Mitigation, adaptation or innovation?

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@The_AWRI
#newclimate

The AWRI
Mitigation, adaptation or innovation?

Mitigation

Adaptation

INTervention

BUSINESS AS USUAL

opportunities
Extension and outreach

Supporting Australia’s grapegrowers and winemakers to adapt to a new climate.

opportunities in a new climate

The project team Matt Holdstock, Mardi Longbottom, Marcel Essling and Geoff Cowey from the Australian Wine Research Institute.
Why is the wine industry affected by climate change?
Why is the wine industry affected by climate change?
The wine challenge

Expectation

Every time
The vineyard challenge
The business of wine

Green Product Certifications

higher brain function

antioxidants

reduced risk of type II diabetes
The grower perspective
Temperature and wine quality

Too HOT

Too COLD

OPTIMUM

↓Sugar
Unripe
Unbalanced

Consistent sugar levels
Ripe flavours
Balanced

↓Acid retention
Overripe
Unbalanced

Redrawn from Greg Jones
Example: LSC Cabernet Sauvignon

Temperature °C

Growing season months

23.9° C
(mean daily max)
Example: LSC Cabernet Sauvignon

Temperature °C

Growing season months

27.2 °C (mean daily max)
(+ 3.3 °C)
Example: LSC Cabernet Sauvignon

- **Temperature** °C
  - Earlier harvest
  - Higher temperature

Growing season months:
- **j**
- **f**
- **m**
- **a**

- Earlier harvest
- Higher temperature

Example:

- LSC Cabernet Sauvignon
- 29 °C (mean daily max.)
- Est. 27.2 °C
- (mean daily max.)
  + 5.3 °C
Heat waves – yield & quality loss
Higher grape sugar and alcohol

- Ethanol Average 12.4%
- Ethanol Average 14.2%

Grapes:
- Nero d’Avola
- Vermentino
- Montepulciano
- Lagrein
Compressed growing season
Compressed growing season

In the vineyard:

• Vigilance
• Logistics
Bushfires & smoke taint

Major smoke events 2003, 06-07, 09, 13

- 2009 - 40% loss of Victorian production
- Legal disputes
- Loss of fruit, wine, brand image & shelf space
Frost

In-season

Long-term
Wet seasons

2011 - 1 in 5 queries received was related to wet weather
The climate change challenge
Market access
Consumers are *starting* to consider what they can do to adapt to climate change...

- **70%** Concerned about the increase in food prices
- **54%** Look for things to address and change in everyday life as a result of the challenges of climate change
- **54%** Think about what is acceptable and sustainable with respect to products, packaging, and consumption

Consumer perspectives of adaptation | Lilly Lim-Camacho CSIRO
Scenario 1: Favourite Sauvignon Blanc temperature affected

30% Likely to purchase Sauv Blanc from another region

24% Likely to substitute another variety of wine

EW (14%) Continue to purchase Sauv Blanc from the Adelaide Hills
Scenario 2: 
Award-winning Margaret River to Stanthorpe

- 56% Most likely to continue purchasing
- 21% Most likely to purchase a different type of wine instead
- $1.30 Price premium (likely because it is award winning)
Implications for the wine industry

What are the opportunities for the wine industry?

How will our key growth markets view the Australian wine industry’s efforts towards climate change?
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