UNIVERSITY of FLORIDA
IFAS Extension

There Is a Safety App for That! – Some Useful Agricultural Safety Apps[1]

Michael T. Jensen[2]

Introduction

As reported by Pure Oxygen Mobile (2013), ABI Research has estimated that mobile technology users will download 70 billion apps in 2013. The word "app" is short for mobile software application. An estimated 58 billion apps will be downloaded to smartphones and 14 billion to tablets (Pure Oxygen Mobile 2013). Apps are available through different devices and their corresponding markets, including Android/Google Play, Apple iOS/Apple App Store, Windows/Windows Store, and Blackberry/Blackberry World. Each platform uses a different technology and development language, and apps from one platform are not compatible with another. Many apps are available in more than one platform, usually with the same functionality. Google Play is estimated to lead the market with about 800,000 apps (Jan. 2013), and Apple is close behind with a reported 775,000 apps (Jan. 2013) (Pure Oxygen Mobile 2013). Given the sheer volume of apps available, you can be sure to find some apps that make your life easier. You can also find apps that make your agricultural practices safer.

This publication explores key features in smartphones and some available apps that can enhance the safety of agricultural operations. The apps presented represent a small fraction of the apps available on various platforms. Including apps in this publication is not an endorsement of these apps or of their creators, but merely an overview of the types of apps available at the time of this publication. Please keep in mind that many apps are available that can perform the same function. You will need to download and evaluate the app and how it performs for your situation and your specific phone. Also, not all apps are free. Although most apps are free or have a nominal cost, some may require higher costs or subscriptions to continue to use them or to access advanced features.
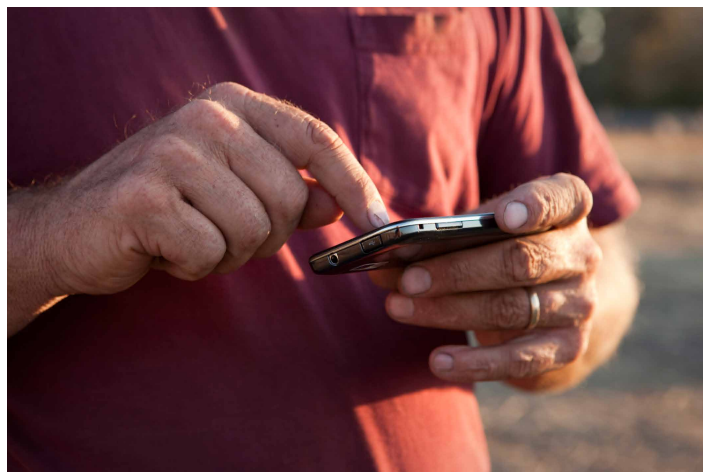

Figure 1. iStockphoto

Using Smartphones for Agricultural Safety

Safety in agriculture is more than a set of skills, tools, or equipment. It is a culture—a set of beliefs, practices, and attitudes that influence behaviors. With the volume and intensity of work in agriculture, it is easy to forget about safety. Agricultural workers may bypass safety features of equipment and processes to save time. These errors in judgment can result in near misses or injuries. However, you can use your smartphone's technology to increase your safety and your workers' safety and to protect your farming operation. If nothing else, taking a few minutes to look at electronic safety tools or apps can help you think about your farm operation and your worker safety needs.

Many smartphones share standard features that make them good safety tools. Each phone allows you to communicate. You can call, email, or text anyone at any time as long as you have a signal or data plan. Even old phones without an activated plan can still call 911 (Furchgott 2000). Two-way communications allow you the ability to account for the safety of your workers, provide instruction and information when needed, and call in an emergency. Another common feature to most smartphones is a calendar/clock feature. You can set alarms to alert yourself to appointments or elapsed time. One example of a safety application using the alarm feature is to use it for worker accountability. Setting a policy for workers to check in at designated times can help with safety and accountability. Using the alarm feature provides an easy way to remind workers and managers of checking in for safety.

Another standard feature of most phones is a web browser. Being able to access web information can help to keep workers safe. The phone can deliver "just-in-time" information that provides instruction for emergency response for first aid or even CPR. Web information can provide map data, chemical information, safety procedures, and mitigation strategies. It can also provide access to experts and put the answers to pertinent questions at your fingertips. Web browsing requires access to a data plan or a wireless Internet connection to be effective.

Most smartphones also have cameras built into them. These cameras are excellent tools for capturing electronic images of field conditions that you can quickly send or save. This can be a photo of the critter that just bit you or a picture of the sign or symptom of an insect or disease you need to identify. Workers can also document and share photos of items that need to be repaired for worker safety. Smartphone cameras can also be used to read "QR" (Quick

Response) codes. QR codes are two dimensional bar codes that contain information or data. Using a phone's camera and a QR code reader app, you can unlock the data in the code. QR codes can be used for storing and retrieving worker emergency contact information. They can also be used for links to websites or resources or to dial phone numbers quickly.

Apps You Can Use in Agriculture

The following list contains apps available in the Apple and Android markets that can help you keep your operation and workers safe. Links to the apps are included if available.

1. **Flashlight Apps** – One good app to have on your smartphone is a flashlight app. There are hundreds of these apps out there. These apps use the lighting of the phone's screen or video light to help illuminate what you need to see. Lighting makes a difference in agricultural safety.

2. **Pocket First Aid and CPR Apps** – There are a number of first aid and CPR tutorials and databases available to provide first aid instruction or response information. These provide clear instructions for first aid procedures using video and graphics, as well as CPR instructions.

3. **Weather Information Apps** – Numerous apps provide weather information, especially hazardous weather alerts. Some apps even provide lightning strike information and alerts to phones. These tools can help keep workers safe in the field. Using weather forecast data can assist in planning of personnel and resources.

4. **OSHA Heat Safety Tool** – Closely related to weather is heat safety. OSHA (Occupational Safety and Health Administration) has a free heat safety tool that provides vital information. The app aids supervisors in calculating the heat index for their work site and reports the risk level to outdoor workers based on the heat index. You can also access reminders about fluid consumption, scheduling breaks, adjusting working hours, and other heat safety information.

- Android: https://play.google.com/store/apps/details?id=com.erg.heatindex&feature=search_result
- iPhone: https://itunes.apple.com/us/app/osha-heat-safety-tool/id469229784?mt=8

5. **Hurricane from American Red Cross** – Emergency preparedness information is presented in this series of apps from the American Red Cross. Other apps in this series include Tornado, Earthquake, and Wildfire. These

apps provide safety and preparedness information for each hazard and map hazards for you to monitor.

- Android: https://play.google.com/store/apps/details?id=com.cube.arc.hfa
- iPhone: https://itunes.apple.com/us/app/hurricane-by-american-red/id545689128?mt=8

6. **Hearing Saver** – Hearing saver is a simple app that helps to control the volume on your phone's headset or Bluetooth headphone to avoid accidentally hurting your ears when plugging in or unplugging your external headsets. You can also find sound-measuring apps to help determine the need for hearing protection in the workplace.

- Android: https://play.google.com/store/apps/details?id=com.jakebasile.android.hearingsaver&hl=en

7. **Personal Protective Equipment** – Several apps can help you determine the level of PPE needed for specific types of jobs. Apps such as Arc Flash are free, and provide the OSHA-level personal protective equipment needed to protect workers from arcs and flashes.

8. **Ladder Safety** – This app by the National Institute for Occupational Safety and Health (NIOSH) provides visual and sound signals to assist the user when positioning an extension ladder at the optimal angle. The app also provides graphics and references for safe ladder use.

- Android: https://play.google.com/store/apps/details?id=gov.cdc.niosh.dsr.laddersafety
- iPhone: https://itunes.apple.com/WebObjects/MZStore.woa/wa/viewSoftware?id=658633912&mt=8

9. **iPests** – This app (created by UF/IFAS) is only available for the Apple platform. It provides identification of various household and field pests.

- iPhone: http://entomology.ifas.ufl.edu/baldwin/webbugs/ipest.htm

10. **Florida Poisonous Snakes** – This app provides photos and videos about the six poisonous snakes found in Florida.

- Android: https://play.google.com/store/apps/details?id=com.origintech.snakes&hl=en
- iPhone: https://itunes.apple.com/us/app/florida-poisonous-snakes/id331177720?mt=8

11. **ICE (In Case of Emergency)** – This is a personal information storage app that helps fire departments, law enforcement, emergency medical responders, or others access your emergency contact information and personal data, such as allergies, medications, or other information. This information should be available on the work site for each worker or volunteer, and it needs to be easily accessible in case of an emergency.

- Android: https://play.google.com/store/apps/details?id=seraphimserapis.ice&hl=en
- iPhone: https://itunes.apple.com/us/app/ice-standard-emergency-standard/id412786820?mt=8

12. **Safe Lifting Calculator** – An app that uses a modified version of the NIOSH safe lifting equation to calculate the relative risk of lifting an item.

- Android: https://play.google.com/store/apps/details?id=air.liftcalculatormobile

New apps are being developed every day. For example, the University of Missouri has a farm tractor app that will sense an overturned farm tractor or an accident, and then notify a predetermined set of contacts via text or email (Koc n.d.). This app, called VRPETERS (Vehicle Rollover Prevention Education Training Emergency Reporting System), is currently undergoing testing and is not available at the time of this writing, but it looks promising.

The author of this publication plans to provide updates to this article featuring ideas and suggestions about what safety apps are working for you. Please follow the link or the QR code below to fill out a short survey. Through the survey, you can identify and share agricultural safety apps you are using and offer your feedback on their usefulness.

http://www.surveymonkey.com/s/K8SF256

Acknowledgments

References and Resources

Davison, Janet. 2013. "Farmers Reaping Big Rewards from New Smartphone Apps." *CBC News*. Accessed June 2013. http://www.cbc.ca/news/technology/story/2013/04/29/f-farming-apps-mobile-technology.html.

Furchgott, Roy. 2000. "Old Cell Phones Can Still Call 911." *The New York Times*. Accessed July 2013. http://www.nytimes.com/2000/03/16/technology/old-cell-phones-can-still-call-911.html.

Hopkins, Matt. 2012. "10 Best Mobile Agriculture Apps for 2012." *Croplife*. Meister Media Worldwide. Accessed June 2013. http://www.croplife.com/article/26369/10-best-mobile-agriculture-apps-for-2012.

Koc, A. Bulent. n.d. "What Is VRPETERS?" *VRPETERS*. University of Missouri. Accessed July 2013. http://vrpeters.com/.

Pure Oxygen Mobile. 2013. "How Many Apps Are in Each App Store?" Accessed July 2013. http://www.pureoxygen-mobile.com/how-many-apps-in-each-app-store/.