ENTOMOLOGICAL AND PLANT PATHOLOGICAL INQUIRIES.

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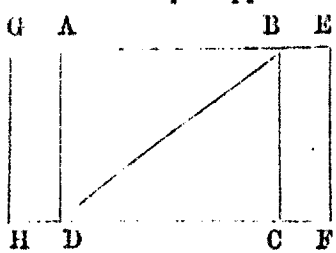
Officers of the Department of Agriculture are always prepared to assist by giving such information and advice as is available on agricultural problems in reply to inquiries.

Although the man on the spot may fully understand the pest problems on his own particular area, if advice is to be given in reply to inquiries it is essential that not only specimens of the pests concerned and samples of the damage or the disease be forwarded, but also the fullest data on the outbreak must be given if a clear understanding of the position is to be gained by officers of the Department, from whom advice is sought.

For the guidance of inquirers the following notes are appended to ensure the arrival of specimens in good order and the supply of essential data: -

1. Specimens should not be sent in envelopes as they are liable to be so crushed as to be unidentifiable.
2. Soft-bodied insects should be sent in a small tube or bottle with methylated spirit, carefully packed in a small tin or box to prevent breakage.
3. Hard-bodied insects can be killed and dried and packed in a small box or tin with finely torn up paper and a little naphthalene added; or alternatively in a bottle with methylated spirits.
4. Ticks, mites, &c., are best sent in a bottle or tube of methylated spirits.
5. Butterflies and moths should be carefully killed and packed (wings folded) in paper triangles, which can then be packed flat in a box or tin with naphthalene for posting. These triangles are made as per appended diagram—



A folds to C

E–F folds over B–C

G–H „ „ A–D

6. If the insects are in the grub or caterpillar stage they should be packed in a *ventilated* box with sufficient of the plant on which they are feeding to carry to Rabaul so that on receipt there is reasonable chance to breed out the adults for identification. *On no account should they be packed in an airtight container.*
7. Insects in the chrysalis stage should be packed in a *ventilated* box with finely torn up paper.
8. Infested fruit or other material liable to fermentation, should be packed in a box with straw or dried grass. It must NOT be despatched in a sealed container, because, under such conditions fermentation will cause the destruction of all insect life present.
9. Large-bodied insects such as grasshoppers and large moths, should have the contents of the abdomen removed before despatch, otherwise destruction of the specimens by rotting will ensue.

10. With plant bugs it is essential that the adult (winged) forms should be included in any package submitted, as identification of the species from the immature (wingless) forms is, in most cases, impossible. It is, however, desirable that as many of the life cycle stages as possible should be included.
11. For killing insects, a cyanide bottle, prepared as follows, is the most satisfactory for general use:—

    Take any strong wide-necked bottle, place a little cyanide of potash in the bottom, and cover with a layer of plaster of paris, add sufficient water to just set the powder, and over this lay one or two thicknesses of blotting paper. The air in the bottle quickly becomes charged with hydro-cyanic (prussic) acid, and a few minutes in this atmosphere is generally sufficient to kill any insect placed in it.
12. As an alternative to the cyanide bottle, a few drops of chloroform will generally be quite effective.
13. It is always desirable when submitting specimens to also forward portions of the plant showing the damage caused by the insect.

Data relating to pest and disease occurrence should, as far as possible, include the following items:—

1. Crop attacked and area under such crop.
2. Symptoms—any variations from early to late infections.
3. Date infection started, or was first observed.
4. Degree of severity of attack.
5. Area affected, and whether this is localized or general throughout the area under cultivation.
6. Age of crop.
7. General state of the vigour of growth of the crop prior to attack.
8. Nature of soil and drainage on area infested.
9. Climatological data; rainfall; nature of the season, whether wet or dry as compared with the normal.
10. Nature of surroundings, e.g., is the area isolated in jungle or surrounded by other cultivations; if the latter to what extent, by what crops, and whether cultivated by Europeans or natives.
11. Conditions of cleanliness of crop attacked, and of any surrounding or adjacent cultivation.
12. What measures, if any, have been already undertaken to check the depredations of the pest.

If these suggestions are carried out as far as practicable in each case, the outcome of inquiries should be more satisfactory to all concerned.

Plant tissue affected by fungus diseases should be despatched as quickly as possible so as to prevent the development of secondary conditions that may so mask the original ones as to render identification extremely difficult, if not impossible.

If such transport is not possible, specimens, whenever the size is not too great, should be preserved in methylated spirits or 4% formalin.

Leaves and twigs should be pressed between sheets of paper so as to leave the specimens flat, and despatched in this manner.

By Authority: L. F. Johnston, Commonwealth Government Printer, Canberra.