

A step closer to blackleg control: Genomics opens our eyes to the true nature of *Erwinia* and its interaction with plants

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SCOTTISH EXECUTIVE

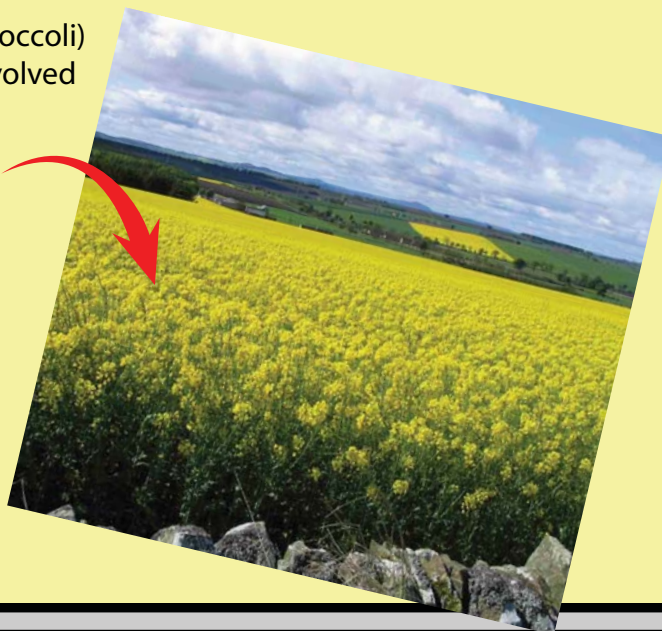


Scottish Crop
Research Institute



Crop rotation / weed management may affect *Erwinia* contamination on seed

- *Erwinia* binds more strongly to the roots of brassica (broccoli) than potato and we have identified the mechanism involved
- We are now examining *Erwinia* binding to other crops (including the brassica oil seed rape) and weed plants
- These plants may play a role in contamination of high-grade seed stocks
- Changing crop rotation / weed management may reduce *Erwinia* contamination on seed
- *Erwinia* may also benefit the growth of some plants, including crops



Resistance to *Erwinia* moves a step closer



- Specific proteins (effectors) in *Erwinia* suppress resistance in most potato varieties, making them susceptible to disease
- Potato plants that have been made to "ignore" these effectors are resistant to disease
- These same effectors are recognised as foreign in other plants, actively triggering major gene resistance and limiting host range of the pathogen to potato
- However, this resistance may also be present in certain resistant potato varieties (e.g. *S. phureja*)
- These effectors can be used to screen these varieties (e.g. Commonwealth Potato Collection), to identify resistance in potato for use in breeding