



# AGRIBUSINESS AND FOOD

THE AUSTRALIAN SYNCHROTRON: YOUR PARTNER  
IN PROBLEM-SOLVING AND INNOVATION

*'The powerful synchrotron beam was sensitive enough to detect trace metal and we were able to see iron, in incredible detail, for the first time.'*

---

## WORLD-CLASS RESEARCH SOLUTIONS

The Australian Synchrotron empowers industry to problem-solve and innovate, revealing how matter fits together, moves, interacts and changes, in a way that outshines what can be achieved in any conventional laboratory.

We partner with industry to achieve world-class breakthroughs in areas as diverse as supporting the development of effective treatments for Alzheimer's disease and reducing impacts of environmentally intensive practices, to boosting the nutritional value of food and gaining new insight into the efficient storage and transport of energy.

Our experts harness light, a million times brighter than the sun, to examine and analyse the structure and behaviour of samples in unprecedented detail, with precision, accuracy and speed not available elsewhere, helping industry partners to interrupt, boost and manipulate the most basic of processes to overcome technical hurdles and roadblocks and drive product innovation.

---

## WE PROVIDE A RANGE OF HIGHLY SPECIALISED AND UNIQUE SERVICES IN AGRIBUSINESS AND FOOD

### BIOFORTIFICATION:

- monitoring and optimising the effects of selective breeding by mapping the distribution of elements in plant tissue at micron resolution and determining the chemical valence and form (species) of metals in plants, crops and food products.

### SOLID STATE ANALYSIS:

- studying the crystalline phases involved in processing conditions such as thermal history and stirring, to optimise such conditions and control the physical state of fats in food such as chocolate, which are crucial to overall quality.

## WHAT OUR CLIENTS SAY ABOUT US

*'We had exhausted staining methods to try and highlight iron in the rice grain, but the powerful synchrotron beam was sensitive enough to detect trace metal and we were able to see iron in the endosperm, in incredible detail, for the first time.'*

*'We now have grants with HarvestPlus and World Vision Australia to move into the development phase of our project and grow iron-enriched rice in the field.'*

*Dr Alexander Johnson, School of BioSciences, Faculty of Science, University of Melbourne*

**WE PROVIDE FULLY-SUPPORTED  
ANALYTICAL SERVICES BEFORE,  
DURING AND AFTER YOUR  
EXPERIMENTS, INCLUDING:**

- identifying and tailoring effective synchrotron techniques for your sample to expedite detailed analysis
- delivering fast data acquisition from your sample, in unprecedented detail
- supporting timely data analysis and reporting.

**For further information on  
how the Australian Synchrotron  
can help you problem-solve  
and innovate, contact:**

Industry Engagement team  
t +61 3 8540 4232  
m +61 417 294 979  
e [industry@synchrotron.org.au](mailto:industry@synchrotron.org.au)

**Australian Synchrotron**

800 Blackburn Road,  
Clayton Victoria 3168

[synchrotron.org.au](http://synchrotron.org.au)

 @aus\_synchrotron  
 Australian Synchrotron  
 AustralianSynchrotron

