

Integrating biofumigant crops into farm practices for soil and disease management



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Extraction crop residue & organic matter



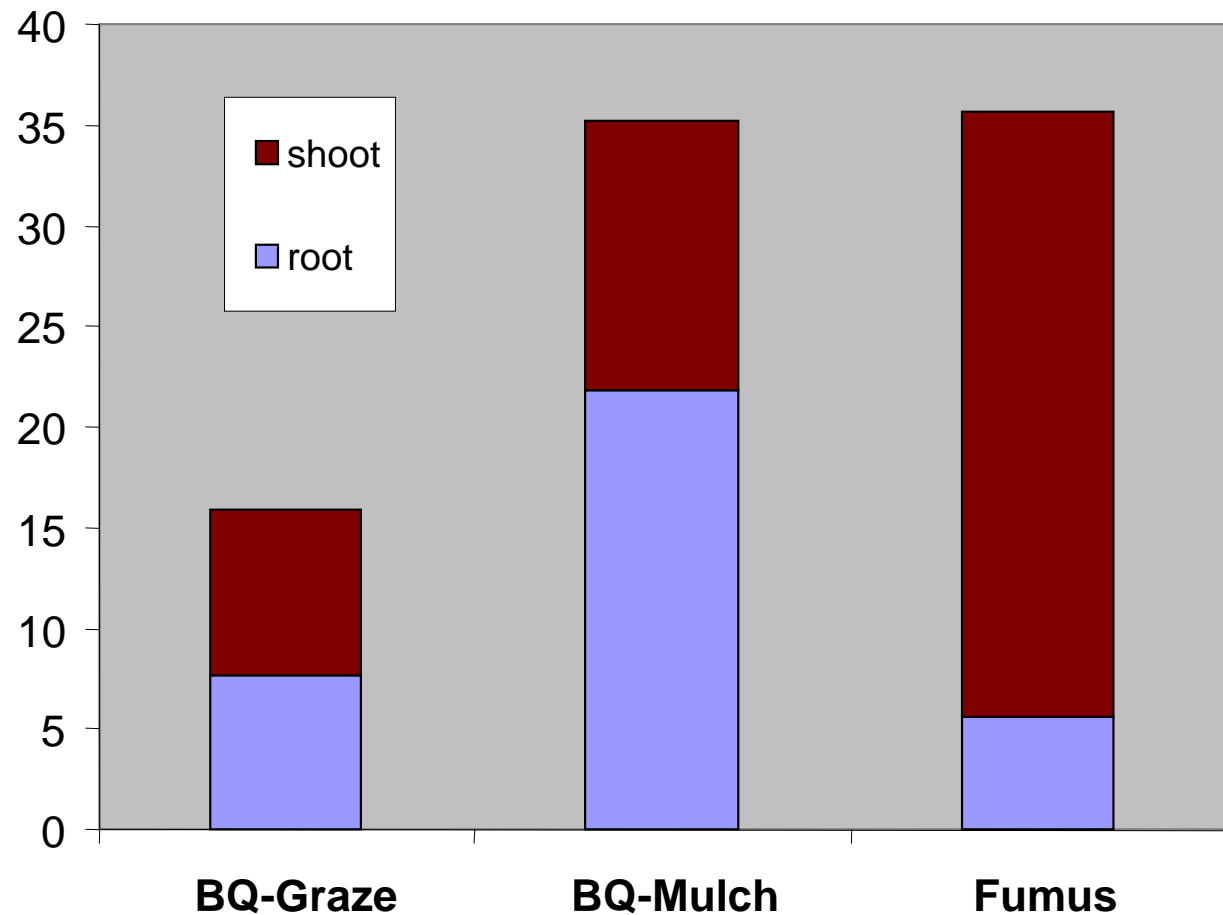
Pre-plant soil management systems

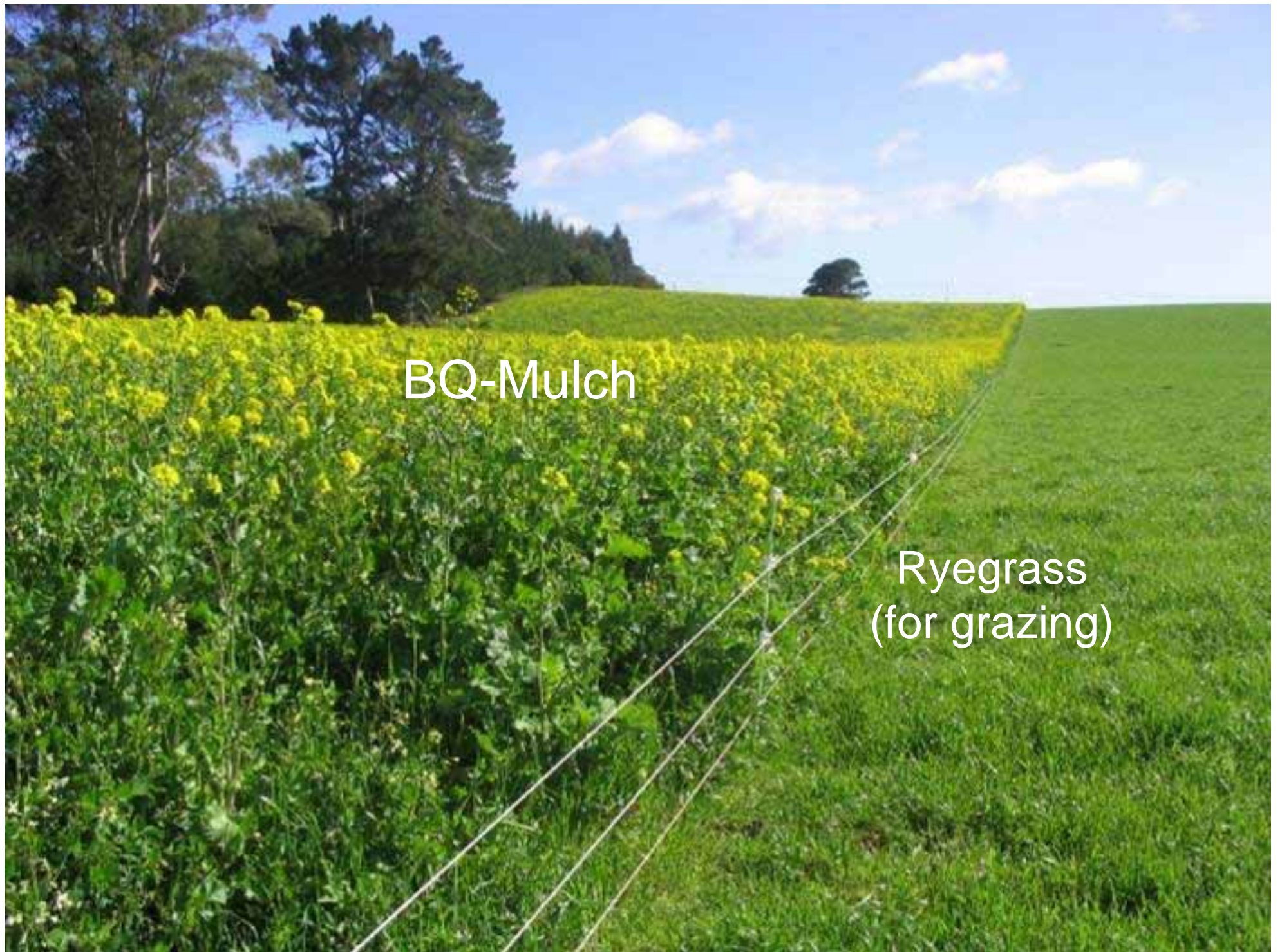


Biofumigant crop varieties

Field Trial at Cuprona, 2002

Total ITCs in plant tissues ($\mu\text{mol/g}$)





BQ-Mulch

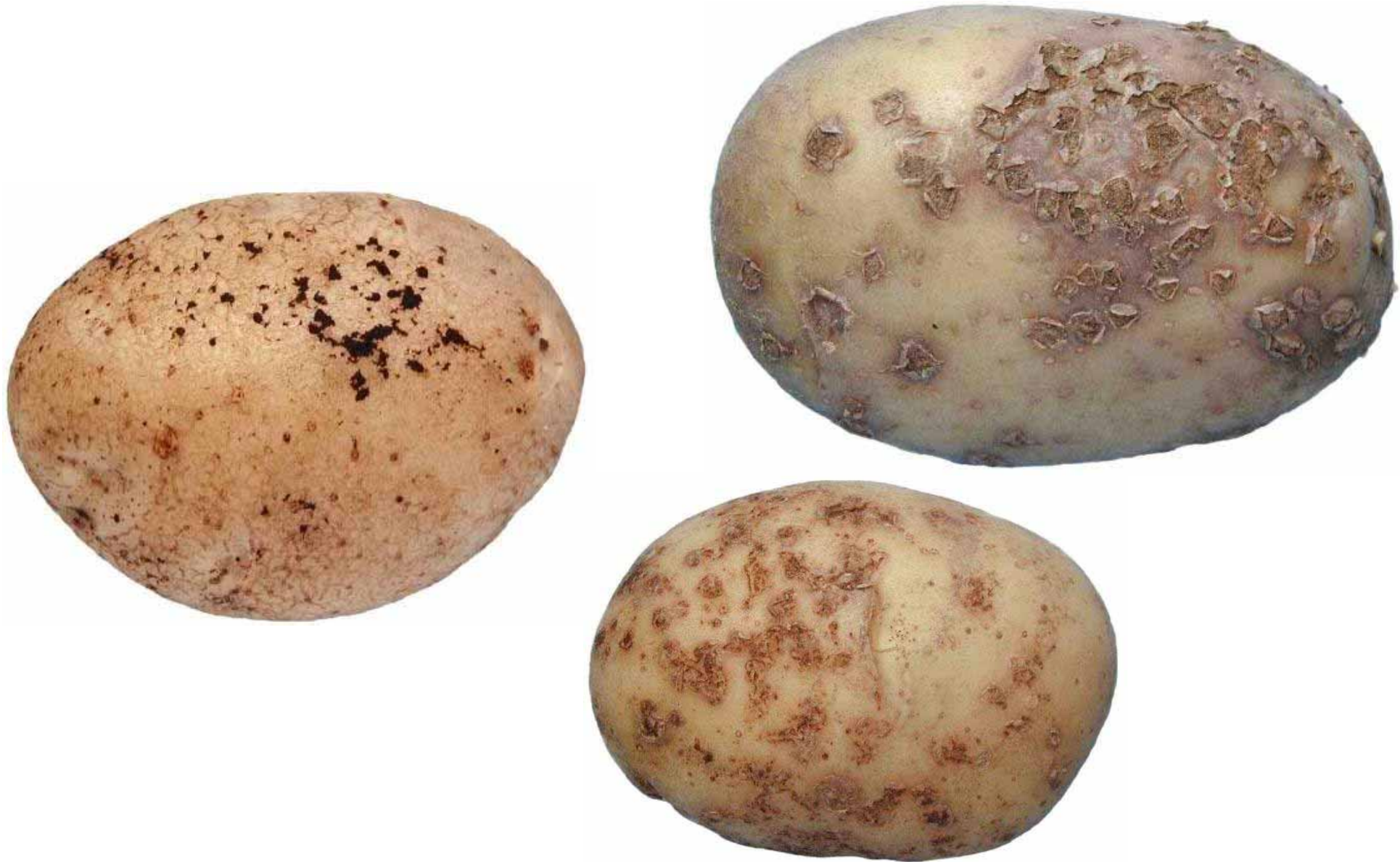
Ryegrass
(for grazing)

Use of biofumigant crops in the overall soil management system

Darren Long, MG Farm Produce



Potato diseases – powdery scab, common scab black scurf



Improving soil conditions

- Reduce volunteer potato weeds
- Plant disease tolerant varieties
- Short term pasture
- Biofumigant crops
- Minimum tillage



BQ-Graze

Saia oat

Ryegrass



Brassica green manures



- Sown in autumn - winter under cool conditions
- Ideal between other crops in spring – summer
- Excellent germination, high growth rates
- Low disease & insect pressure under cool weather
- Soil benefits from deep tap roots & fibrous roots
- Rapid breakdown & nutrient release

BQ-Mulch – direct drill



Growth over winter

May 2008

July 2008

BQ-Mulch



Ryegrass



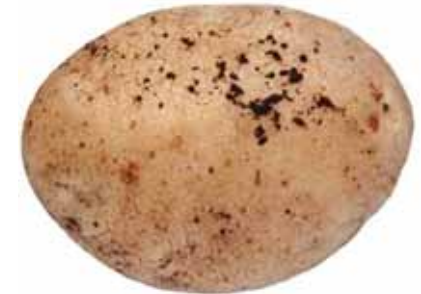


Potato Production

- Increase yield & packout
- Reduce diseases
- Increase profitability
- Meet market demands
- Reliable supply with better quality produce
- New market opportunities – e.g. quality round seed



powdery scab
15% after fallow vs 2-5%



Rhizoctonia black scurf
75% after fallow vs 0-2%

Management issues for biofumigant crops

- Optimum sowing rates?
- Management of large biomass?
- High ITCs with lower biomass?
- How to fit them into rotations?