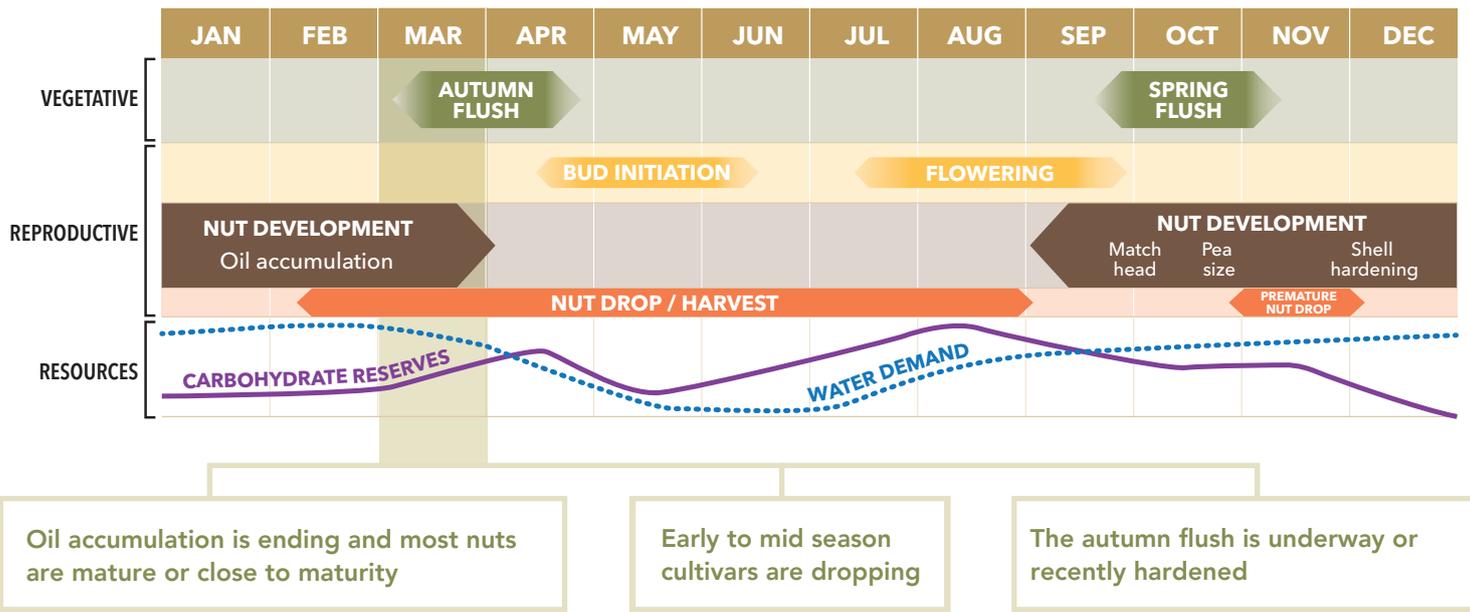


Phenological Cycle



Management/Mechanical 

**Harvest** is all about logistics - managing people, machinery, grass and nuts without **bottlenecks, delays or quality loss**.

Download a full [Harvest Checklist](#) here.

**Start with the orchard floor**

No **harvester** performs well on a poor surface. You're removing interference, not stripping the orchard floor bare. Before peak drop ensure:

- **leaf litter and old nuts** are mulched and **debris blown away/removed**
- **grass and weeds** well maintained
- surfaces are **even and trafficable**, protecting gear and efficiency.

**Setup for efficiency**

Research shows that 15% of yield can be lost to harvest inefficiency. Aim to:

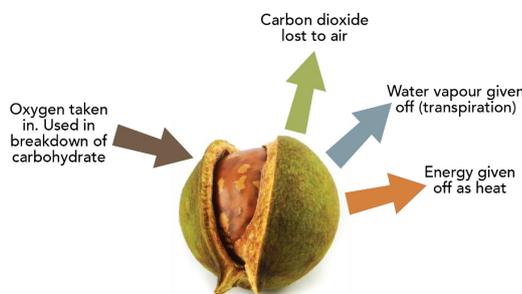
- **harvest at least every 3 weeks**
- achieving **over 90% pick up**
- **dehusk in the same day**
- only pick up whatever you can **dehusk, sort, store properly and deliver without delay**
- monitor constantly for **bottlenecks, nut damage and quality loss**
- actively manage **moisture and heat in transport/holding bins**
- know your **daily capacity and limits**.



**Machinery makes all the difference**

Efficiency relies on dozens of mechanical settings and parts. Before **harvest**:

- replace worn **finger wheels, rubbers, sweeper brushes** and **ejectors**
- check **wheel frames and packs** are straight and mounted correctly
- inspect **axles and bushes** for wear
- maintain all **grease points, bearings, chains, filters, belts and auger flights**
- check **sweeper and blower** angle, tilt and height
- conduct a **dry run** of all systems
- clean all **bins, conveyors and screens**.



**Orchard floor management**

**Managing grass/weeds** is essential to harvest efficiency. **Mechanical control** is safer than herbicide, but it requires a well setup mower or slasher. If you need to apply **herbicide**, keep in mind:

- **ID weeds** before choosing a product;
  - ❖ grass or broadleaf
  - ❖ summer or winter dominant
  - ❖ annual or perennial
- only use **registered herbicides** and follow all label directions
- **boom sprayers** must be calibrated
- use **directed/shielded** applications
- check **application rates** match the product **strength/formulation** and calculate the **swath width**
- maintain the same discipline as with any pesticide - **PPE, spray records and tank mixing protocols**
- **no withholding doesn't mean no risk, herbicide should never contact nuts!**

**Focus on what you can control during harvest:**

- Surface preparation
- Harvest interval
- Machinery condition
- Capacity alignment
- Herbicide discipline
- Quality management

## Pest and disease



### Are you keeping up with rats?

Is your rat management and baiting program as effective as rat reproduction?

*Rattus rattus* facts:

- lives to about 18 months of age
- is sexually mature at 2–3 months of age
- has a gestation period of 21–22 days
- has 6 litters per year of 5–10 rats per litter



When you see the typical **rat gnawed, empty shells**, that is just the tip of the iceberg! The light weight **rat** damaged shells are blown away or broken at harvest. **Shed rejects** aren't indicative of the true loss. **Rat control** relies on **consistent baiting** and managing forage/shelter areas.



Without control a few **rats** per hectare can blow out to hundreds

Download the [Macadamia Registered Rat Bait List](#) and the [Rat management](#) fact sheet.

With pests that damage new **flush**, your consultant can help determine action. With harvest, carefully check **withholding periods** before spraying. Signs of **thrips or mites** include:

- **small, stunted, more rigid** leaves
- **canoeing or curling** of leaves
- leaf **mid rib stiffening**
- leaf **rosetting** (witch's broom) at branch tips
- **bronze stiffer husks** that make dehusking difficult.

**Thrip and mite** flare ups are often the consequence of frequent use of disruptive chemicals. In many cases, control of pests that **damage leaves** (such as **leaf miner, monoletpta or twig girdler**) is not worthwhile as the majority of controls are harsh broadspectrum chemicals.

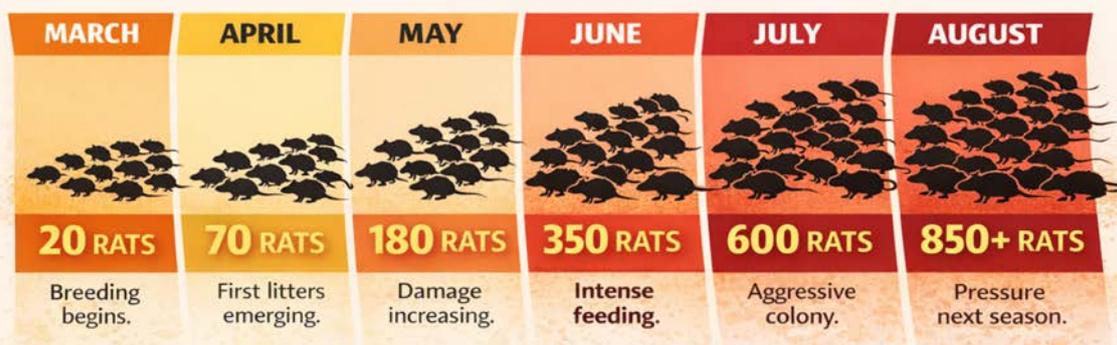
**Natural predators** that keep pests at bay such as **wasps, spiders and lacewings** are invaluable and worth conserving when leaf destruction is extensive enough to spray the damage is already done.



*Lacewing eggs and adults look delicate, but lacewing larvae are voracious predators.*

**Kernel grub.** Check storage bins for pests attracted to the odour of broken shells, like **kernel grub**. This opportunistic pest enters **open micropyles, MNB holes or mechanical damage**, replacing the eaten kernel with a **webbed mass**.

## RAT POPULATION DURING HARVEST



**START HARVEST WITH 20 RATS/ha.**  
**FINISH HARVEST WITH HUNDREDS.**

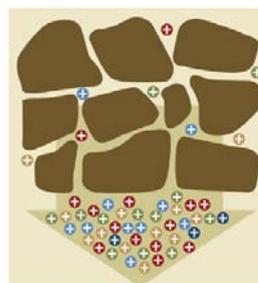
## Crop inputs



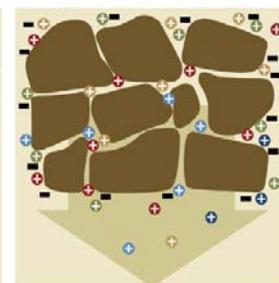
Maintaining tree health and productivity relies on consistent **nutrition**, which is best applied in smaller quantities more regularly. You may need to replace **mobile elements** which can be easily **leached** with any of the following conditions:

- higher temperatures
- excessive rainfall
- low vegetative cover
- soil disturbance
- low cation exchange capacity (CEC)
- sandier soils.

When are you going to complete **leaf and soil sampling** - in autumn or spring? Talk to your **nutrition consultant** about these critical tests.



Sandy and low CEC soils leach nutrients easily



Clay and high CEC soils hold on to nutrients

# Weed Management



**Orchard floor management** during harvest is about balance, with every strategy, mechanical or chemical, impacting **harvest efficiency, soil function, and food safety**. Decisions made under time pressure can have consequences that extend beyond the orchard.

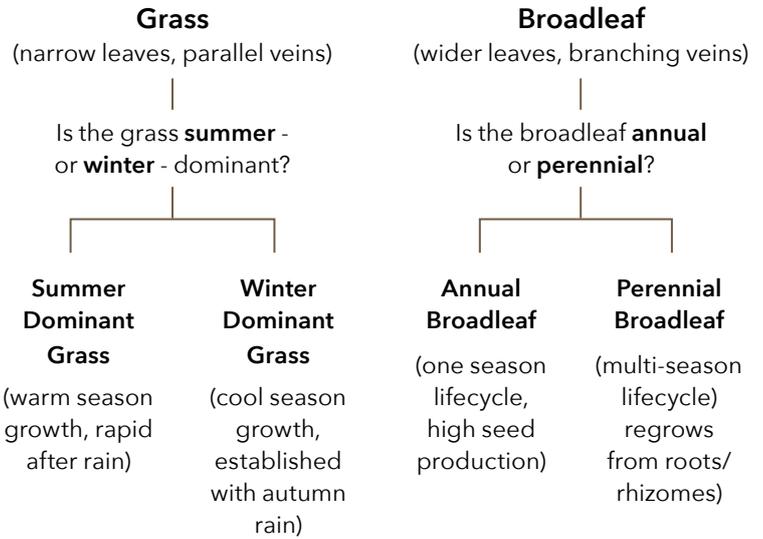
**Herbicides** are one tool, not a stand-alone solution. During harvest, the **herbicide risk** profile increases. Nuts are on the ground and the margin for error narrows. Reactive spraying because **grass/weed growth** has "got ahead" further increases **risk at harvest** and often makes meeting label directions impossible.

**Weed ID** dictates product selection. If **weeds** have already emerged/established, post-emergent options are required.

**Recent MRL detections and exceedances have highlighted caution needed with haloxyfop (i.e. Verdict) during harvest. The product's fat solubility and persistence poses a food safety risk if it contact nuts, even in husk. Zero withholding does not mean zero risk! Talk to your processor about market access.**



## What is the main weed I need to control?



### Examples

- |                           |                   |                     |                         |
|---------------------------|-------------------|---------------------|-------------------------|
| • Summer grass            | • Annual ryegrass | • Flaxleaf fleabane | • Wandering dew         |
| • Feathertop Rhodes grass | • Barley grass    | • Chickweed         | • Blackberry nightshade |
| • Crowsfoot grass         |                   | • Cobblers peg      |                         |

## Orchard Floor Goals and Herbicide Risks through the Season

AUC	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
<b>Post-harvest</b>				<b>Harvest Prep</b>			<b>Harvest</b>				
🎯 Orchard floor recovery & reset				🎯 Build biomass, prevent dominance & harvest readiness			🎯 Access, harvestability & food safety				
⚠️ <b>Least</b> herbicide risk				⚠️ <b>Moderate</b> herbicide risk			⚠️ <b>Very high</b> herbicide risk				

Download the [Herbicide in Macadamias: Practical Guide](#) for tools, templates, calibrations guides and a list of registered herbicides.

## 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)											

## The month ahead



In QLD an active campaign on **moving plant safety** is underway, but as always audits in any state are a possibility. Read more about the campaign in the [AMS update](#). As a business owner your **legal responsibilities** include:

- providing a safe work environment
- ensuring safe use, handling and storage of machinery, structures and substances
- ensuring facilities are well-maintained and at an acceptable standard
- giving workers any information, training, instruction or supervision needed for safety
- keeping an eye on work place conditions and the health of workers
- keeping an injury register
- workers' compensation policies and return-to-work plans



There are a range of protocols, checklists and preventative measures at: [www.safework.nsw.gov.au](http://www.safework.nsw.gov.au) (NSW) [www.worksafe.qld.gov.au](http://www.worksafe.qld.gov.au) (QLD) [www.safeworkaustralia.gov.au](http://www.safeworkaustralia.gov.au) (national)

QLD moving plant safety resources: [Serious about farm safety checklists](#) [Rural plant Code of Practice video series](#) [Moving plant assessment tool](#)

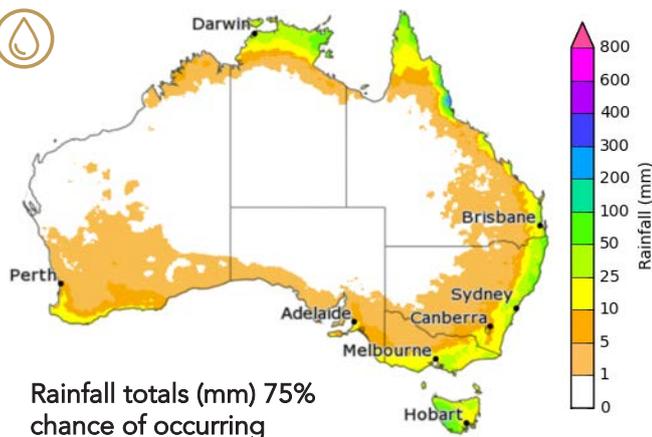
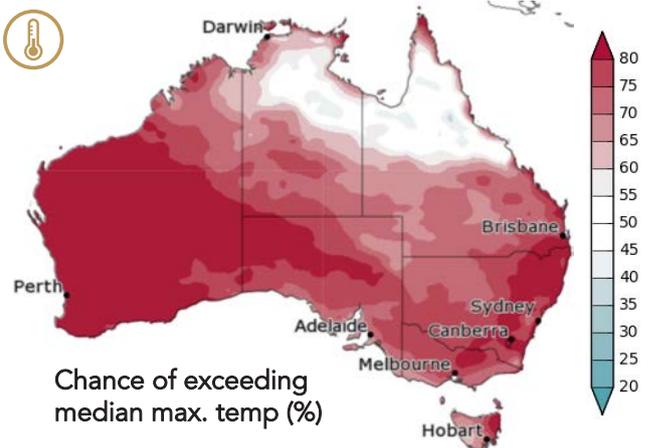
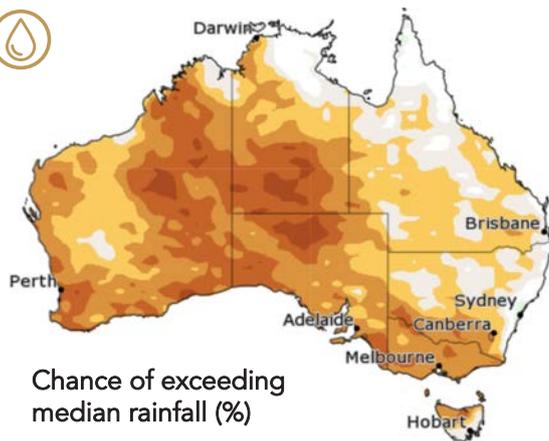
Are there ways to **reduce your harvest period** and set the orchard up for the following season sooner?

Many growers use **ethephon** to assist **nut drop**. Download the fact sheet [Using Ethephon in Macadamias](#) here.

**Note: get professional advice before using ethephon on stressed trees.**

Another option to reduce the harvest period and improve orchard hygiene (particularly husk spot) is **tree shaking**. Download the [Tree Shakers](#) fact sheet and [video](#) here.

## BOM weather outlooks for April 2026



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