



International Association for the
PLANT PROTECTION SCIENCES

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APPS FOR PEST IDENTIFICATION AND DIAGNOSIS OF CROP PROTECTION PROBLEMS

The Lucid software system is used to develop digital identification and diagnostic tools or keys that are then deployed on CD, DVD or online. The Lucid team at The University of Queensland has now developed a mobile edition of the Lucid player, allowing identification and diagnostic keys to be deployed as smartphone apps, initially for Android phones but with iPhone/iPad versions to follow shortly. This app development allows existing as well as new Lucid keys to be accessed “out in the field” either:

- Remotely, with all data and materials installed to the device, or
- As a hybrid model, where identification data is stored local to the device and supporting materials, such as images and fact sheets, are accessible via an Internet connection.

Two Lucid keys have already been made available on the Google Store – a free key to Insect Orders and a key to over 1,000 Environmental Weeds of Australia.

The screenshot shows the Google Play Store interface. At the top, there is a search bar and navigation tabs for 'SHOP', 'MY MUSIC', 'MY BOOKS', 'MY MAGAZINES', 'MY MOVIES', and 'MY ANDROID APPS'. The 'Insect Orders' app by LucidMobile is featured prominently. The app's icon shows a butterfly and a ladybug. A large blue 'INSTALL' button is overlaid on the app's image. To the right, a larger preview image for the app is shown, featuring the text 'Key to Insect Orders' and 'POWERED BY LUCID'. The preview image includes images of a butterfly, a ladybug, and an ant. At the bottom of the app card, there are tabs for 'OVERVIEW', 'USER REVIEWS', 'WHAT'S NEW', and 'PERMISSIONS'.

Other Lucid keys relevant to plant protection are in process of being converted or planned for conversion to apps: they fall into three categories – apps for biosecurity; plant protection diagnostics and Weed ID.

Biosecurity apps in development

A number of ID and diagnostic keys developed by the Identification Technology Program (ITP) of the US Animal and Plant Health Inspection Service (APHIS) are currently being converted to apps, including:

- Terrestrial Mollusc Identification tool;
- Tortricids of Agricultural Importance;
- Palm ID;
- Palm Symptoms;
- Palm Screening Aid to Pests;
- Citrus ID;
- Citrus Pests;
- Citrus Diseases;
- Federal Noxious Weeds Version 2.1

Details about the online version of these keys, as well as other keys developed by the ITP group can be found at www.idtools.org

Plant protection apps

A Lucid app is currently being developed to assist in the diagnosis of disorders that can be encountered in wheat crops in Western Australia. Two apps are planned for rice crop and sweetpotato diagnostics.

Wheat in Western Australia

A comprehensive Lucid wheat diagnostic tool that combines paddock and crop symptoms in one resource has been developed by the Department of Agriculture and Food in Western Australia (DAFWA). This resource is also being expanded to cover barley and canola. The wheat tool is currently online and can be viewed at <http://grains.agric.wa.gov.au/wheat>. This key is currently being converted to an app.

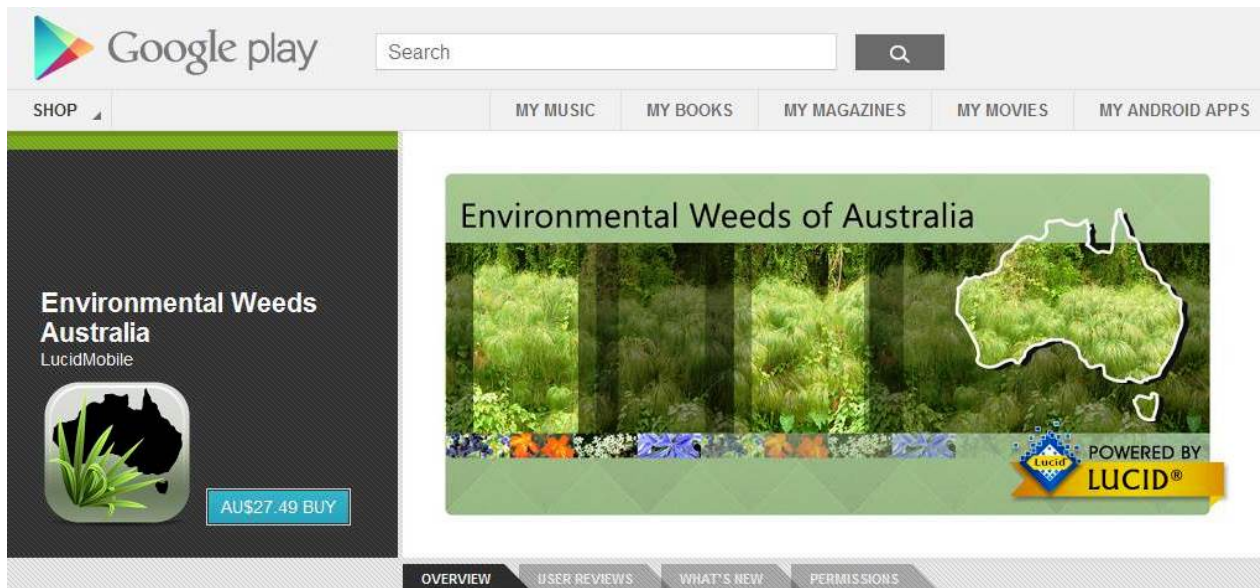
Rice and sweetpotatoes

Lucid diagnostic keys for rice and sweetpotatoes, developed by a number of national and international organisations and funded by the Australian Centre for International Agricultural Research and the Asia Development Bank, can already be viewed online. There are plans to convert both these diagnostic keys to a more accessible form as Lucid apps.

Weed key app

Key to Environmental Weeds of Australia

This key, developed at The University of Queensland, which is available as a DVD product as well as online is now also available as an Android app from Google Store. Environmental Weeds of Australia, which includes over 1,000 weed species, fact sheets and more than 10,000 images, is of relevance not only in Australia but also to many other sub-tropical and temperate regions of the world (see picture next page). The iPhone version will be available soon.



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IAPPS Mission: to provide a global forum for the purpose of identifying, evaluating, integrating, and promoting plant protection concepts, technologies, and policies that are economically, environmentally, and socially acceptable.

It seeks to provide a global umbrella for the plant protection sciences to facilitate and promote the application of the Integrated Pest Management (IPM) approach to the world's crop and forest ecosystems.

Membership Information: IAPPS has four classes of membership (individual, affiliate, associate, and corporate) which are described in the IAPPS Web Site www.plantprotection.org.

The *IAPPS Newsletter* welcomes news, letters, and other items of interest from individuals and organizations. Address correspondence and information to:

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