

# Using smart phones for smarter farming decisions

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Development of smart phones and tablets means farmers can now access data whenever and wherever they need it.

The ability to access real-time information and decision-making tools in the paddock enables growers to make precise, informed decisions on the spot without wasting precious time.

In an age where machinery is operated almost automatically, though not autonomously, time spent on the tractor also represents an opportunity for growers to use smart phones and tablets to build knowledge and connect with other farmers.

Apps developed to access information through these electronic devices range from simple, free-to-use additions often designed to provide access to information, to programs with higher-level capabilities often involving complex calculations.

Most apps are simple to download and install, and good app developers regularly update app software to ensure users get the best value for money.

Pru Cook, a digital communications project officer with the Victorian Department of Environment and Primary Industries, has undertaken significant research in the area of apps for farmers and encourages grower to sift carefully through the myriad choices available.

“Unfortunately, good farming apps aren’t easy to find,” Prue said. “The search function in the Apple App store (for iPhone, iPad and iPod) and Google Play (for Android devices) don’t allow you to easily find agricultural apps unless you know the exact name of the app you’re searching for”.

Searching for the term ‘farming’ will often yield games and farming simulators that have no practical use for commercial growers, she cautions.

“To find agricultural apps use tools like Google alerts, or tap into networks on a social media like Twitter where you’ll find app providers and producers from around Australia (and the world) willing to share their experiences, positive and negative, with agricultural apps.”



For a grain grower, an app should aim to do one or more of the following, Prue said.

- Record information to enable informed decisions. This could be anything including spray records, livestock movements, staff details and general paddock observations. Examples of this type of program include the all-round note taking/record keeping app Evernote and farming-specific apps like Back Paddock, Agworld, ProductionWise and PAM, which complement existing record keeping.
- Provide information. This could be weather information past, present and future, markets, crop varieties, identification of pests, weeds or diseases, news, soil types, chemicals or emergency management. Examples include Pocket Weather, DEPI crop disease app, SoilMapp, CliMate and GRDC weed, insect and field pea apps.
- Assist with calculations. This can involve converting units, calculating distances or areas, how much spray to mix up, how much nitrogen to add to

a crop, how much grain is in a silo or how much inoculant you need.

Examples include Planimeter, N Broadacre, TankMix and Grain Calculator.

- Provide an enabling function. This may not have to do with farming per se, but features like a torch, spirit level, note taking, document signing, business card readers, device locator and the ability to take and share a photo/video can come in really handy. A number of these apps may already be included as part of your phone’s operating system.

Before downloading an app, consider:

- Does it work for Australian locations, crops and measurements? A lot of apps are developed in the US and may relate only to maize and soy.
- What do the reviews and ratings say? If you have a good or bad experience with an app you may want to consider leaving a review or rating yourself to help other producers make a decision.

- Does it work on your device and operating system? Many apps are available on Apple and Android devices but apps designed to be used on a tablet may be available only on Apple devices because iPad currently dominates the tablet market in Australia. If you have an older device you may need to update your operating system to access newer apps.
- Do you know what you want to use the app for? If an app does not improve your ability to perform a certain task on farm it's not worth spending time on. Don't create work for yourself!
- What information can the app access? Make sure you read permissions carefully. If an app is asking to access your contacts and has no need to use them, be wary. Also be very wary of entering credit card details into apps.
- Are training resources or technical assistance available? Apps should be intuitive and easy to navigate without too much effort but more complex record-keeping apps may require a level of up-skilling. Check that there are YouTube tutorials or a contact number/email you can use if you run into trouble.
- If you're entering data into an app, check whether the data belongs to you, or the provider and whether or not you can extract that data should you no longer want to use the app.
- Who else needs to access content/data from the app? Does it meet their needs?
- What do you know about the company that developed the app? How long have they been around? How long are they likely to be around? Can you get in contact with them easily if you have an issue?

## APPS FOR FARMERS

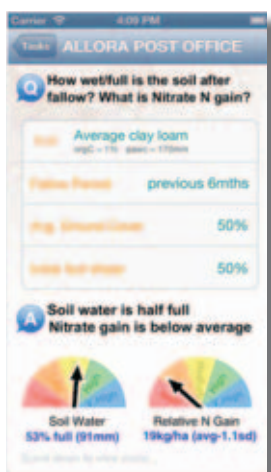


### Australian CliMate

Developer – DHM Software

Free from the iTunes store for iPhone and iPad.

A weather app like no other, CliMate was designed specifically for 'decision makers whose business relies on the weather'.



Available on the internet, iPhone, and iPad, CliMate allows users to draw on significant stores of historical data to predict future and potential weather patterns.

After downloading the app users can access predictions for situations spanning rainfall, temperature, frost and radiation simply by selecting their location.

It is also possible to input data including soil type, fallow period, amount of ground cover and initial soil moisture to predict present stored soil moisture and nitrate gain. This nitrate estimation capability – CliMate's fine print stipulates that nitrate accumulation figures are estimates based on data calculations – is another spanner in the grower's decision-making-tool box.

## TWITTER TOOL FOR INFORMATION AND OPINION



Twitter is a convenient and effective means by which farmers can express opinions directly to decision makers such as politicians or industry leaders.

Broadacre growers can talk about pest issues direct with GRDC panel members or vent their frustrations about free trade, foreign ownership or the lack of government support for agricultural research direct to the PM himself.

This free online social networking and micro-blogging service also provides a platform for conversation and idea-sharing with like-minded farmers and opens the way for growers to engage in debate on wider issues ranging from world food supply to animal welfare.

Particular themes or topics are tracked using hashtags; key words preceded by the '#' symbol. For example a search for #controlledtraffic would reveal all tweets containing the words 'controlled traffic', linking you to photos and conversations in which controlled traffic was a significant focus.

Popular farming-related hashtags include #tweetsfromthetractorcab and #stubbleissexy. In the harvest just completed, farmers shared their harvest photos with the hashtag #harvest2013.

Twitter enables users to send and read text-based messages of up to 140 characters to networks of people known as 'followers'. Each message is known as a 'tweet' and can include a digital photograph.

Users can also read the posts or tweets of people they follow and can 'retweet' those tweets to their followers if they strongly agree with a comment or particularly like a comment or photograph.

Because Twitter requires significantly less personal information than Facebook, users are much more likely to be connected to people they don't know in real life, which extends their network of information sources.

Having direct access to virtual 'neighbours' from the privacy of your tractor opens the way for exchange of ideas without taking time away from core farm activities.

NSW grower Oscar Pearse likes Twitter because it 'lets you look over the fence at farms hundreds of kilometres away'.

Cleve farmer Matt Story sees Twitter as an alternative method of delivery for important extension messages. "I find it easy to get the info the people in the ag extension industry are trying to tell us. (Twitter) is the vessel".

British farmer Guy Eckersley believes the platform provides an opportunity to build knowledge and confidence in making on-farm change.

For more information visit [www.twitter.com](http://www.twitter.com) or download the app from the iTunes store (free).



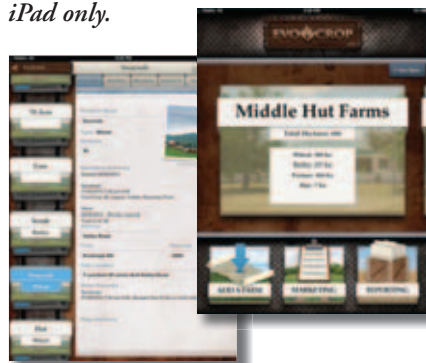
**EvoCrop**

*Developer – Rustic Evolutions*

*Farmers: Available through the iTunes store for \$949.99.*

*Agronomists: Available free through rusticevolutions.com.au*

*Available on iPad only.*



EvoCrop is a real-time cropping management app for iPads, developed by Koolunga farmer, Rebecca Williams. It allows users to input data including activity dates, chemical applications and rates and harvesting and grain marketing information for each paddock.

Importantly, EvoCrop has a gross margin calculation capability growers can use to maintain an accurate on-going summary of paddock costs, opening the way for users to make informed finance-based input decisions on the spot.

EvoCrop's interface is clean and attractive and the package overall is easy to use once initial paddocks are set up. A one-off purchase includes future software upgrades and allows the app to be installed on multiple iPads for farms with multiples users. The shared account system means all users can share data. If an internet signal is not available, data can be stored and a simple syncing process carried out later date to update stored data.

Data ownership remains with the grower and does not transfer to EvoCrop or its parent company, Rustic Evolutions. Information from the app can be exported in excel spreadsheet form, providing users with an additional format option for data that is especially useful for budgeting and forecasting.

Agronomists can download EvoCrop for free and can set up their systems so they

can access client data in real time; enabling them to contribute remotely to in-paddock decisions by clients.

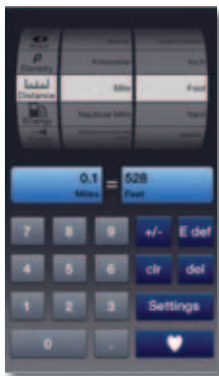


**Ad-free unit converter**

*Developer – William Jockusch*

*Free from the iTunes store for iPhone and iPad*

This app easily converts a range of measurements including acceleration, angles, area, density, distance, energy, force, mass, power, pressure, speed, temperature, time and volume. The area function could be particularly valuable for seeding calculations given its ability to convert acres and hectares to square metres.



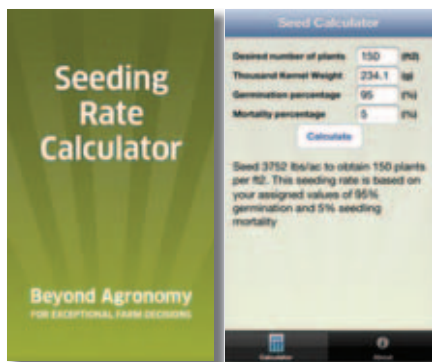
**Seeding Rate Calculator (\$0.99)**

**Air Cart Maximizer (\$5.49)**

*Developer – Beyond Agronomy*

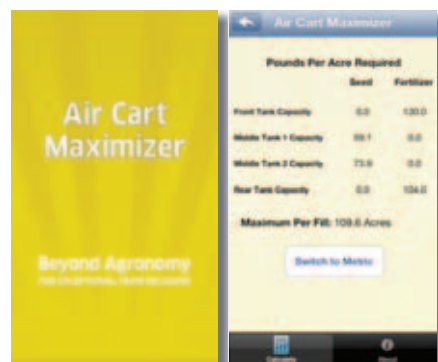
*For iPhone & iPad.*

Steve Laroque, the keynote speaker at SANTFA's 2013 conference, has devised several handy apps specifically for cropping farmers.



The Seeding Rate Calculator and Air Cart Maximizer are likely to be the two Laroque apps most beneficial to Australia

cropping farmers. Both offer opportunities to save time and money and boost productivity through the precise calculation of seeding figures.



The Seeding Rate Calculator works out seeding rates based on desired plant population after allowance for seedling mortality.

The Air Cart Maximizer app calculates the optimum loads of seed and fertiliser to maximise productivity by limiting the time spent re-filling.

These apps are very simple to use, come in metric and imperial formats and offer excellent value for money.

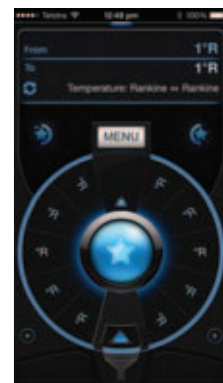


**Unit Converter∞**

*Developer – Incpt:Mobis*

*Available through the iTunes store for \$2.99*

Unit Converter∞ is one of several apps that convert less commonly used measurements such as volume flow rates and fuel consumption as well as offering basic features found in free conversion apps.





**iTorch Flashlight**

*Developer – PixieInLove Ltd*

*Free from the iTunes store for smart phones.*

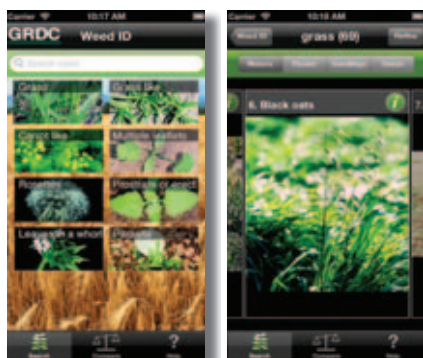
Any of the torch apps, including iTorch flashlight, use the camera flash on your phone as a torch. Very useful for injury and swear-word prevention.



- Weed ID: The Ute Guide**
- Insect ID: The Ute Guide**
- Field Peas: The Ute Guide**
- Winter Cereal Nutrition: The Ute Guide**

*Developer – GRDC*

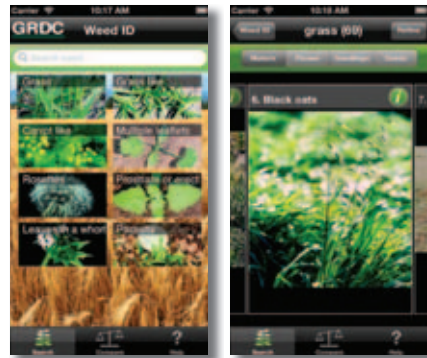
*Free from the iTunes store for iPad, iPhone and android devices*



The GRDC's Weed ID app enables users to accurately identify weeds in the paddock by comparing them to photos of weed seeds and of weeds seedlings, at flowering and as mature plants. It also provides a plant description, main flowering months and distribution and prevalence of each weed species.



The Insect ID app works in the same way as the Weed ID and has a similar layout. In addition to a photograph, there is a detailed profile of each insect pest plus information about the potential for crop damage and when and how monitoring should be undertaken.



Similarly, the Winter Cereal Nutrition guide is a diagnostic tool for nutritional disorders (deficiencies and similar) of wheat, barley, oats, triticale and cereal rye. It has a simple, easy-to-use format that enables farmers to quickly pin-point in-crop nutritional problems using a symptom search function. It does not provide information about potential management strategies.



The GRDC's Field Peas Ute Guide app provides comprehensive information on the management of eight varieties of field peas, from choosing the right variety for the particular paddock situation through agronomy, nutrition, diseases, weed and herbicide management to harvesting and marketing information. An additional 'symptom sorter' provides a straight-forward in-paddock tool for disease diagnosis, saving time and increasing the window of opportunity for corrective measures.

*For more information:*

- Follow SANTFA on twitter – @SANToTill
- 'Like' SANTFA's page on Facebook – Santfa – Conservation Agriculture in Action
- Listen to the 2013 SANTFA conference audio files, available on the homepage – santfa.com.au
- Check out Richard Heath's blog on the use of technology and apps in farming – www.farmingwithapps.com.au
- Issue 6 of the GRDC Ground Cover Supplement on Decision Support Tools provides an overview of currently available apps and online tools: <http://www.grdc.com.au/Media-Centre/Ground-Cover-Supplements/GCS106>



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