

## **Ralstonia solanacearum in watercourses**

### **Notes from stakeholder meeting: March, Cambs – 9 November 2016**

Questions raised, with answers provided (including clarification/supplementary details obtained following the meeting):

#### **Q. DNA analysis of strain detected?**

A. This has not yet been done, but will be considered for next year should a wider range of isolates become available. This will provide useful intelligence on whether there have been multiple introductions of the bacterium and the extent of spread.

#### **Q. Previous testing of Middle Level?**

A. Positive findings of *Ralstonia solanacearum* are indicated in the Middle Levels in September 1998 at 16 Foot drain (Bedlam Bridge TL468948 and Millicourt Aqueduct TF531029) and Pophams Eau (Upwell TF498003). Attempts to eradicate *Solanum dulcamara* during 1999 resulted in negative results when water was sampled at the same points in September 1999. No further sampling of water was subsequently conducted at these sites until 2016.

Positive findings were also recorded in 1998 at sampling sites on Pig Water, through which water enters the Middle Levels from the River Nene. Eradication of *S. dulcamara* was also attempted on this water course but sampling and testing showed that *R. solanacearum* persisted for several years until it ceased to be detected from 2007, following persistent eradication attempts.

Findings of *R. solanacearum* in 1998 in the 100 Foot Drain (Sutton Gault TL460857), which receives water from the River Great Ouse at Earith, were followed by negative findings in 2000 and 2001.

#### **Q. Sampling plan for future watercourse surveillance in the area?**

A. APHA will publish a plan and look at the best means of dissemination (e.g. NFU newsletter). The plan will be developed in association with IDBs/MLC/EA and other local stakeholders.

#### **Q. Requirements for de-designation?**

A. De-designation can be considered if the bacterium is not detected in watercourses in official tests for 2 consecutive years following the most recent finding.

#### **Q. Maleic hydrazide under threat, which will affect growers' ability to control groundkeepers – approval will expire on 31 October 2017 unless renewed by then**

A. It is for users and industry groups to make the case for the continued registration of individual active ingredients which are under review. Continuation of UK authorisations will be dependent on renewal of the active ingredient and subsequent renewal of the products. The renewal review for maleic hydrazide is on-going. An EFSA conclusion was published on their website on 9th June 2016, which is due for discussion at the relevant EU SCoPAFF (Standing Committee on Pesticides, Animals, Food and Feed) committee. It will then be decided whether approval can be renewed. There may be scope to use this chemical for plant health purposes

even if the general approval is revoked, but this will need to be considered separately.

**Q. Can EA water samples be used to test for *Ralstonia*?**

A. These are taken for different purposes and there are strict requirements on integrity of samples and methodology, but APHA will explore further.

**Q. Source of contamination?**

A. This is most likely originally from infected imported ware potatoes, with the bacterium entering watercourses at a time when waste disposal/sewage requirements, and import requirements, were less strict. Continued introductions via this means are less likely because there are measures to protect against the import of potatoes from countries/areas where brown rot is present and in the limited cases where this permissible (e.g. Egypt), stringent requirements are in place concerning potato production, export, inspection and waste disposal. Requirements on discharge of sewage are also more robust now, which protects against the risk of contamination via other means.

**Q. Prospects for eradication?**

A. This has been achieved in a limited number of cases, but linked to certain factors. An evaluation of an earlier trial to remove woody nightshade from certain contaminated watercourses concluded that the main factors to consider were:

- Good knowledge about the hydrology of the watercourse concerned and channels, drains, streams feeding into it.
- Good access to banks for treating woody nightshade.
- Size and scale of channel provides the opportunity to achieve eradication within a realistic timeframe.
- Evidence that potato growers in the vicinity of the watercourse would experience substantial hardship if subject to an indefinite irrigation prohibition, for example because the geology of the area is not suitable for boreholes or winter reservoirs.
- Approvals to use relevant pesticides (e.g. glyphosate) near watercourses remain in place.
- No significant environmental restrictions (e.g. SSSIs) which would reduce the impact of a treatment programme, by preventing or limiting access to certain areas or during certain periods.
- No evidence of other factors which would reduce the prospects of achieving eradication, such as bacteria being fed into the watercourse from a known contaminated source that is not subject to treatment.
- Cost-benefit situation.

**Q. Growers affected by designations could just switch to a neighbouring watercourse and essentially be using the same water**

A. Designations are based on evidence. We need to confirm the position through official surveillance. There is an expectation that adjoining waterways will also be contaminated, however other factors are at play, such as flow of water and presence of woody nightshade. Growers across the area have been advised of best practice and the consequences if brown rot is detected in a potato crop. Good practice in these areas includes avoiding the use of farm saved seed potatoes, groundkeeper

control, significant rotations and avoiding water abstraction, or employing one of the approved irrigation techniques.

**Q. Q. Grading waste dumped alongside watercourses could be a risk. Perhaps there should be a minimum distance from watercourses imposed?**

A. It is advisable that waste dumps should be positioned to avoid any risk of discarded plant material or run off from it entering a watercourse. Similarly, there should be good separation between waste dumps and growing crops/harvested tubers.

**Q. Possibilities of an eradication programme carried out by the IDBs?**

A. We are happy to discuss this further, but suggest there is consideration of all relevant factors to determine prospects to maintain freedom. It is likely an ongoing programme of work will be needed. In these circumstances Defra/APHA could act as a source of advice to help assess the likelihood of success and may be able to offer further advice and support (e.g. water testing) if a programme was pursued.

**Q. Risk from tomato waste?**

A. Waste disposal requirements are more stringent now and there is no evidence of a significant risk from tomato, which can be a good indicator plant, often growing within sewage treatment works.

**Q. What testing of potato crops along the designated watercourses is being carried out?**

A. There will be targeted inspections involving visual checks of 200 tubers.

**Q. Would flailing of woody nightshade help?**

A. This is likely to make the situation worse, as it would encourage new plants.

**Q. How much for a *Ralstonia* water test at Fera?**

A. The cost to screen a water sample at Fera for the presence of *Ralstonia solanacearum* is £79 ex VAT. Fera would require a 500ml water sample to arrive at the laboratory the day following sampling. Samples taking longer than this to arrive would not be suitable for testing. Official tests are not charged to growers (e.g. official tests of winter reservoirs).

**Q. Can other laboratories test for *R. solanacearum*?**

A. Yes, if they have a licence.

**Q. Will there be testing of winter reservoirs and, if so, what is the timing?**

A. Restrictions only apply to those reservoirs filled with water abstracted from designated watercourses which is intended to irrigate potatoes or tomatoes. The main risk factor in such cases is the presence of *S. dulcamara* in winter reservoirs, which could be an ongoing source of contamination in the water. Where Inspectors are satisfied that reservoirs have been maintained free of such host plants for the whole period that abstracted water is present, then official testing may not be necessary to allow the water to be used to irrigate potatoes and tomatoes. If there is any doubt, however, then APHA will require an official test prior to allowing use of the water for irrigation purposes. There are no restrictions on the timing of such

tests, but generally they would be carried out close to the time that irrigation was planned.

**Q. Economic benefits of eradication in watercourses?**

A. Previous studies suggested a break even cost:benefit position if eradication could be achieved within 6 years.

**Q. Costs of an outbreak?**

A. These could be significant, as there are limited disposal options for potatoes and planting restrictions would be imposed on fields. There would also be cleansing and disinfection costs. No compensation is payable for plant health outbreaks. It has been the policy of successive Governments not to pay compensation for plant health measures, as the Government believes that resources are better directed at the detection of pests and diseases, risk management and research.

**Q. Chemical disinfection techniques need to be reviewed in light of more recent requirements (e.g. on types of treatment available and residual levels in water)**

A. Defra/APHA will review the current guidance.

**Q. AHDB database used to contact growers, is further dissemination needed?**

A. APHA will explore the best options for reaching growers, such as NFU newsletters.

**Q. Is any proactive communication with the media planned?**

A. No.

**Q. Do owners have a legal responsibility to inform growers using rented land of any restrictions?**

A. Growers are encouraged to check the position directly with owners, but an obligation will be included in Notices imposed on owners of land to inform users (occupiers) of rented land about any statutory restrictions.

**Q. Responsibilities of abstractors?**

A. There are no restrictions on abstraction from designated watercourses, just on irrigating potatoes and tomatoes. Irrigation of other crops is permissible. Growers need to satisfy themselves about any restrictions in place on land that they use.