

# Varroa Mite Resistance: A Critical Turning Point?

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Recent findings of chemical resistance in *Varroa destructor* populations across eastern Australia mark a significant and concerning development for both the beekeeping and horticultural sectors. With pollination underpinning the productivity of many high-value crops, the emergence of resistance threatens not just hive health, but the resilience of entire supply chains.

## What has been detected?

Since early 2026, surveillance and field reports have confirmed that some Varroa mite populations in New South Wales and Queensland are no longer responding effectively to commonly used miticides. Initially, resistance to pyrethroid-based treatments (including flumethrin and tau-fluvalinate products such as Bayvarol™ and Apistan®) was identified following treatment failures in affected apiaries.

Genetic testing linked this reduced efficacy to a known mutation (L925I), which significantly diminishes the effectiveness of pyrethroid treatments.

More recently - and more concerningly - these same mite populations have also demonstrated resistance to amitraz-based products (e.g. Apivar® and Apitraz®), which have been a cornerstone of varroa control programs globally.

In some cases, industry bodies report near-complete treatment failure across both chemical groups.

## A new population of mites?

Evidence suggests these resistant mites may represent a completely new incursion, separate from the original 2022 outbreak. This raises important biosecurity questions around pathways of entry and highlights the ongoing risk of additional introductions.

At present, the distribution of resistant populations appears to be limited, with most Australian beekeepers still achieving effective control with registered products. However, experience from overseas demonstrates how quickly resistance can spread once established.

## Why does this matter for berry growers?

The berry industry operates on tight production windows, high input costs, and exacting quality standards. Pollination is not optional; it's a critical production input.

Poor pollination can result in misshapen fruit, reduced fruit size, lower pack-out rates and therefore increased picking inefficiencies. If varroa resistance leads to weaker hives or higher colony losses, growers may face reduced availability of hives during peak flowering, leading to increased pollination costs and greater variability in fruit quality and yield.

For industries like strawberries, where uniformity and appearance directly influence grower returns, this presents a material commercial risk. These developments reinforce the interdependence between berry growers and beekeepers. It should also be remembered that the first casualty of Varroa is feral bee colonies, which are already disappearing. This means managed hives are even more critical for pollination.

Beekeepers are now managing:

- Increased monitoring and treatment demands
- Greater uncertainty around chemical efficacy
- Rising costs and labour inputs

At the same time, growers rely on those same operators to deliver strong, healthy hives exactly when needed. Maintaining open communication around hive strength, treatment programs, and timing will become increasingly important, particularly as conditions change.

## Understanding resistance

Resistance develops when mite populations are repeatedly exposed to the same chemical mode of action. Over time, naturally tolerant mites survive, reproduce, and become dominant. Globally, this pattern has been seen across all major varroa treatment groups where over-reliance occurs. The key takeaway: resistance is not a one-off event - it is an ongoing risk that must be actively managed.

## What needs to happen now?

For the berry industry, this is the point to shift from **awareness** to **action**.

### 1. Support best-practice hive management

Working with reputable beekeepers who follow integrated pest management (IPM) practices is critical.

### 2. Prioritise hive quality, not just hive numbers

As pressure from varroa increases, the difference between high- and low-quality hives will become more pronounced.

### 3. Build flexibility into pollination planning

Where possible, consider:

- Earlier booking of hives
- Contingency planning for supply constraints
- Staggered pollination strategies across blocks or varieties

### 4. Strengthen grower–beekeeper relationships

Clear agreements around expectations, communication, and timing will help manage risk on both sides.

### 5. Stay informed

Keeping up to date with industry advice and research will be essential for forward planning.

## What's next?

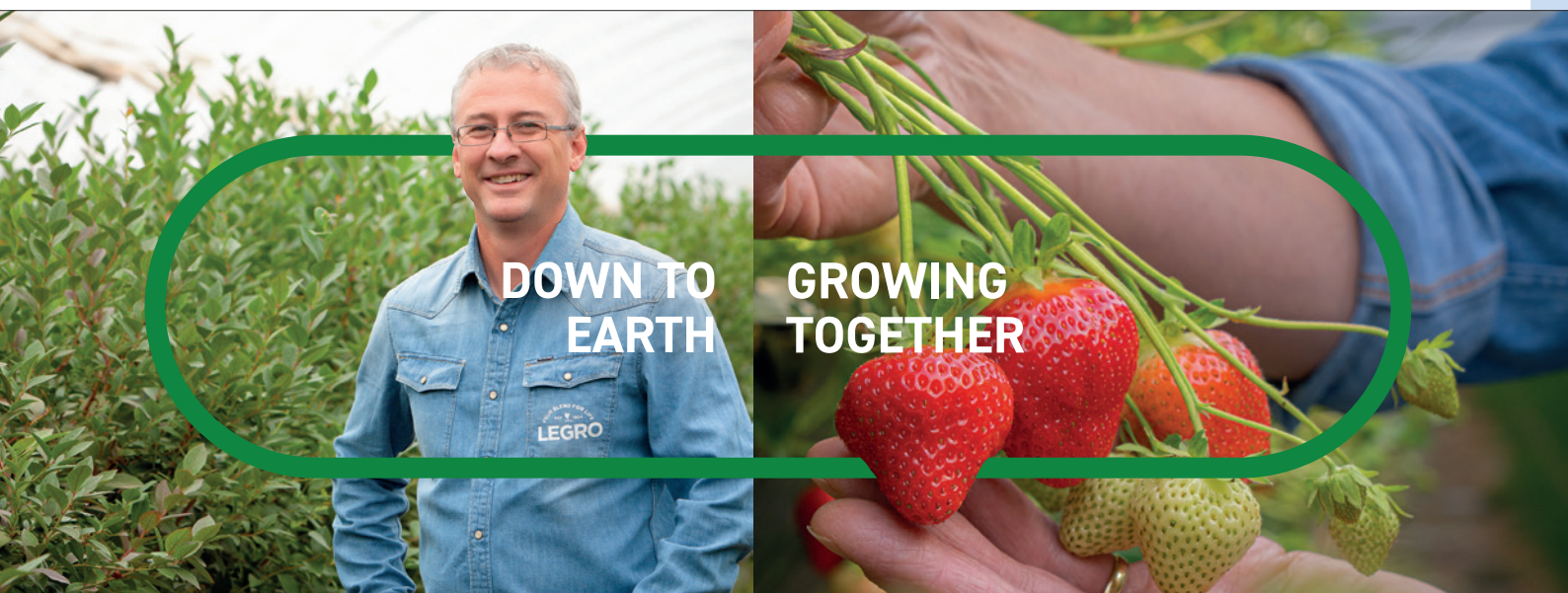
The emergence of resistance shows that chemical-only control is not a sustainable long-term solution. Globally, effective varroa management increasingly relies on rotating chemical modes of action, regular mite monitoring, non-chemical controls such as brood interruption, and breeding more resilient bee strains.

While these actions sit mainly with beekeepers, their success directly affects the reliability of pollination services that berry growers depend on. Australia still has the chance to learn from international experience, but early resistance signals within just a few seasons make coordinated action urgent.

For berry growers, varroa resistance is not just a beekeeping issue. It is a production risk that can affect pollination reliability, crop performance and profitability.

Long-term resilience will require continued investment in research and extension, strong collaboration between growers, beekeepers and industry bodies, and best-practice management across both sectors.

Healthy hives are the foundation of consistent berry production. Protecting them will be critical to maintaining supply, quality and competitiveness in the years ahead.



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