Trip Report – Richard Heath

World Agri-Tech Summit – Austrade Delegation

Summary

Thanks to a travel grant from CRDC (RRDP 1809) I was able to attend the World Agri-Tech Summit in San Francisco on the 20th and 21st of March as part of an Australian Agtech Delegation facilitated by Austrade. I participated in the full Austrade program which ran from the 18th to the 23rd of March and included visits and briefings in San Francisco and Chicago as well as the Summit in San Francisco.

The agenda and participant list for the Austrade delegation is attached. The only deviation from the agenda was the cancelation of the dinner in Chicago on Thursday the 22nd March due to a delayed flight from San Francisco.

Participants in the Austrade delegation included start-ups, research organisations, research funders, consultants and government representatives. Interactions between the group were extremely valuable and were a highlight of the trip.

The overall take away from the trip was an impression of the scale and pace of agtech innovation that is being driven by venture capital investment in the US. While venture funding of agtech is certainly not the only pathway for innovation in agriculture, the interest and attention it is generating is stimulating the entire innovation environment and pushing all other actors keep up. There was much discussion within the group about the implications of this interaction in Australia and how to best coordinate public-private partnerships and interactions to derive maximum value from agtech investment.

Sunday – Monday

The delegation started with a welcome dinner in San Francisco followed by a series of briefings and visits the following day.

The briefings provided information on how to do business effectively in the United States and were particularly targeted at those seeking funding in the US venture capital environment. It was impressed by all who spoke that if you were a business seeking funding from a US based fund then you almost had to base your business in the US to be successful. It was also made clear that your technology had to be globally scalable.

A visit to Just Inc. in the afternoon was a fascinating insight into how venture backed start-ups are pushing science and scientific discovery at a much faster pace than has been seen. Just Inc have received around US$310 million in funding with their primary aim to find plant-based animal protein replacements.

Tuesday – Wednesday

The World Agri-Tech Summit was attended by around 1000 delegates from multiple countries and diverse backgrounds. The summit sessions covered topics such as the funding environment, big data and barriers to adoption and heard pitches from start up companies including Flurosat from Australia.

Overall takeaways from the conference were the range of companies that were involved or attending including large multinationals such as PepsiCo and Amazon indicating the scale of the investment going into Agtech at the moment. Also evident and indicated by many of the pitches from start up companies, was that plant breeding has moved into the funding sphere of agtech. Again, this will mean that traditional plant breeding science gets pushed along in terms of what is expected in time to delivery and the types of products that can be delivered.

On Wednesday morning there was a breakfast session as part of the conference that was sponsored by the CSIRO and facilitated by Chis Oldfield, Consul General in San Francisco. The session also featured a panel of Australian speakers highlighting the opportunities for Agtech in Australia. I was invited to speak on the panel and talked about the size of the market opportunity that had been determined through the P2D project. There were about 100 people at the breakfast session and there was good engagement about the opportunities present in Australia.

Thursday – Friday

The mission travelled to Chicago for the last part of the week to visit three significant companies and investors.

Cultivian Sandbox are a large Venture Capital fund focusing on Agriculture. We had a lengthy, open and honest conversation with them about what they looked for in companies they were investing in and the message was similar to what we had heard in San Francisco. Ideally, they would be based in the US and would have globally scalable technology. Interestingly, Cultivian had performed due diligence in just over 2000 companies in the last few years and invested in only 23 of which half were expected to fail.

From Cultivian we went on the NuFarm where we toured one of their fungicide manufacturing facilities as well as hearing a presentation from Andy Thomas the CEO of NuSeed about the collaboration with CSIRO and GRDC to produce omega 3 canola.

The last visit of the week was to CaseIH where we met with their precision ag team who briefed us on the companies approach to open data systems and data codes of practice. It was refreshing to hear a very supportive stance towards open data and shared platforms which hopefully will permeate throughout the rest of the machinery world.

Summary

The following piece is a blog published on the AFI website which captures my views and takeaways from the week.

Venture capital funding of agtech is here and it is a weird and confusing place. Ever since the Monsanto acquisition of The Climate Corporation in 2013 there has been a frenzy of activity trying to cash in on the boom that is agtech. Silicon Valley is well and truly in love with agriculture and food - and start-ups who are going to solve the problems of the world through better and more sustainable farming practices are everywhere.

So, is agtech going to revolutionise what farmers do and are start-ups going to lead the revolution? Short answer: probably; long answer: probably not in the way that many of the pitches at the World Agri-tech Innovation Summit were suggesting.

First up, the interest, activity and investment in technology for food and agriculture is astounding. The summit had 1000 delegates from around the world with serious money on the table to invest. This is unambiguously a good thing. The ag technology sector is on steroids: paradigms are being challenged, assumptions shattered, and innovation is thriving. There is no question this will speed up the pace of development of new solutions for agriculture.

However, the funding model stimulating this growth is not without its issues, particularly for the end consumers of much of the technology being developed who are trying to make sense of the opportunities and develop strategies for technology use and purpose.

Venture capital operates on the assumption that many of the investments made will fail. To account for the failure rate, successful exits (venture-backed companies that get purchased) need to return 10 times the investment made to make up for the unsuccessful ones. This inevitably leads to an environment of extreme hype about the outcomes of the technology the funded company is developing. Unless you are going to 'save the world' with your business plan it is unlikely you will be an attractive venture proposition.

The problem of hype over substance is a real one and it is no wonder that farmers say they find the agtech space difficult to navigate.

There is no doubt that the companies which make it through this high-pressure funding environment will have to deliver truly transformative technology solutions or they will not survive. In this relatively early stage the trick is trying to sort the wheat from the chaff, the hype from the substance, so that farm businesses, research funders and policy makers can be prepared for what's coming and have appropriate strategies in place.

For what it's worth, here are my takeaways from the World Agri-tech Summit that are relevant to what farm businesses might be doing in five to 10 years' time:

1. Most of the benefits of agtech will be delivered as the result of systems or integrated approaches rather than the application of individual pieces of technology. Farmers are likely to interact with agtech through service-orientated or packaged systems, rather than just buying a black box which they have to sort out themselves.
2. Farming systems will adapt to make the most efficient use of incoming technology, rather than technology being applied to existing farming systems. The most obvious example of this is robotics and automation: a farm designed to run with a large amount of automation does not necessarily look like a farm reliant on human labour (particularly when labour is a constraint).

3. Plant breeding has become part of the agtech investment environment. With this sort of investment incentive, traditional plant and animal breeding will be pushed faster than ever before. Genomics and computational breeding are going to have much more potential to produce step change productivity improvements than many of the on-farm applied technology solutions.
4. Technology developers are all talking about the need for open data platforms and collaboration. Hopefully this is more than lip service and results in genuine change which leads to true data portability and functioning data markets. This will be one of the most critical things to get right to speed adoption and confidence to participate in digital agriculture.

So – will agtech start-ups save the world? I don't think that any individual product or company is going to suddenly make farmers more profitable and sustainable. But the new innovation environment being stimulated by the billions of dollars pouring into agtech is absolutely going to have a cumulative effect and deliver technology change faster than we have been used to. It's going to be a bumpy and unpredictable ride, but the outcomes will make it worthwhile.