Do seed traces matter? Crop-load effects on consumer acceptance of Crimson Seedless grapes

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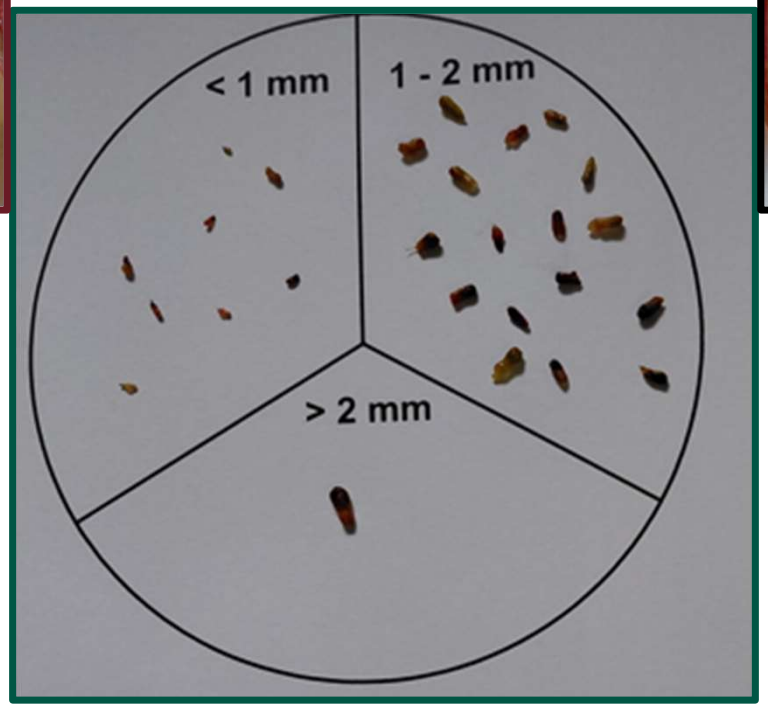
Background

Why? Seed traces reduce liking in seedless grapes

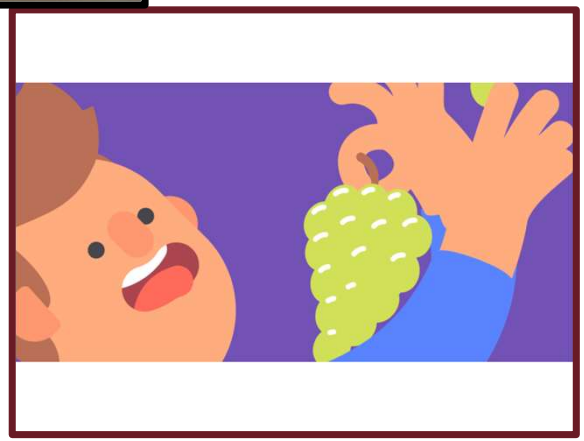
What is the link between crop-load, seed traces and consumer perception?











Approach

Vineyard, design and layout
Crimson Seedless/Ramsey
Randomised complete block

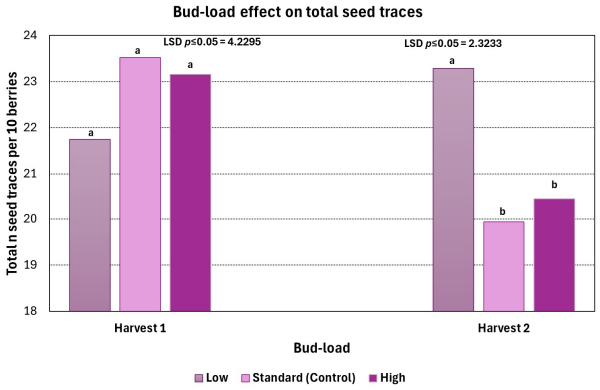
Factorial:
- 3 x bud-load (BL; buds/vine): Low = 120; Standard (Control) = 144; High = 192)
- 3 x crop-load (CL; bunches/vine): low = 28; standard (Control) = 36; high = 40
- 2 x CL allocation times (T): T_1 = Early (Control) = 9-10mm; T_2 = (Late) = 13-14mm

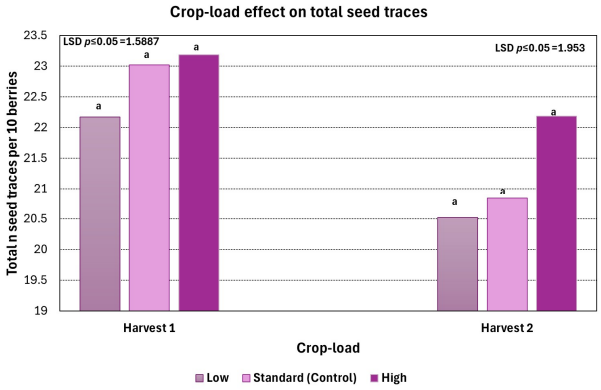
Two harvest dates (H_1 & H_2)

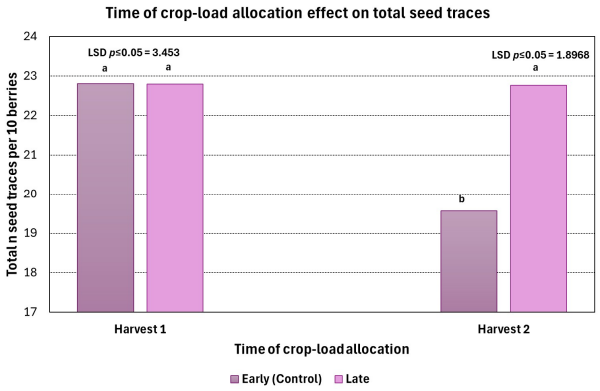
Assessments
Seed trace mass and number
Sensory evaluation
Consumer liking

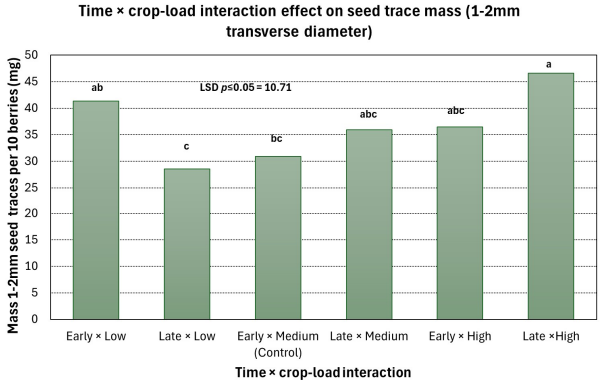
Key findings

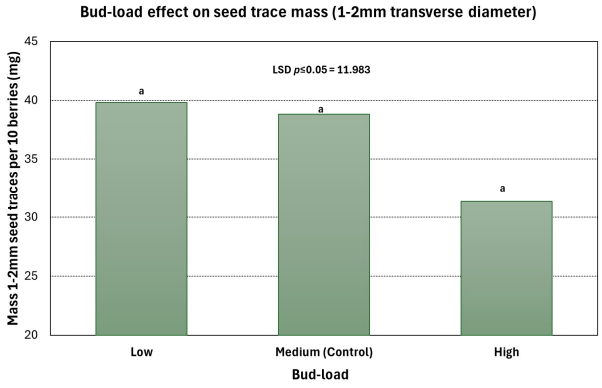
Harvest 1





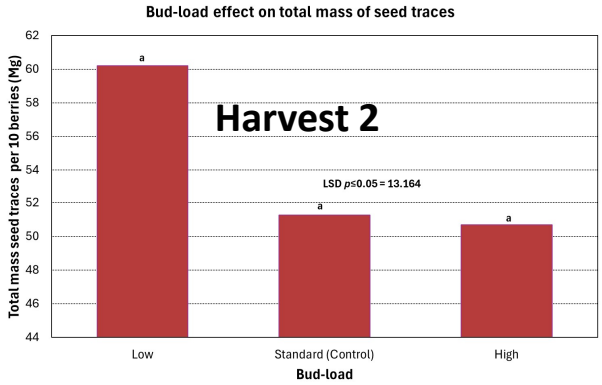


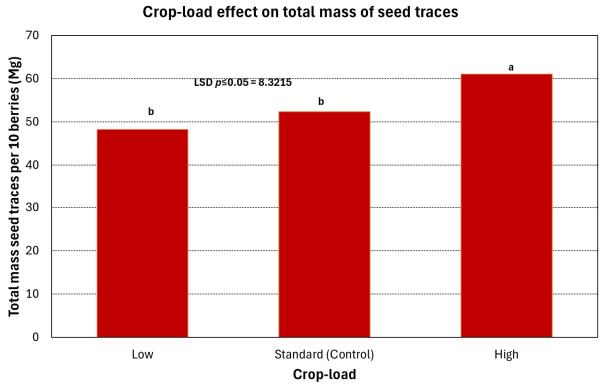


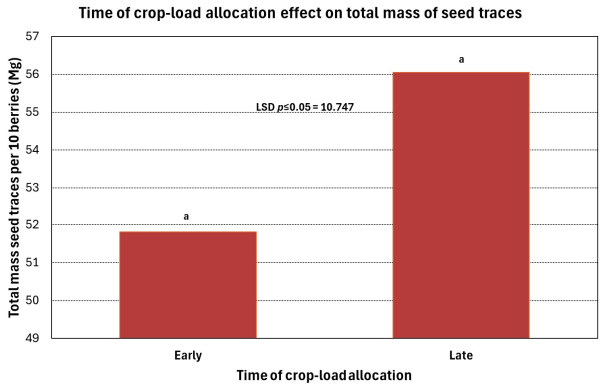


Values with the same letter do not differ significantly from each other at the 5 % significance level. LSD = Least significant difference.

Harvest 2

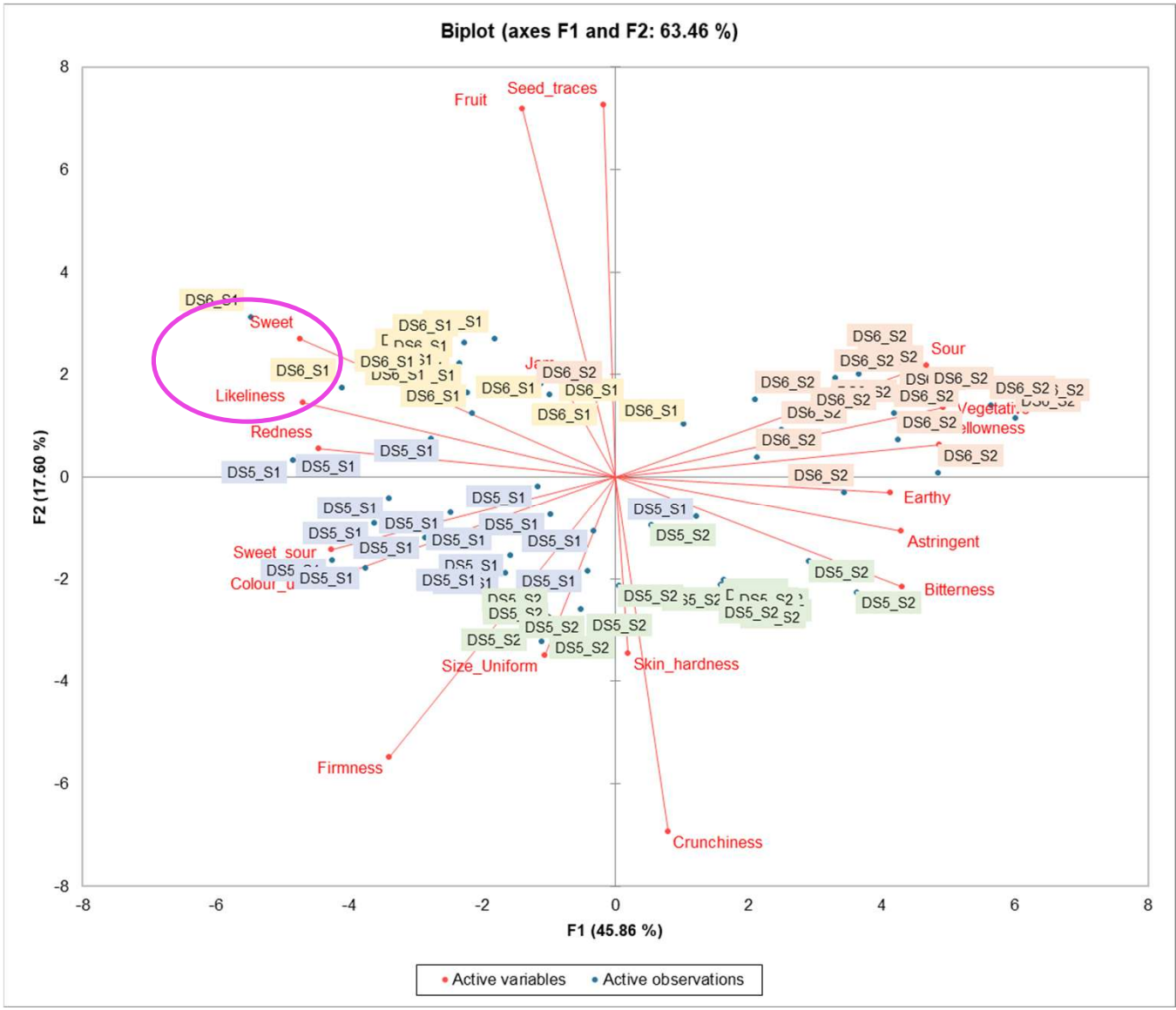






Key findings





Practical implications

Practical implications



- Bud-load and crop-load affected seed traces
- Developing ovules and embryos depend on
  - Source:sink ratios
  - Assimilates to support embryo and endosperm
- Seed traces did not influence consumer liking

!Preliminary results (one season) must be verified!

- Weather conditions
  - Uniform flowering
  - Day temperatures above 20°C below 35°C
  - Night temperatures above 12°C
  - Warm conditions 3-4 weeks after flowering

- Management practices
  - Timing GA_3 sprays – flowering and/or shortly thereafter to promote berry set (seed traces are determined during flowering and early berry development)
  - Avoid overcropping
  - Avoid shade
  - Favourable leaf area:fruit mass ratio
  - Avoid water and nutrient stress

Take-home



Value to the table grape industry

- Improved fruit quality
- Better crop-load management guidelines
- Enhanced export competitiveness

Acknowledgements

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