# **Integrated Weed Identification: how to get the most out weed identification tools.**

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**Summary**

A wide range of plant identification resources are available including tools that use new technologies. These new tools are often more engaging for weed professionals and can complement traditional identification tools. These tools are particularly useful for prohibited matter weeds that are not yet present in NSW.

One of these new technologies utilises three dimensional (3D) digital models. NSW DPI has published 40 interactive 3D digital models online. These models are used in the “Getting to know prohibited matter courses” courses for weeds professionals. Feedback from course participants about the 3D models has been positive with all agreeing that they feel more confident about being able to identify prohibited matter weeds in the field and that the 3D models facilitated their learning.

Another new technology is the use of artificial intelligence and machine learning to identify weeds from photographs. There are a range of apps that use this new technology. To show the benefits and limitations of these new tools, five apps and two online keys were compared. They were each assessed for time taken to identify the weed, ease of use, the total number of species the tool could identify, cost, availability, and accuracy of identification.

New technologies can be integrated with a range of other identification resources, including publications, training, weed websites, mapping tools and learning from and consulting with others.

Weeds identification is a crucial skill for weeds professionals. NSW DPI develops and delivers weed identification courses, provides online resources like WeedWise and the interactive 3D digital models to support the weeds industry across NSW.

This presentation discusses the benefits and limitations of a wide range of weed identification tools. It also discusses how to access these tools and training.

**Keywords:** apps, 3D models, artificial intelligence, training