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Winter hardiness and frost tolerance in black currant

Effect of a small increase (2-4°C) in temperature during autumn and winter

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Winter damage in Ben Hope

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Materials & Methods

- Container plants (3-4 stems) in the ground outdoor
- Heating cable at top of the ground
- Temperature 2-4°C higher from Oct to April
- Sampling of buds, stems for
  - Frost tolerance (electrolyte leakage buds)
  - Carbohydrate analysis (buds)
  - Water content of buds

  Dormancy control

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- Preliminary results from trial Oct 2012 to May 2013
  - Frost hardiness is reduced at the higher temperature (electrolyte leakage)
  - Black currant can reharden at a period with lower temperature succeeding higher temperature (in February)
  - No effect in number of flowers
  - However, effect on yield in Narve Viking

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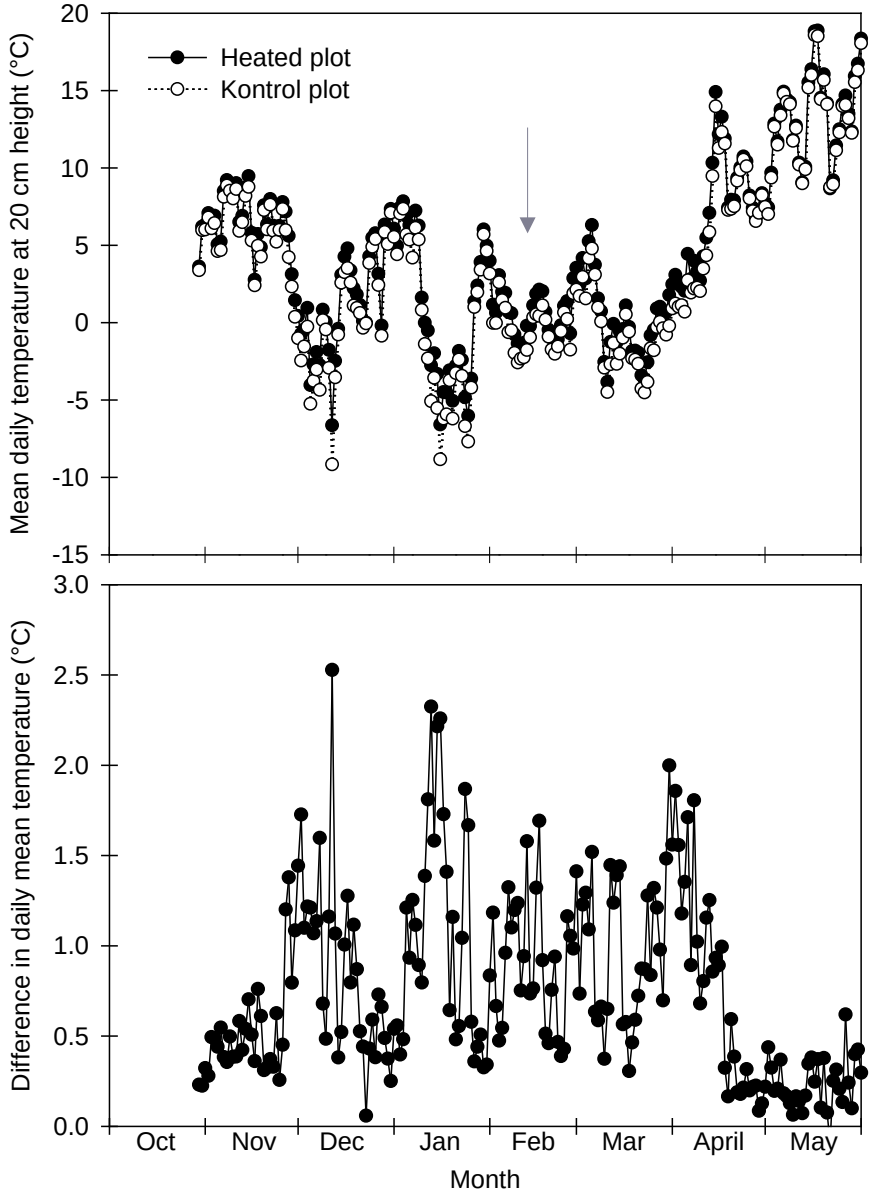

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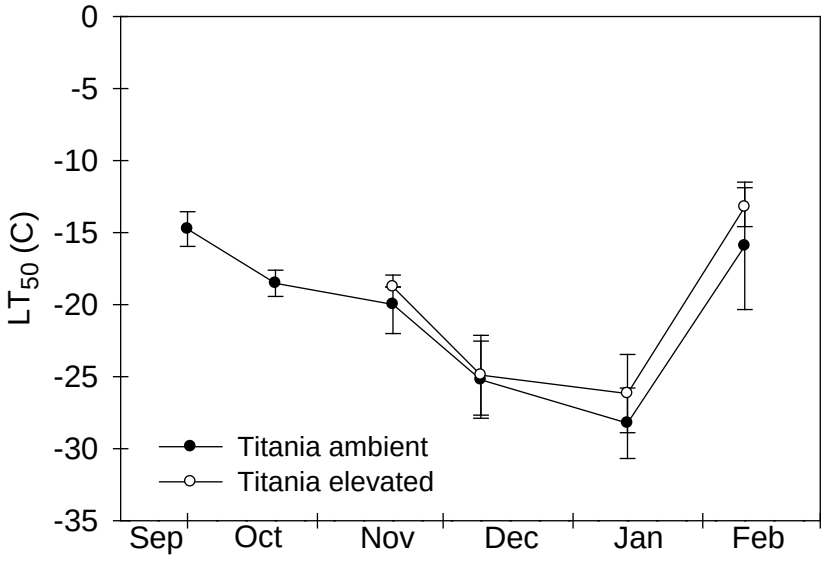
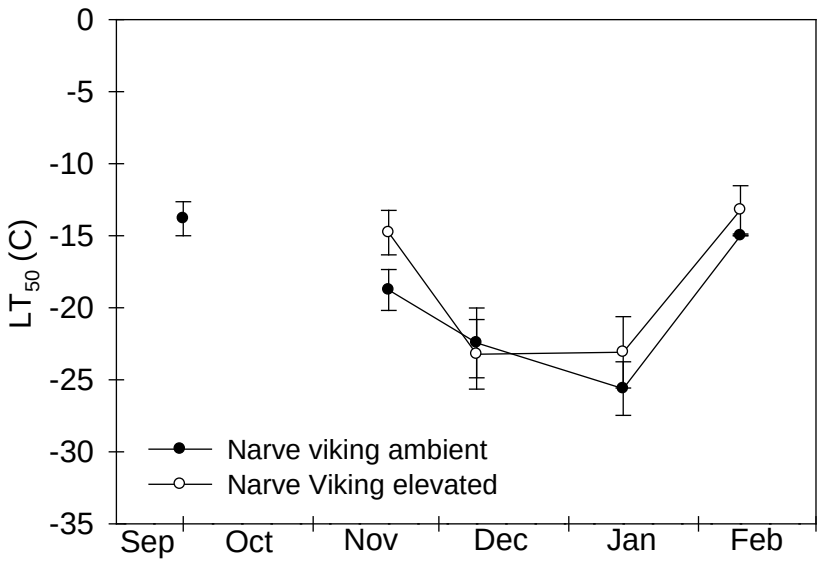
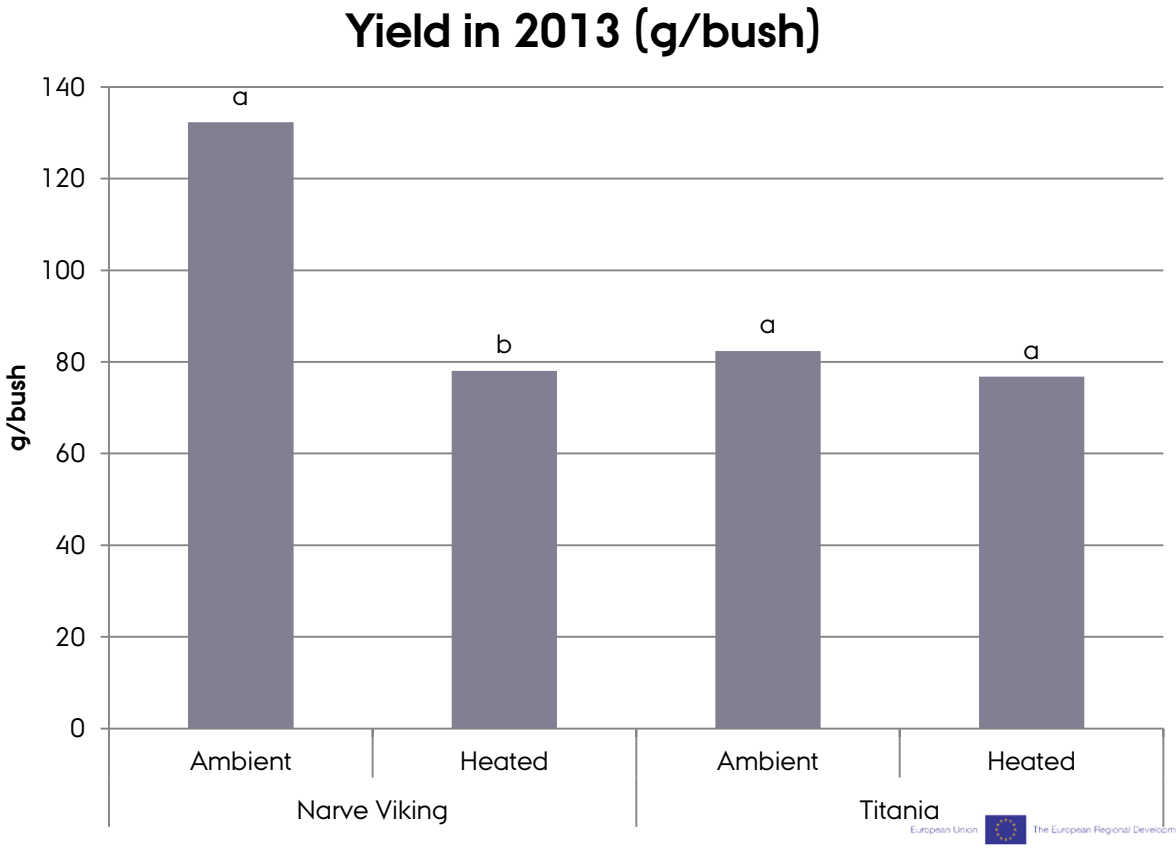
Electroleakage from buds, LT50 values







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Conclusion

A small increase in temperature from Oct to April
- reduces frost tolerance
- decreases yield in Narve Viking

Black currants can reharden after a period with higher temperature depending on stage of development

New project being started 1st Sept

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