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DISCUSSION

THUNG: In what way do they consider nucleic acids and what kind of nucleic acids are meant? Will they be taken up by the embryo?

Answer: The nucleic acids are the main factors of heredity. All the nucleic acid is extracted. This is very difficult. The different nucleic acids can not be separated so all nucleic acids are extracted. Sometimes the embryo will assimilate these, or select some of them.

BAUMANN: Was the sap of the frost resistant Crassulacae sprayed over the seedlings or injected in them?

Answer: The extracted sap was used in two ways: by spraying the leaves of cabbage and by adding it to the media for germination of cabbage seeds.

THUNG: From the data mentioned it is not sure that there is any basis for the suggestion that nucleic acids can be applied to and will influence virus diseased plants.

Answer: We are not sure too but it can be tried. According to the mentioned results realised up to now, we can expect some very important success in this direction.

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FIELD INSPECTION ON VIRUS DISEASES IN ARBORICULTURE IN THE NETHERLANDS

BY

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For a considerable time the importance of a direct application of the results of scientific research in practice is recognized in the Netherlands. That is why a close cooperation exists between the Institute for Phytopathological Research, the Plant Protection Service and the Field Inspection Boards; also between research, practical application and regulation and the performance of the inspection. I should like to tell you something about this, because this cooperation forms the base of the work done in practice.

First a few words about the actual field inspection. As more and more countries require field inspection as regards the state of health, we see this work as a necessary and important part of the whole export inspection. Field inspection is carried out by the General Inspection Board for Arboriculture of which Mr ERKELENS is the director.

The General Inspection Board for Arboriculture (N.A.K.-B.) endeavours

to ensure that only pure and healthy material will be placed at the disposal of fruitgrowers both at home and abroad. For the achievement of this object it is essential that all firms engaged in the cultivation of N.A.K.-B. plants should become affiliated to the Inspection Board. If some nurseries fail to come within the sphere of the N.A.K.-B. the danger arises that inferior nursery material comes on the market. Hence the government stated in a Affiliation decree for arboricultural products, that anyone growing arboricultural products within the scope of the N.A.K.-B. must become affiliated to the Inspection Board. In addition to this the N.A.K.-B. has stipulated several conditions with which nurserymen and firms have to comply in order to qualify for admission.

There exists in the Netherlands
a compulsory affiliation to this Inspection Board.
furthermore there are certain requirements for admission.

This means that all N.A.K.-B. plants are under inspection in the field and that there are certain minimum standards concerning conditions in the nursery.

There are three types of field inspection. In the first place the inspection of the parent trees. The Board has prescribed that only approved trees or bushes shall supply the vegetative material of different varieties of apples, cherries, peaches, pears and plums. Especially the varieties which can carry certain virus diseases or those which are easily mixed up with other varieties are admitted to this parent tree inspection. Each approved parent tree is permanently certified by means of a small metal plate, indicating a number and the name of the variety. The parent trees are reinspected yearly to see whether they are still up to standard. The material supplied to nurserymen from these approved trees is certified by the N.A.K.-B. inspectors in the same way as young trees and rootstocks.

In the second place there is the field inspection of rootstocks and grafted material. This inspection is carried out by the inspectors once, twice or more times every year, according to regulations, compiled in bookform and issued to the affiliated growers. Material which does not come up to standard upon the field inspection should in general be destroyed. I will come back to the concerning regulations.

Finally we reach the bulk inspection and certification. The so-called bulk inspection generally takes place shortly before the material is dug and sold. Now all material must be free from abnormal or diseased plants. The certification is carried out during the bulk inspection by attaching to each approved tree a certification strip, bearing the mark of the N.A.K.-B. and indicating the rootstock, variety and possibly also the quality.

It is important that all N.A.K.-B. plants are certified before marketing or export.

Another important point is that as regards N.A.K.-B. plants the Plant Protection Service gives a certificate of health only after approval of the plants in the field by the N.A.K.-B.

Thus we base our final inspection also on the field inspection of the N.A.K.-B. In this connection there is a close cooperation between N.A.K.-B. and P.P.S. Some of our officers are district adviser or general adviser to the N.A.K.-B., while Dr BRIEËR in his function of Director of the Plant Protection Service superintends the whole N.A.K.-B. inspection as far as plant diseases and pests are concerned.

In the inspection regulations virus diseases are classed in the category of the serious diseases and pests. The following general stipulations have been inserted with respect hereto.

In the first place parent trees must be free from these diseases.

The grower is obliged to remove and destroy continuously young material and rootstocks which are infected by serious diseases and pests. If a considerable number of diseased plants is removed after which it is feared that the remaining crop is not sufficiently healthy, the material can be kept under inspection during one more year.

In case of rejection on account of serious diseases and pests the grower concerned must destroy or have the material destroyed under supervision of the N.A.K.-B.

All plants affected by diseases and pests indicated as serious in the inspection regulations, must be removed by the time of the final inspection in the field.

The Plant Protection Service has intensive contact with N.A.K.-B. concerning field inspection. In difficult cases N.A.K.-B. and P.P.S. take a combined decision. In all cases activities are based on diagnostic or scientific work carried out by the Institute for Phytopathological Research. Cooperation between these three institutes, has formed a constructive body which enables the application of recent scientific information directly in practice, very much to the advantage of the Dutch arboriculture.

DISCUSSION

ATKINSON: Can the tags be removed and attached to other trees?

Answer: No. The tags are attached to the trees with a special instrument.

POSNETTE: How can it be seen that the growers only use budmaterial from certified parent trees?

Answer: A certain amount of the budmaterial is certified and afterwards the inspector can see if there are more or less grafted plants than there should be.

POSNETTE: Does the nurseryman collect his own budwood from his own trees?

Answer: No. The deliverance of budwood of the varieties mentioned in the regulations can only happen via the N.A.K.-B.

POSNETTE: Has each grower his own parent trees?

Answer: No. There are special parent trees in only relatively few nurseries. The growers have to apply to the N.A.K.-B. to obtain the varieties wanted.

HARRIS: Is the inspection only carried out on visual symptoms?

Answer: Up to now the inspection on visual symptoms is the most important one, but as a matter of fact this method is not sufficient. Therefore we start a new scheme this year. In future the material (parent trees and rootstocks) will be tested for virus diseases with special indexing methods.

ATKINSON: How is it guaranteed that the growers obtain all the quantity of budwood they want in case the parent tree of that special variety dies?

Answer: In Holland we have quite a lot of parent trees of each variety. For instance there are about 800 parent trees of different peach varieties.

ATKINSON: How many scions are delivered each year?

Answer: This year about 400.000 scions have been delivered.

MORVAN: Is there a special number for each proved parent tree?

Answer: Yes.

MORVAN: Is the number of the parent tree quoted on the label of each young tree?

Answer: No. Only the varietal name is mentioned.

MORVAN: Is there any real objection to put the number of the parent tree on the labels of the young trees, so that one can see which parent tree is infected, when young trees show virus symptoms?

Answer: This is a good suggestion but practically it will be too complicated. Then at least each group of scions must be kept apart and growers then will have to do a lot of administration work. Of course this depends largely on the quantity of budwood that is wanted.

POSNETTE: Sometimes we find in England Dutch material without labels. Can growers remove them?

Answer: Some foreign nurserymen do not want the material labelled. It is not known why. After the Plant Protection Service inspected the plants for export it is possible to remove the labels in certain cases.

ATKINSON: When a grower has to destroy infected trees will he receive any compensation for it?

Answer: No. When he grows infected trees it is for his own risk. This is described in the regulations.

RØNDE KRISTENSEN: Does a nurseryman have to pay for the destroying of trees?

Answer: Only if the NAK-B or the Plant Protection Service must do it (in case the grower refuses to collaborate) he will have to pay.

ATKINSON: Is all the exportmaterial of Dutch origin or do the Netherlands also import seedlings?

Answer: Some seedlings are imported, for instance plum seedlings from France.

ATKINSON: Is there any control on the condition of these trees?

Answer: You can check it the next year, when they come into the field inspection. Then the infected plants must be removed.

FITZPATRICK: Can any material be sold in the Netherlands without being labelled?

Answer: No. All material must be certified.