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The macadamia benchmarking project (MC15005) is a joint initiative of the Queensland Department of Agriculture and Fisheries, the University of Southern Queensland and NSW Department of Primary Industries, with support from the Australian Macadamia Society. The project has been funded by Horticulture Innovation Australia Limited using the macadamia levy and funds from the Australian Government. The Queensland Government has also co-funded the project through the Department of Agriculture and Fisheries.



ABOUT THE 2016 BENCHMARKING GROUP MEETINGS

A total of 81 participants attended Benchmark Group meetings in August and September 2016. These participants represented 131 farms from each of the major production regions. Topics discussed included yield, quality, pests and diseases and canopy management. Growers were also asked a range of questions relating to the 2016 season and their approach to farm management. Participants used polling devices to interact and compare results with those from other regions.

More than half of the participants reported an increase in yield between 2015 and 2016, with 28% indicating an increase of over 20%. Most farms reporting increased yield in 2016 were in Queensland.

Figure 1 shows the most significant factors affecting production in 2016, including wet weather at flowering, insect pests and lack of water availability at key times. Wet weather at flowering mostly affected NSW farms while lack of water availability mainly affected south-east Queensland farms.

Insect damage was the major cause of kernel reject losses in each region. Fruitspotting bug was reported as the major cause of factory reject kernel. Losses due to rat damage were reported

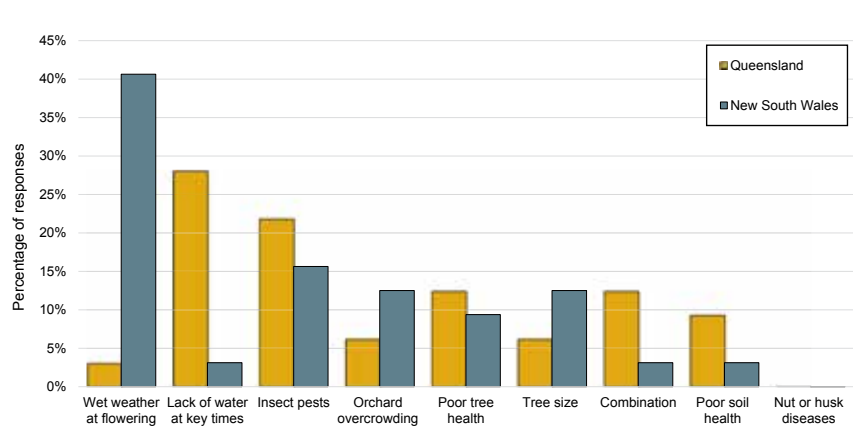


Figure 1. Factors affecting production in 2016.

STAGE	FEATURES
Stage 1 Early production	<ul style="list-style-type: none"> • Tree height is well under row width • Tree canopies are independent or just starting to meet up within rows • Nuts grow throughout the canopy
Stage 2 Peak production	<ul style="list-style-type: none"> • Tree height is less than or equal to row width • Nuts grow throughout the canopy
Stage 3 Declining production	<ul style="list-style-type: none"> • Tree height is greater than or equal to row width • Dead (unproductive) centres are present • Nuts grow mostly at the top of the canopy
Stage 4 Poor performance	<ul style="list-style-type: none"> • Tree height greatly exceeds row width • There is no gap between row canopies • Most trees have dead (unproductive) centres • Nuts grow only at the top of the canopy

Table. Canopy stages from the Macadamia Integrated Orchard Management Guide 2016.

in all regions, with over 20% of participants experiencing significant losses in the 2016 season. Husk diseases caused negligible losses in most regions.

Growers were also asked to describe the predominant canopy stage of their orchard according to the *Macadamia Integrated Orchard Management Guide* (see table).

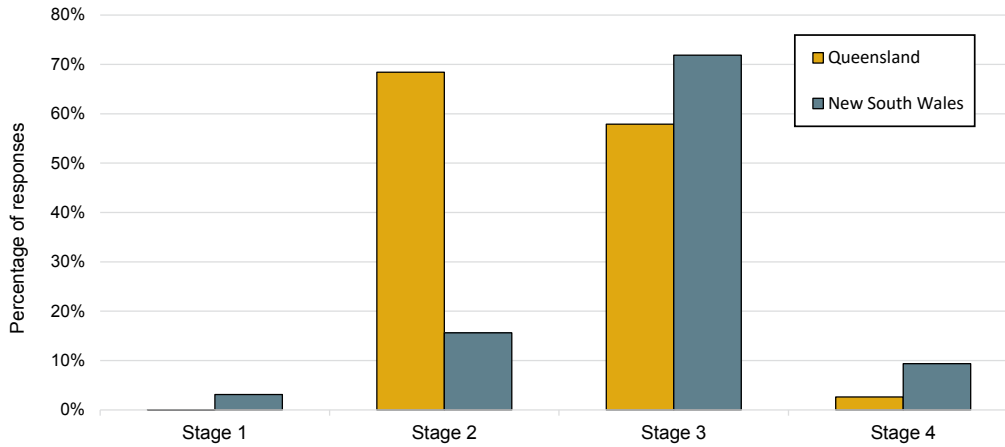


Figure 2. Orchard canopy stages of benchmark participants.

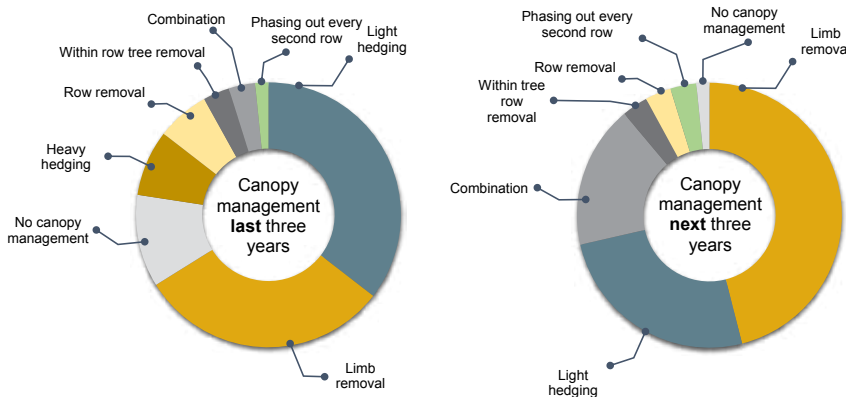


Figure 3. Recent (left) and future (right) canopy management strategies of benchmark group participants.

More than 46% of participants nominated limb removal as their primary canopy management method over the next three years. A further 25% indicated that they will be undertaking light hedging in the near future.

Data from the Benchmark Group meetings will be further analysed in conjunction with yield and quality results to identify potential linkages between specific orchard management scenarios and high orchard productivity. These findings will be reported in the upcoming industry benchmark report.

Most growers indicated that their tree canopies were either stage two (36%) or stage three (56%). A small number of stage four orchards were also identified in the Northern Rivers region of NSW (see Figure 2).

Maximum tree height reported varied significantly between participating farms. The most common maximum tree height was from 7 to 9 m (41%) followed by 9 to 12 m (28%) and 5 to 7 m (18%). Almost 9% of respondents reported a maximum tree height of more than 12 m. These farms were located in south-east Queensland and the Northern Rivers region of NSW. More than 25% of benchmark group participants indicated that

they were unhappy with spray coverage in their tallest trees.

Figure 3 shows the main canopy management methods used by Benchmark Group participants over the last three years and their intended approaches over the next three years. The main methods reported over the last three years were light hedging (35%) and limb removal (31%). Other forms of canopy management included heavy hedging (8%), row removal (6%) and within-row tree removal (3%). More than 11% of participants indicated that they have not undertaken any form of canopy management during the last three years.

Information

Participation in benchmarking is free. It provides growers with an opportunity to confidentially compare their yield, quality and optionally costs with averages of similar farms.

For more information about participating in the benchmarking project, contact one of the following team members or e-mail macman@daf.qld.gov.au.

- Queensland: Grant Bignell, DAF Queensland, phone 07 5381 1334
- New South Wales: Jeremy Bright, NSW DPI, phone 02 6626 1346 or 0427 213059

RURAL JOBS AND SKILLS INITIATIVE FOR QUEENSLAND AGRICULTURE AND HORTICULTURE

The Queensland Agriculture Workforce Network (QAWN) is an industry-led rural jobs and skills initiative funded by the Queensland Government through DAF. Its aim is to optimise Queensland agriculture's capacity to attract, retain and upskill its workforce.

QAWN is designed to support agricultural producers and related supply chain businesses, including the macadamia industry, on workforce issues to do with attracting, developing and retaining appropriately skilled workers. This includes helping with information about funding, grants or incentive programs such as the *Back to Work* package, where employers may be eligible to receive \$15,000 for hiring someone who's been off work for more than 12 months. The network also can connect employers with training providers covering all areas of agriculture.

To find out more, contact one of QAWN's agriculture workforce officers.

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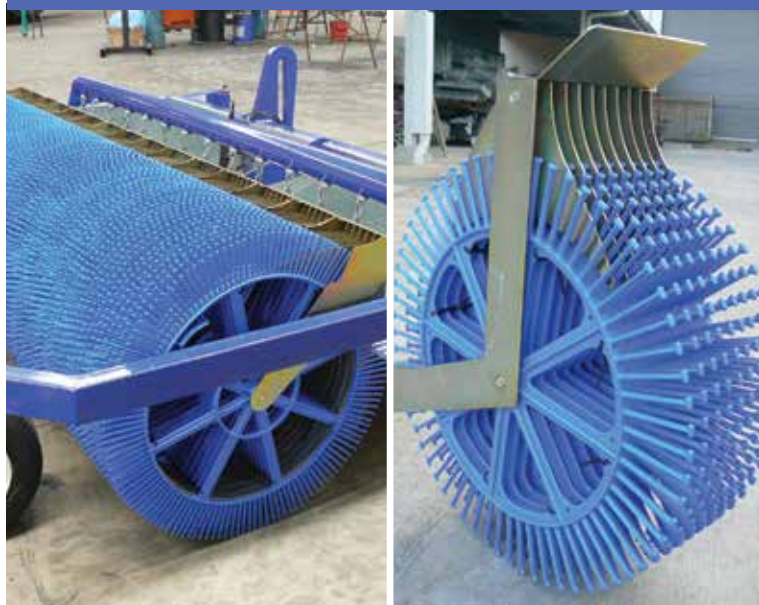
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