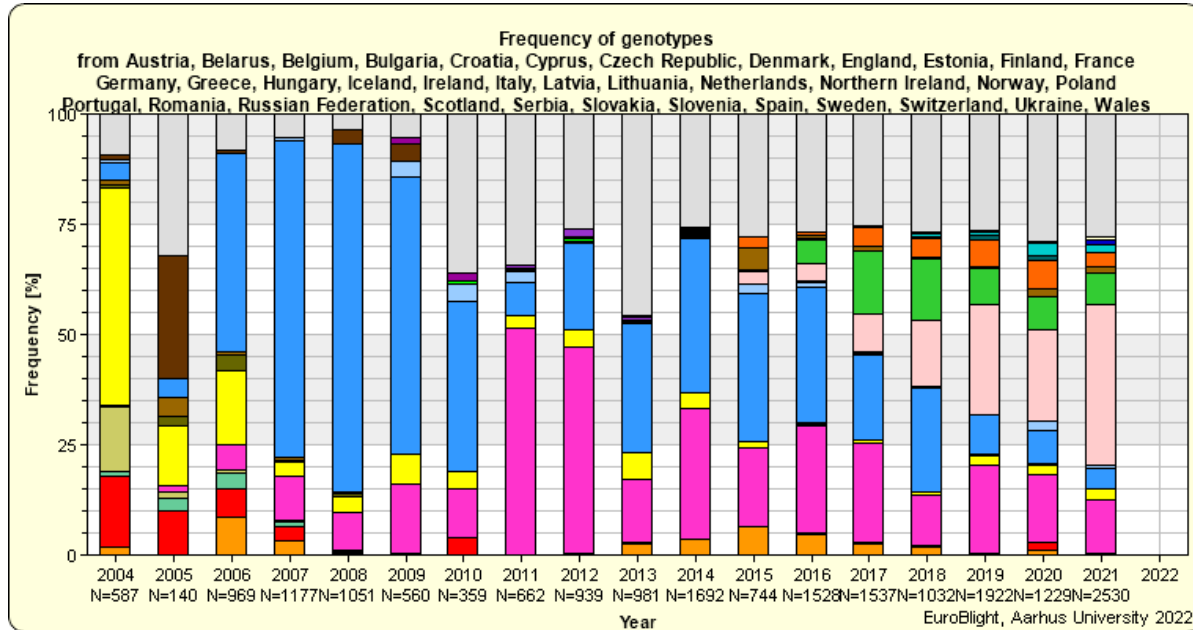




Late Blight Control in a changing environment

Steven Kildea
Teagasc, CELUP, Oak Park Crops Research

Changing Environment: The Pathogen

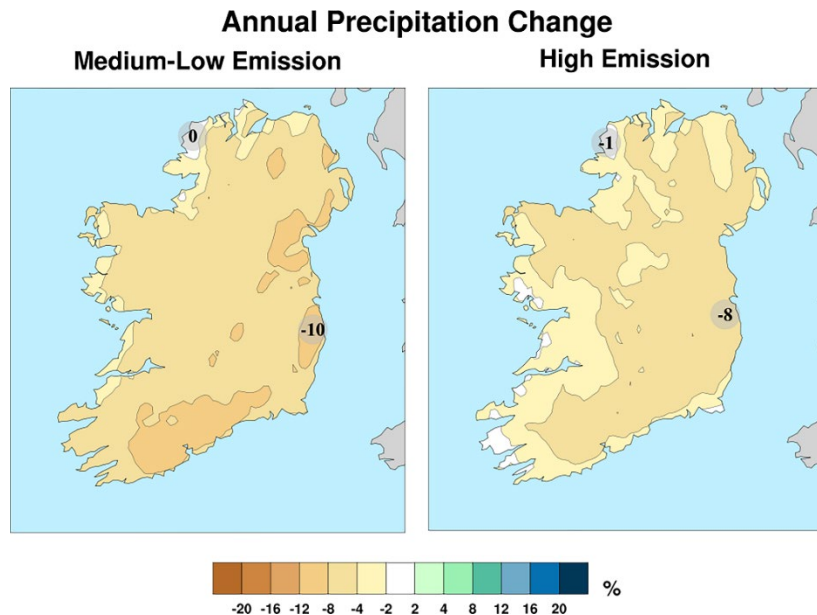


Changing Environment: The Tool Box

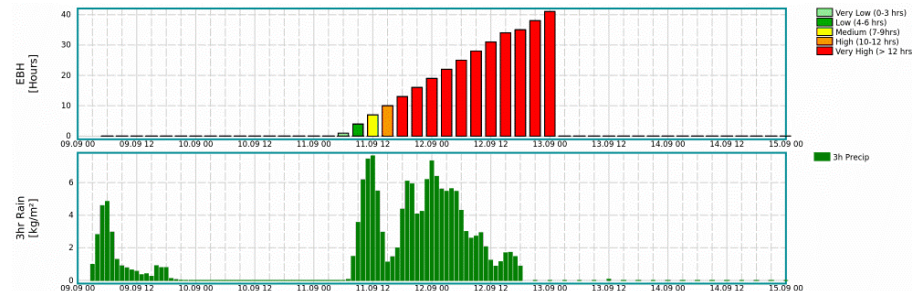


- Increased restrictions on availability of fungicides (e.g. mancozeb)
- Further reductions in usage required
- Increased usage of IPM strategies expected

Changing Environment: The Climate



- Overall reduction in spring and summer precipitation
- Greater frequencies of heavy precipitation events in autumn & winter



Impact of changing population

2021 Oak Park

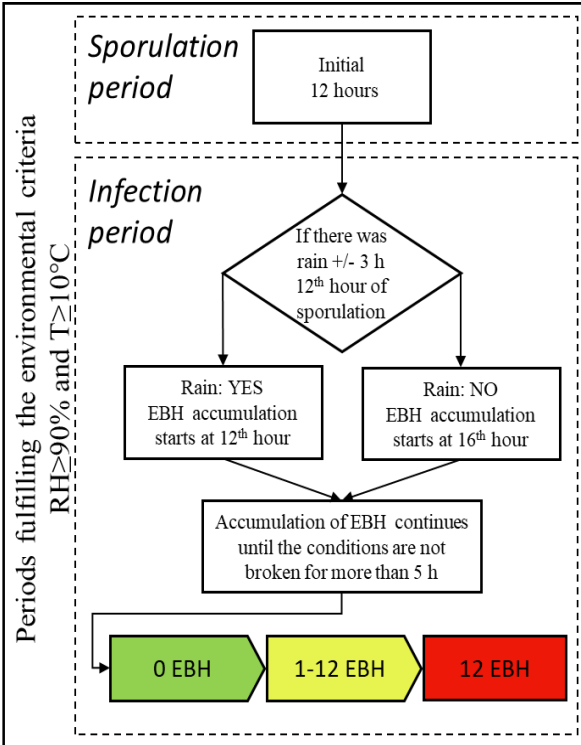
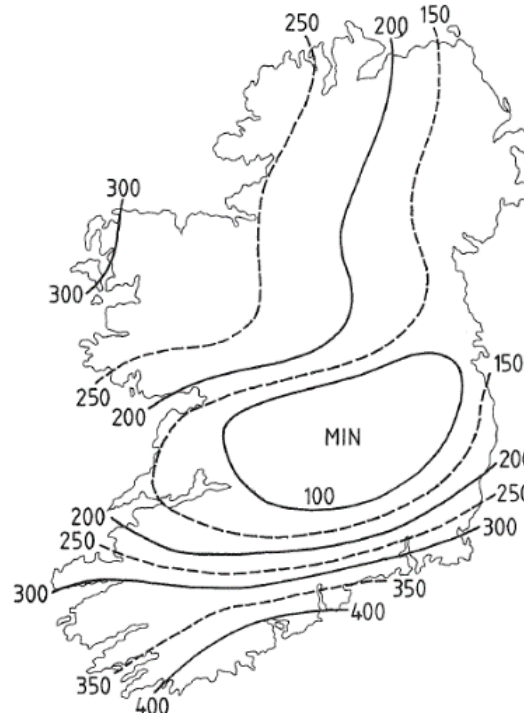


Fungicides applied at 10 day intervals

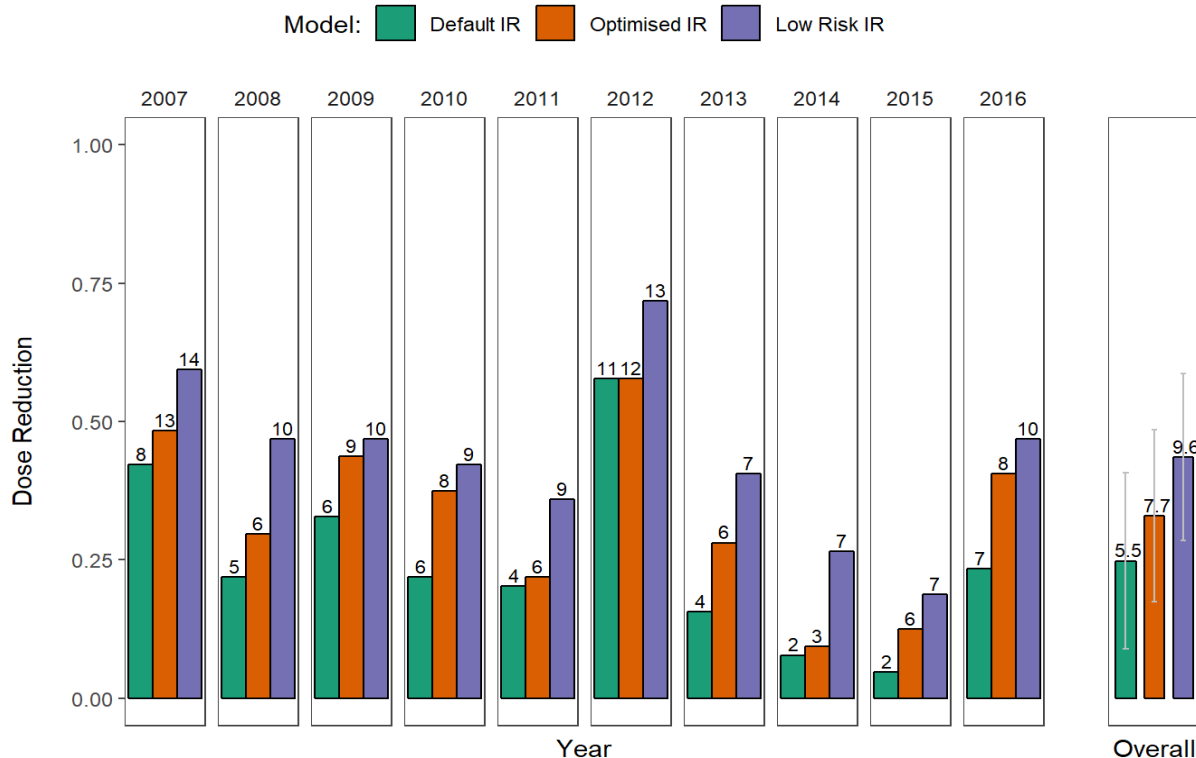
Changing Tool Box - IPM

rish Late Blight Forecasting

Originally developed in early 1950s
Operated by the Irish Meteorological Service (Met Éireann)
Conservative in nature
Limited usage at commercial level
A lot of changes since first inception!



Revising our model to reflect current systems

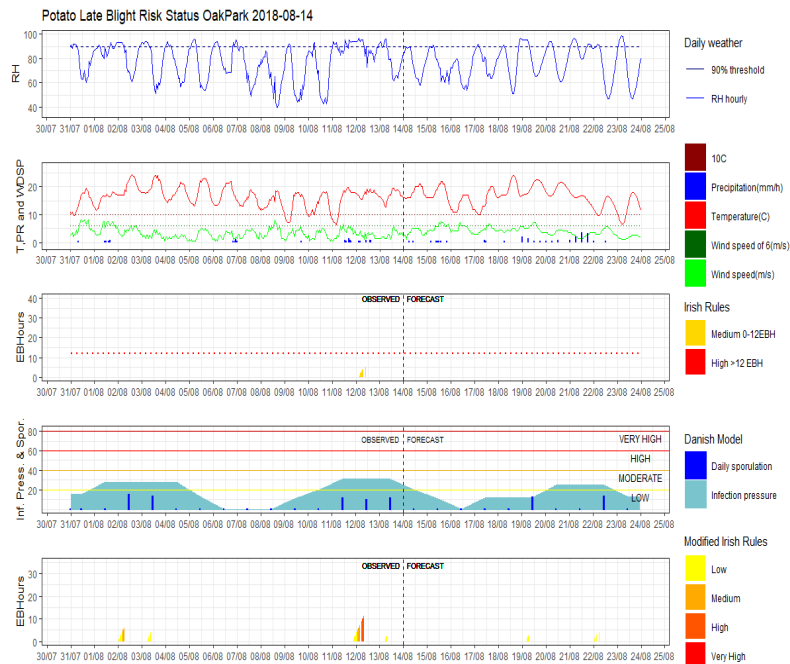


**Theoretically significant
reductions in fungicide
can be made**



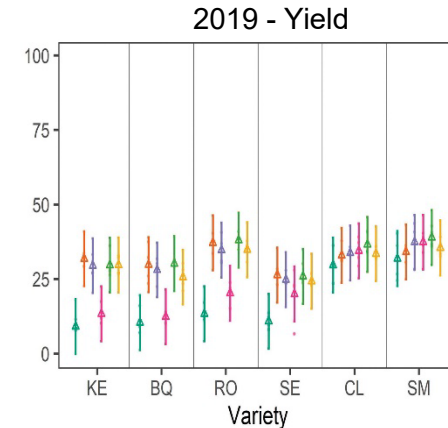
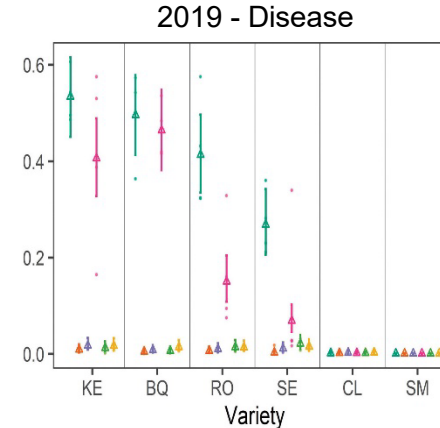
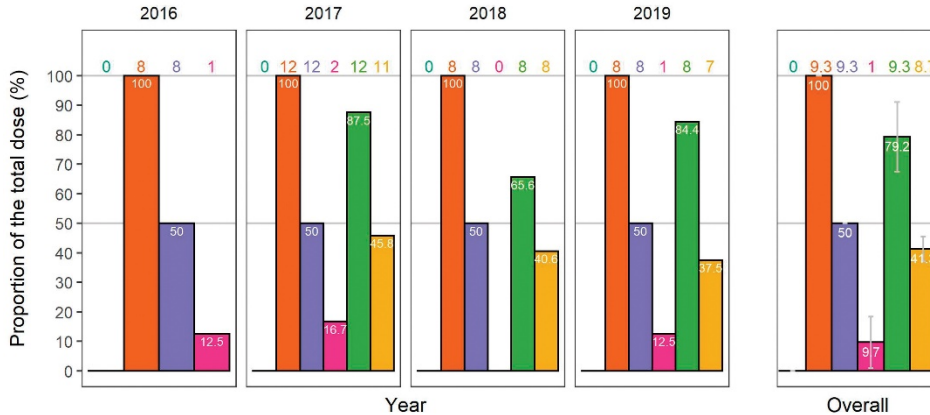
Testing in the real world

2016 – 2019 Oak Park



Opportunities for improved late blight management

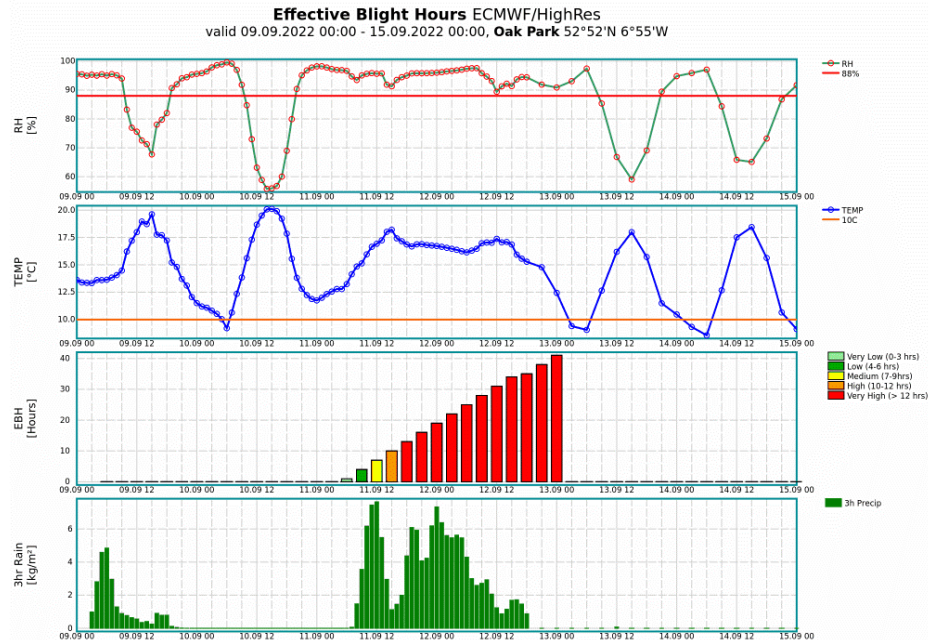
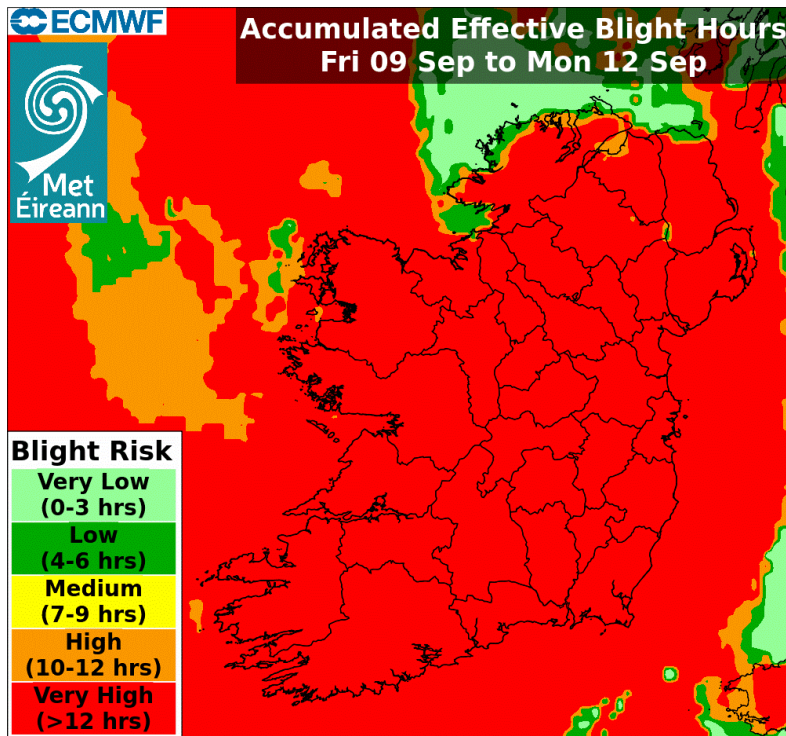
Programme: 1. Untreated Control 2. Full dose (100) 3. Half dose (50) 4. Irish Rules (IRp) 5. Blight Man. (BMp) 6. Modified I. R. (MIRp)



Programme: Untreated Control Half dose (50) Blight Man. (BMp) Full dose (100) Irish Rules (IRp) Modified I. R. (MIRp)

Variety x treatment interactions

Making these changes



Summary

- Late blight continues to be the most devastating disease of Irish potato crops
- Changes in *P. infestans* populations occurring elsewhere in Europe do end up occurring in Ireland
- These changes do impact control – often leading to more intensive control measures
- Improving prediction models do offer hope for more targeted control measures



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Department of Agriculture,
Food and the Marine



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