

Cultivars Differ in their Tolerance to Damage by Rainfall

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INTRODUCTION

- ◆ Strawberries are grown in SE Queensland (27.4S, 153 E) during late autumn through early spring (May through September) in a subtropical climate.
- ◆ The plants are grown in the open and berries can be damaged by rainfall that is variable in intensity, duration, and timing .
- ◆ We assessed the relationship between rain damage, cultivar and individual rainfall events.

MATERIALS & METHOD - WHAT WE DID

- ◆ Mature fruit of 'Rubygem' and 'Festival' and 36 other cultivars were harvested weekly after six rainfall events and assessed for rain damage (RD) : no damage, slight or severe damage (more than 20 achene positions affected).

◆ **Resistance score** = $\{9 * [(number\ of\ fruit\ without\ RD\ damage + 0.5 * number\ of\ fruit\ with\ slight\ RD) / total\ number\ of\ fruit\ in\ all\ groups\ combined]\}$.

RESULTS AND DISCUSSION – WHAT WE FOUND

- ◆ Festival (score of 7.5) was more resistant than 'Rubygem' (score of 6.0) (LSD=0.53), but there was no clear relationship between rain damage (scores from 5.3 to 8.0, LSD 0.9) and weekly rainfall event ranging from 7 to 330mm (Table 1).
- ◆ There was no interaction between cultivar and rain event ('F' Pr >0.05).

CONCLUSIONS

- ◆ Damage occurs early in the rain event and likely requires small amounts of water (less than 10 mm).
- ◆ Information from one rain event is sufficient to rank cultivars for the level of resistance to rain damage, if cultivars with 'known' levels are included for calibration points.
'Festival' and 'Rubygem' would be useful 'resistant' and 'moderately resistant' (respectively) calibration cultivars .
- ◆ Further investigations are warranted on repeatability, soil moisture, temperature, and ripeness level effects on level of rain damage.
- ◆ A method which reliably simulates damage by rainfall is desirable.

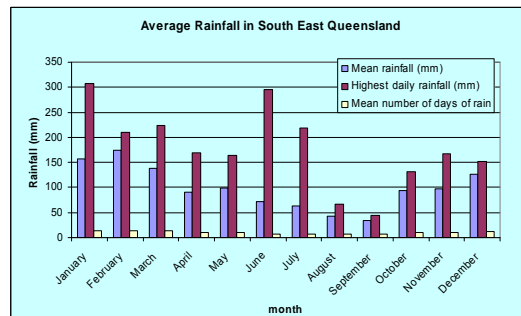


Fig.1. Rainfall is variable in intensity, duration, and timing



Fig.2. Rain-damage – cracking (L) water soaking, surface etching (R)



Fig.3. Fruit are exposed to weather conditions

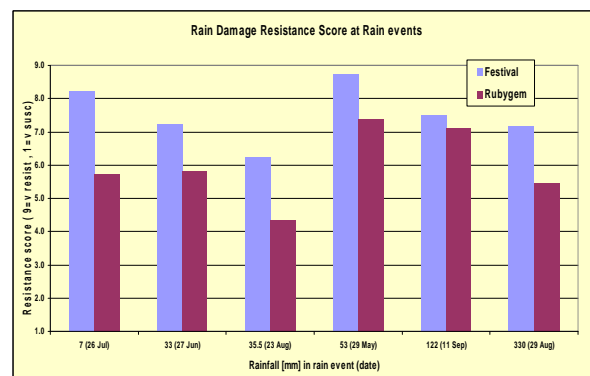


Fig. 4. 'Festival' and 'Rubygem' at six rain events



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