

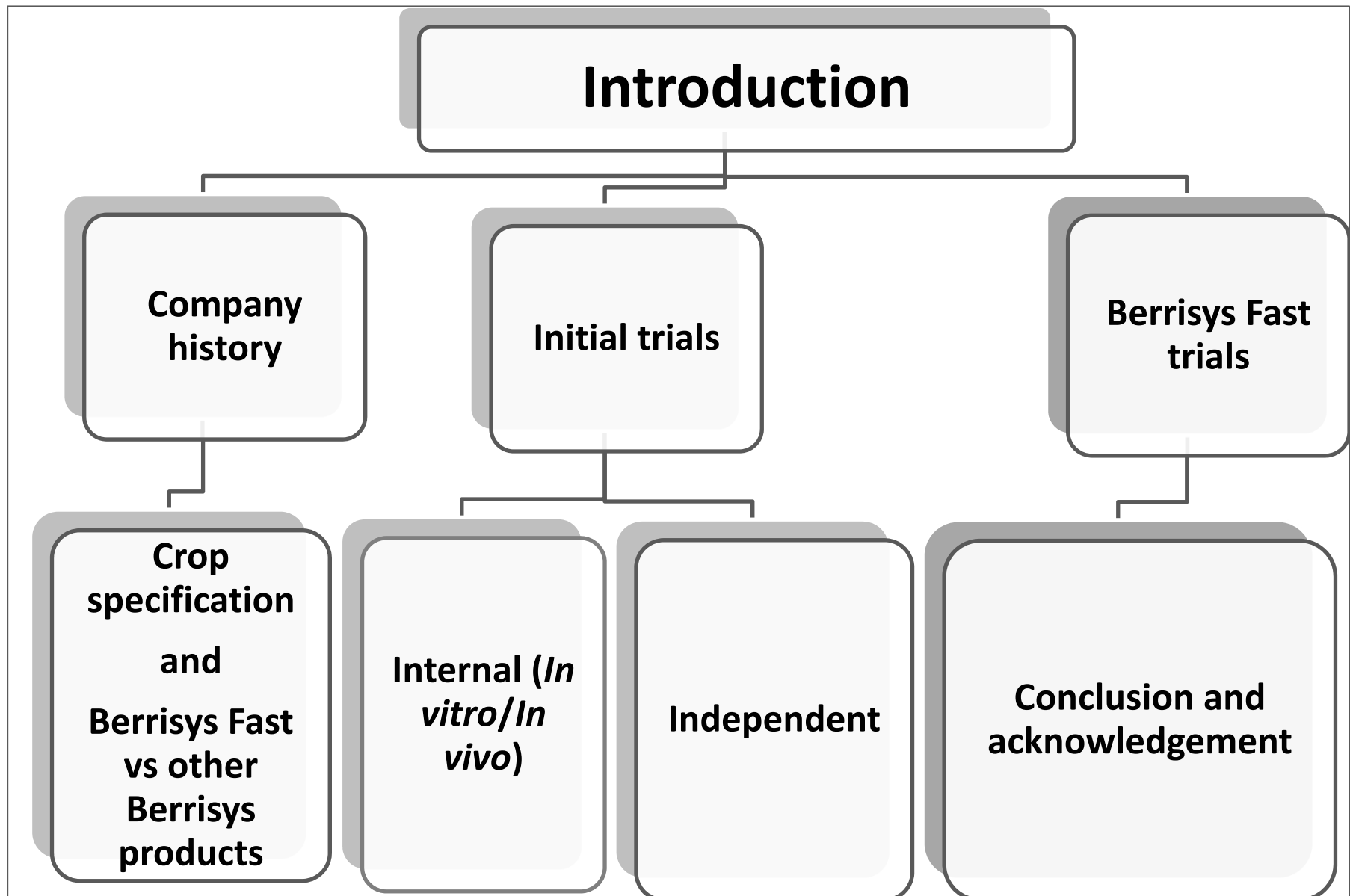


TESSARA
fresh science



BERRISYS FAST





Company History

- Tessara, leading manufacturer of SO₂ generating sheets.
- Uvasys / Grapes and Berrisys products / blueberries with great success.

Berrisys and Berrisys Lite products:

- Dual-release which release an initial higher amount of SO₂ over 24-48hrs.
- Followed by a lower dosage offering 30 to 42 days protection.
- **Blueberries:** can be stored/transported for long periods. 30 -42days



Berrisys Fast

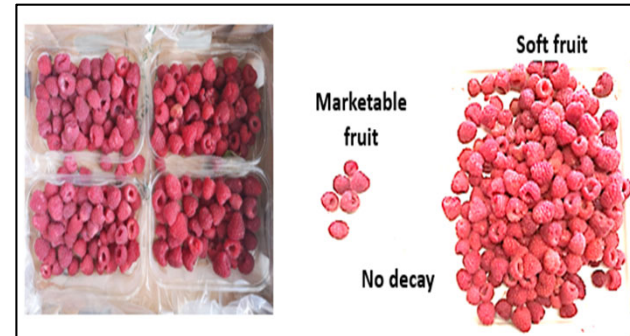
- Single release product
- SO₂ only during first 24-48hrs. Fully recyclable.
- **Rasp and blackberries:** Short storage/transit (3-5d + 3 d shelf)
- Rapid deterioration (Senescence and diseases)

Initial trials

- Protection of up to 3 weeks plus 5 - 7 day shelf-life. Uvasys and Berrisys dual products
- Significantly less decay compared to untreated. ✓
- However: Uvasys and Berrisys in 0.2% liners - Softening and bleaching and off-taste ✗

Way Forward

- Focused on shorter storage periods – to combat rapid deterioration of non-climacteric crops (Firmness and taste).
- Internal trial results improved significantly and independent trials recommended. ✓



Uvasys



Berrisys



Independent

Control



Upper layer



1 x Berrisys

Lower layer

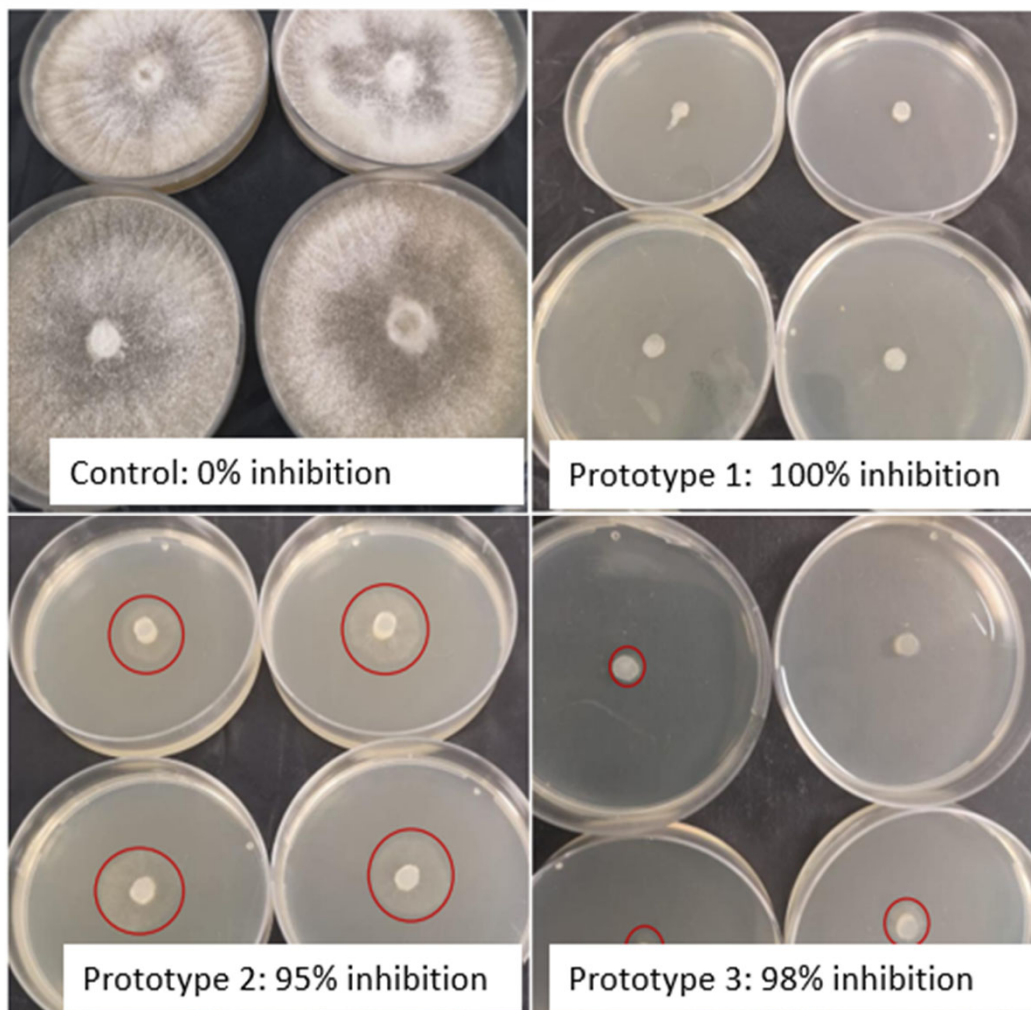


2 x Berrisys



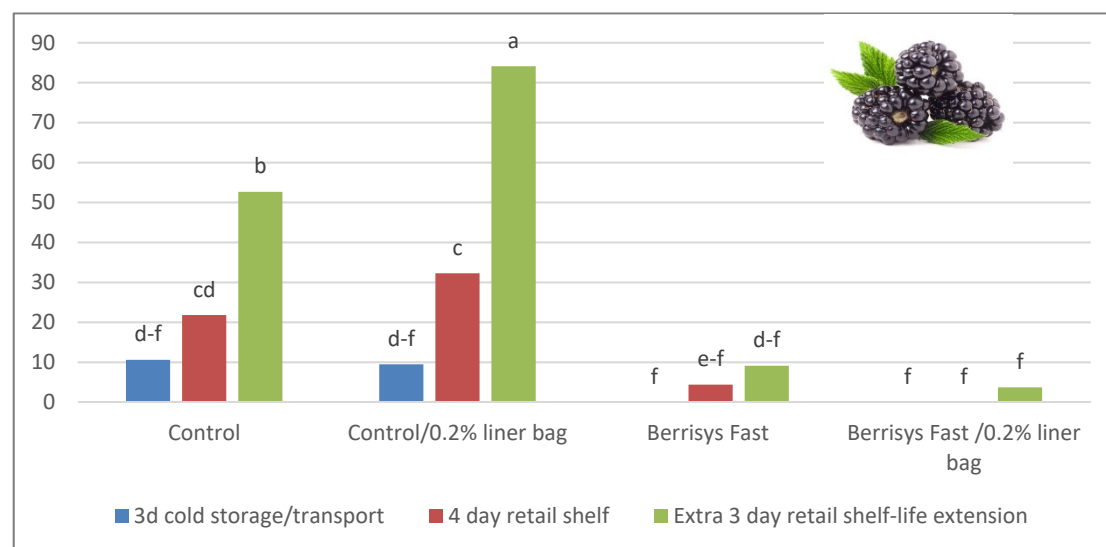
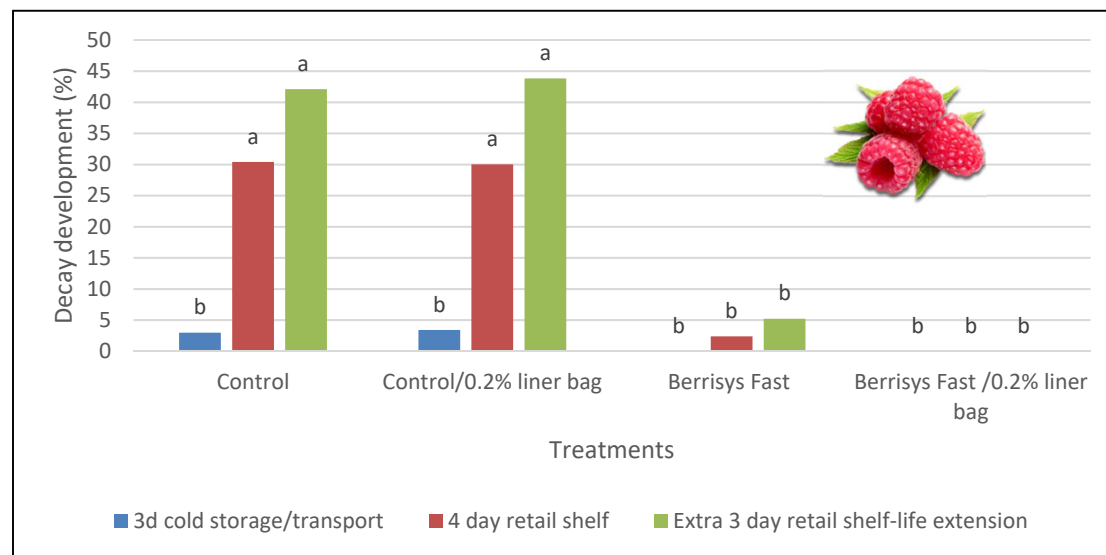
- No bleaching
- No off flavors
- SO₂ treatment using Berrisys sheets can reduce development of mold and increase the storage life of raspberries.
- Sheet on each layer of punnets within the trays for the treatment to be fully effective” **Dr. Jenny Ekman, Applied Horticultural Research Australia.**

13-days storage at 4°C + 1 day at 20°C



In vitro trials

- Laboratory trials testing efficacy of different single release prototypes
- **Results:** 100% inhibition for prototype 1 of mycelium growth after 3 days @ 4 °C SO₂ exposure and 5 days @ 10°C without sheets.
- Prototype 1 selected to continue with trials on rasp and blackberries



Raspberries and blackberry trials

- Growers experienced major postharvest losses due to decay.
- **Results:** Berrisys Fast internal and commercial trials, reflected significant reduction in postharvest losses
- No off-flavours, MRL within limit.
- Berrisys Fast available and currently used locally in South Africa.

Conclusion

- Internal, independent and commercial trials reflects that SO₂ treatments at controlled emission rates significantly reduce postharvest decay.
- Berrisys Fast, single release SO₂ generating sheets developed to provide protection during short storage and transport periods.
- Berrisys Fast available and currently used locally in South Africa.
- Unfortunately, SO₂ treatments not allowed on raspberries and blackberries in some countries including UK.
- A tolerance for sulfite residues are currently being set for crops without an established sulfite Maximum Residue Level (MRL) including the above crops.

Acknowledgement

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