may help reduce scab as well as increase yields.

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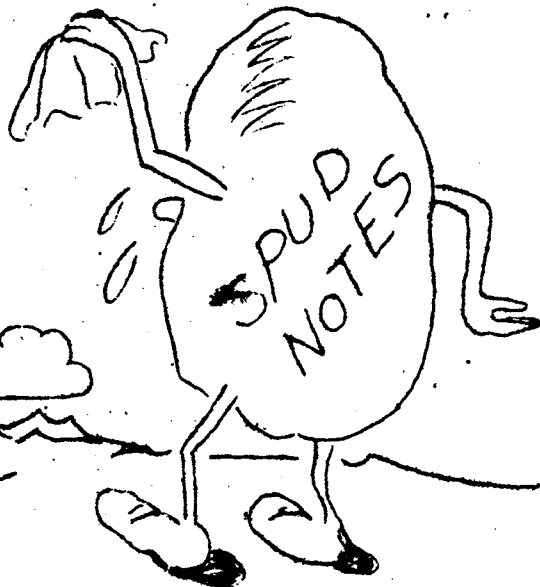


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