

Second Meeting
Geneva, 6-10 December 2004

Meeting of Experts
Geneva, 19-30 July 2004
Item 5 of the agenda

Plant Pest and Disease Control in the United Kingdom

Submitted by the United Kingdom

Abstract

1. The organisation of the Plant Health Service (PHS) in England and Wales is outlined to show that the UK has all the key elements required for effective control of plant pests and diseases. It has three main elements. Plant Health Division is responsible for policy, the Plant Health and Seed Inspectorate implement the policy and the Central Science Laboratory provides the scientific support. A legal framework is in place to provide the necessary authority.

2. A case study (outbreak of ring rot in potatoes, 2002) will be used to illustrate the key requirements needed for effective plant pest and disease control. The same mechanisms would be used whether the pest or disease was the result of a normal occurrence, or whether it was the consequence of a deliberate release. These are intelligence and surveillance, reliable diagnosis, well established contingency plans and a well co-ordinated outbreak management response capable of being scaled up. Following outbreaks it is important to review of the handling of the outbreak and the operation of the contingency plan.

Introduction

3. Plant pests and diseases pose less risk to human health than animal pests and diseases. Their main impacts are economic, reducing the yield and quality of crops but they can also damage the national economy by affecting imports and exports and by harming the country's natural environment. Plant pests and diseases can be roughly divided into two groups. First are those that occur normally in the United Kingdom (UK), these are called endemic diseases. The second are those pests and diseases that do not normally occur and these are called alien.

4. The main risk of introduction of alien pests and diseases comes from imported plants and plant products. A key element to control lies in regulating the import and movement of plants, plant material and produce. However to comply with the requirements of the 1995 World Trade Organisation Agreement on Sanitary and Phytosanitary Measures, plant health controls on imports must have a scientific basis and should not be used as a barrier to trade.

5. The Plant Health Service's principal focus is on keeping alien pests and diseases out of the country, eradicating outbreaks if they occur or, if this does not work, containing the pests or diseases until there are either effective means for their control or varieties of plants that are resistant to them.

Responsibilities

6. The Plant Health Service in England and Wales is comprised of three main elements, Plant Health Division (PHD), the Plant Health and Seeds Inspectorate (PHSI) and the Central Science Laboratory (CSL) which are all part of the Department for Environment, Food & Rural Affairs (Defra). There are separate but similar arrangements in the other parts of the UK - Scotland and Northern Ireland.

- (a) PHD is responsible for policy and its development, which may then result in legislation (12 staff). [In Wales, the National Assembly for Wales has responsibility for policy]
- (b) PHSI implement the policy by carrying out inspections and other duties. Approximately 90 field staff are located in 37 offices across England and Wales engaged exclusively in plant health work with a further 6 staff at headquarters.
- (c) CSL provide the scientific support by providing diagnostic services, scientific and technical advice and undertake research and development. Pest risk assessment is increasingly important. An evaluation is undertaken of all new pests or diseases detected on imports coming into the country or identified in scientific literature to be of potential concern. Approximately 50 staff are involved in providing scientific support to PHD and PHSI.

Legal Framework

7. In the main UK plant health legislation derives from the EU. There is a harmonised Community regime laid down in the Plant Health Directive, 2000/29/EC, which aims to prevent the import of key pests and diseases into the EU that could cause economic harm to farmers and growers or damage to the environment. The European Union lists some 470 key pests and diseases that plant health authorities must prevent from being imported into the European Union. If farmers or growers find any of them, they are required to notify their plant health authority; Member States are required to ban the introduction and movement of specified harmful organisms, and of plants and produce from specified origins.

8. These international agreements are translated into UK legislation, primarily through the Plant Health Act 1967 which, together with the European Communities Act 1972, is the enabling Act for current plant health legislation. A whole series of Orders for different pests and diseases were consolidated into the Plant Health (Great Britain) Order 1987, which was then replaced by the

Plant Health (Great Britain) Order 1993 to implement the European single market. The order is regularly updated.

Intelligence and Surveillance

9. Although farmers and growers bear the primary responsibility for protecting their crops, Defra is also active in preventing, detecting and dealing with pests and diseases. The earlier a disease problem is identified and investigated, the quicker control measures can be put in place. Good intelligence is therefore vital in identifying potential threats and several organisations play a key role in this area.

10. The European and Mediterranean Plant Protection Organisation (EPPO) is an intergovernmental organization responsible for European cooperation in plant health. Founded in 1951, it now has 45 members, covering almost all countries of the European and Mediterranean region. One of its key objectives is to develop an international strategy to prevent the introduction and spread of pests and diseases. EPPO maintains lists of notifiable pests and diseases for the region, and an alert list to provide early warning of those that might pose a risk to its member countries, together with information on interceptions and outbreaks. It has also produced a large number of standards and publications on plant pests and diseases, phytosanitary regulations and diagnostic protocols. EPPO also has good links with other Regional Plant Protection Organisations and participates in global discussions on plant health organized by FAO and the International Plant Protection Convention (IPPC) Secretariat.

11. The European Commission also requires member states to report certain plant pests and diseases, and disseminates the information to others so that preventative measures can be taken. The Commission is assisted in its work of reviewing plant health risks and legislating against, them by a Plant Health Standing Committee on which all Member States are represented.

12. Nationally, intelligence and surveillance is delivered through a formal and informal network. These networks include:

- (a) Farmers and growers and their private consultants or agrochemical company representatives reporting directly to Defra or via samples submitted to commercial diagnostic laboratories
- (b) PHSI – targeted and routine inspections;
- (c) Commercial diagnostic laboratories and Plant Clinics involved in diagnosis of samples from growers and the general public
- (d) Others such as the research institutes, members of the public, gardeners charities and trusts.

13. During the course of their work any of these may come to suspect a plant pest or disease which is notifiable, or of particular concern, that will be reported to Defra for investigation.

Contingency Plans

14. Responding to new and emerging threats is an integral part of the Plant Health Service's ongoing role and much emphasis has been placed on strengthened contingency planning across

Government. Generic plans have been in place for some time and these have been reviewed and revised to bring them in line with the latest central guidance. There are also more specialised plans for dealing with certain pests and diseases that are considered to pose a major threat such as Colorado beetle and *Thrips palmi*. There is increasing consultation both with industry and across government departments during the development of these plans. Contingency plans are also tested through mock outbreaks. Geographical Information Systems science is increasingly being used in exercises to model and map pest and disease outbreaks, providing invaluable assistance in eradication and containment.

Diagnosis

15. Rapid and accurate diagnosis of a pest and diseases is a critical first step. In the UK, only government organisations have the comprehensive diagnostic facilities and expertise necessary to undertake the diagnosis of a broad range of alien pests. For certain pests and diseases approved and validated test procedures have to be followed. The action taken on confirmation by a government laboratory depends on the potential threat. It will range from simply destruction of a consignment of plants when an alien pest is found in an import, to the implementation of the agreed procedure in the contingency plan when a pest is found in a growing crop. With government funding, CSL is continually developing new diagnostic techniques that allow rapid, accurate and robust diagnosis both in the field and in the laboratory.

Recovery

16. Follow-up action depends on the nature of the pest and disease problem. A range of actions may be required such as the lifting of legal restrictions, cleansing and disinfection of premises, disposal of infected material and other wastes, and opening up of trade. There are also international requirements to be met for certain pest and diseases as with four diseases of potatoes for which there are specific EU control directives.

17. For major outbreaks a review of the handling of the outbreak is now undertaken, the operation of the contingency plan is scrutinised and, more generally, the controls that are in place against the pest or disease, to assess whether changes are needed in future are reviewed. The views of a wide range of stakeholders are sought including affected growers, trade organisations and government officials. A final report of the review is published with recommendations.

Case Study: Potato Ring Rot (*Clavibacter michiganensis sepedonicus*) in 2003

18. The first UK outbreak of potato ring rot occurred in Wales in 2003. This bacterial disease causes soft rotting of tubers and is present in some European Union countries, such as Germany and Denmark, and in the USA where losses have been as high as 50 per cent of a crop. The bacterium can colonise potato plants and tubers without causing symptoms and disease spread is mainly via infected seed potatoes. The bacterium can also survive for up to two years on boxes and machinery and thereby infect healthy potato stocks through contact. Once established, the bacterium is extremely difficult to eradicate.

19. Infection was detected in a 200 tuber sample submitted as part of an annual survey for ring rot that EC member states are required to undertake. Ring rot was confirmed at CSL by immunofluorescence (IF) and TaqMan polymerase chain reaction (PCR) tests. The contingency plan was implemented. A statutory holding notice was placed on all the potato stocks in store at the farm and on 2003 stocks that had already left the farm. To investigate the possible source and extent of the infection, intensive testing (4,000 tubers per stock) was carried out on all 23 stocks in store. Testing was also undertaken on stocks with a clonal or varietal link with the infected stock and on crops grown from 2002 seed stocks produced on the outbreak farm. Around 165,000 tubers were tested under this programme. The results of this testing suggest that the most likely source of the infection was the seed that was planted although this was not proven because tests undertaken in the exporting country all proved negative. The outbreak was successfully contained and measures are ongoing to eradicate the disease.

20. There was substantial media reporting of the outbreak as well as parliamentary scrutiny of the way it was handled. A "Lessons learned" exercise is currently in progress. Whilst growers and trade and industry representatives were largely satisfied with the handling of the outbreak certain issues relating to grower compensation, disposal options for affected stocks, testing capacity and communication have been highlighted. Some of these issues will be addressed during the revision of the contingency plan.

21. This case illustrates that all parts of the control procedure needs to be in place to ensure that there is effective control. In addition, there is a need to review what happened and make improvements if required.
