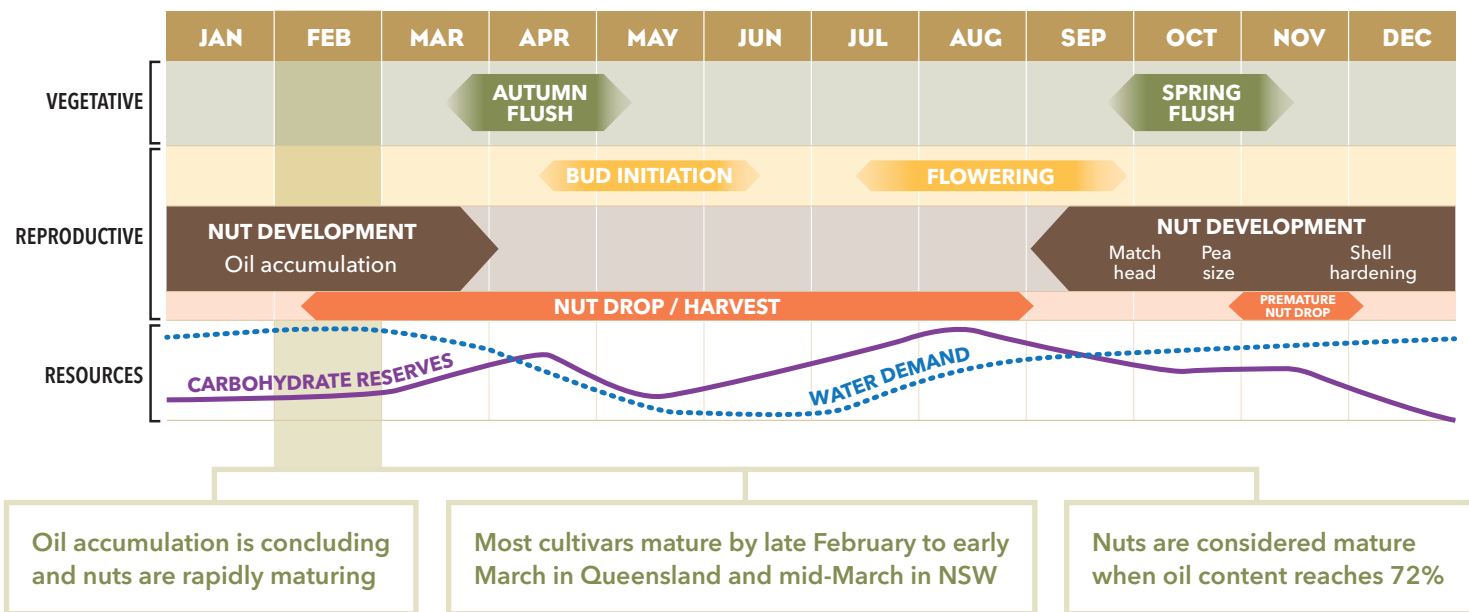


## Phenological Cycle



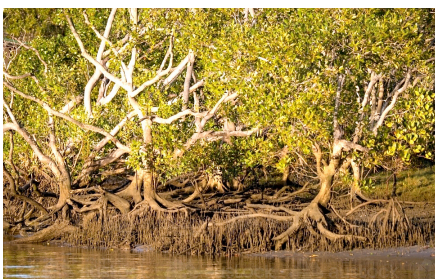
## Pest and disease



**Spotting bug.** Late season damage is only fully revealed in consignment reports. Damage is worse in **thin-shelled cultivars** and following rain. Carefully consider your options this close to harvest, ensuring you observe **withholding periods**.

**Rats and feral pigs.** Populations increase as nuts drop. Control relies on managing **vegetation harbours** and baiting along known entry points.

**Macadamia nut borer (MNB).** Like many pests, **MNB** is triggered with warm, wet weather. Damage appears as **2-3mm holes** at the top of shells. Husks show an exit hole with granular frass. Even after shell hardening, **MNB** damage can prematurely drop nuts.



Mangroves are a known **MNB** host.



### Botryosphaeria branch dieback.

We've been hearing more about this disease because it is causing damage in many tree species, including macadamia. Infection symptoms are **obvious in summer** and are as follows:

- in **young trees**, leaves appear **dull khaki green**
- in **mature trees**, whole branches die and **leaves turn tan brown**
- **leaves generally retained** on the dead branch
- infection usually starts at **branch tips or unions** and moves down towards the trunk
- **ash grey to dark wood staining**.

Watch the AMS video, [Understanding Botryosphaeria](#) here.

Quick tests for **Botryosphaeria**:

1. **Shaken leaf test.** Shake affected branches with brown leaves. If most leaves **fall off**, the tree is likely suffering from other stress not **Botryosphaeria**. If leaves are retained on the branch, it could be **Botryosphaeria**.

2. **Wood discolouration.** Cut sections of the affected branch to check for staining.

If you suspect **Botryosphaeria**, cut back infected branches until you find **clean wood**. Infected branches are safe to chip and return to the orchard. **Sterilise** pruning gear between trees.



**Highly susceptible cultivars:** A203, A268 and 849, while 344, 741 and 842 are **moderately susceptible**.

## Crop inputs



If the orchard has experienced prolonged **summer rain** and/or a **heavy crop**, you may need to adjust your **nutrition program**.

Do you know what the foundational elements of your **nutrition program** are?

Considering the price of inputs and current farm gate price of nuts, what are **discretionary nutritional inputs**?

Monitoring nutrition block by block and by soil types can help you prioritise **organic matter, amendments** and **fertiliser** applications.

Use **weather forecasts** to adjust applications, ensuring minimal loss due to heavy rain and/or leaching.

**Irrigation.** While requirements decline as mature nuts drop, the main determinant for water use is environmental conditions.

Smaller and more frequent **irrigation** is more effective in this hot period when **evapotranspiration** is high. Ensure you are matching irrigation **scheduling** to **soil texture** profiles in each block.

## Management Cycle

Nut maturation			Flower initiation		Winter		Flowering		Preharvest nut drop		Shell hardening
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
							Pest and disease monitoring				
		Harvest									
Mowing/mulching					Tree shaking				Reduced mowing		
					Pruning and chipping						
					Applying mulch/compost/lime & gypsum			Cover cropping			
					Aerating/profiling			Mulching			
								Animal manures last opportunity (4 month withholding)			

## Management



Finish **pre-harvest clean-up** ensuring minimal old nut, sticks and debris remain on the orchard floor. This drastically improves harvest efficiency and consignment quality.

Conduct **pre-season audits** required by your processor.

Confirm **transport logistics** and **delivery procedures**. Do you have a plan for any delays and potential on-farm storage options.

Have a **storm/cyclone management plan** in place. Tools and equipment must be on hand for clean up in the aftermath of an event, including **chainsaws, chains and PPE**.

**Monitor for maturity.** Husk colour is an on-farm indication of maturity, but your processors **maturity test** is the most accurate. Send your processor green husked **nut samples** on the ground from the start of February in Queensland and mid-February in NSW to determine **maturity** levels and harvest start.

### Quick on-farm maturity indicator: husk colour



Little husk colour: nearly ready, weeks to go



Increasing husk colour: getting close, roughly a week to go



Dark brown colour inside, ready to start harvest

## Mechanical



With pre harvest **orchard hygiene** and clean-up in progress, ensure **mulchers parts** (grease points, belts, hammers and retaining bolts) are not worn and functional. After **clean-up**, complete maintenance/cleaning of **mulchers** so they are ready in the event of a storm.

Conduct a harvester service. Pay attention to the following:

- Check **auger flights** and **cages** for signs of wear
- Fit new **finger wheels** and sweeper brushes if required. Wear results in harvest inefficiencies which add up over the season
- Replace **filters** for **sweeper style harvesters** and check **belts** for wear and correct tensioning.

Download the AMS [Harvest Checklist](#) and [Grower Harvest Tips](#) here.

Conduct thorough maintenance of **de-husking/sorting** shed:

- **Scroll dehousers** - check bars along the scroll for rounded wear instead of square edges and that the central scroll is not worn
- **Chains** - check for wear, particularly abrasive pads
- **Tyre and hammer dehousers** - check they move freely and are tensioned correctly.

Confirm with your processor **nut size** intake for the season and ensure sorting **trommels** match.



## The month ahead



*Are you concerned about how to prioritise inputs and adjust operations for the season ahead?*

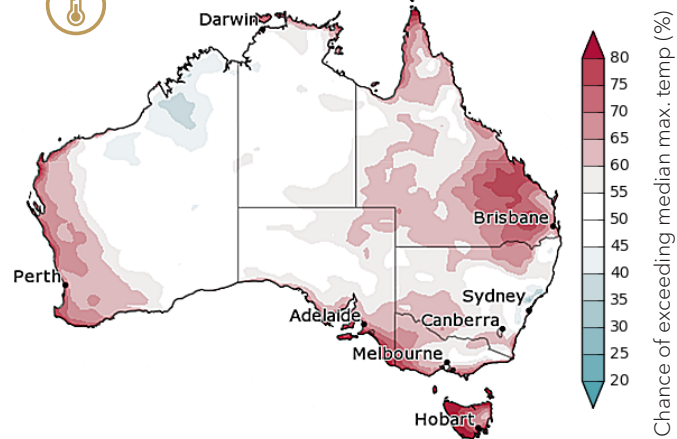
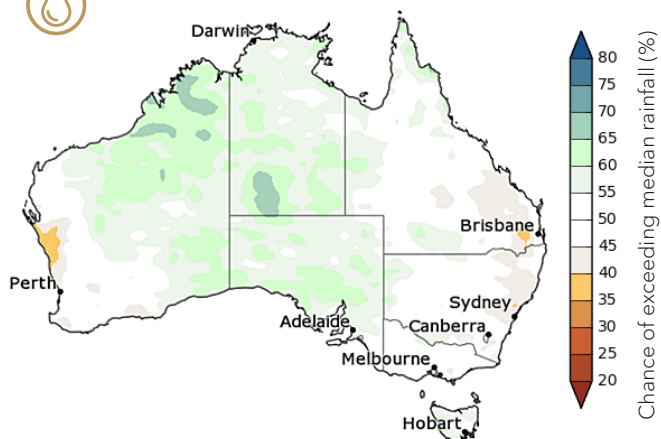
*What plans are in place to assist with current industry challenges?*

February/March MacGroups are addressing these topics, come along on the following dates:

Northern Rivers - Thurs 16 Feb  
Glasshouse Mtns - Tues 21 Feb  
Gympie - Wed 22 Feb  
Bundaberg - Thurs 23 Feb  
Online - Fri 24 Feb  
NSW Mid N. Coast - Tues 7 Mar

[RSVP here for any of the MacGroup events](#)

## BOM rainfall and temperature outlooks for March 2023



## Further Information

For more information, please contact the AMS Industry Development Manager and/or your processor's grower liaison officer. Also, go to the Industry Resources page on the AMS website, login, and search for fact sheets, research reports, Bulletin articles, case studies and more by keyword, category and/or author.

**Hort Innovation**  
Strategic levy investment

**MACADAMIA FUND**

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