

Key R & D Issues

How do we use new R & D ideas on farm considering the potential risk of crop failure?

1. Opportunity to improve on farm adoption, how will we do this?
2. Future research needs to be focused on agricultural issues.
3. Technology Transfer – broader industry job, this function is still considered important.

Industry is now 3 processors and 23 growers. It is likely to reduce to 2 processors and 10-12 growers, in the next 5 years, producing a total tonnage of around 350,000.

There has been a division in the past between processors and growers. Future research and development should be focused around a processor and their growers. “Vertical supply chain grouping”. This may help solve some of the current issues.

We need to have a shared vision, growers and processors

Supply chain focus could help achieve a shared vision.

Current main industry issues:

1. *Communication/supply Chain*
2. *Model Farm for R & D*
3. *Solids/Yield/other crops > agronomic factors*
4. *Dollars for both growers and processors*

Future Research Issues

Cultivars

Cultivar evaluation must continue to improve crop yield and soluble solids levels.

3 methods to assist with cultivar evaluation:

- Benchmarked field data
- Site/block strips
- Replicated trials - full row

85% of the current cultivars are Heinz. It would take a new company 4-5 years from now to get a new variety. There is no future in going to every seed company to conduct observation trials as the alternative varieties are not currently there. If seed companies wished the observation trials could continue but would need to be fully funded by the seed company. For a variety to be included in the full row trials the seed company needs to provide good data. Seed companies do not have a breeding program so the varieties may have been tested previously directly from the breeder and then renamed and retested again through the seed company. All information needs to be collected by seed companies and then passed onto the industry cultivar evaluation program.

Full row trials in the future to include 4 full row replicates, with a larger number of fruit collected along the row for Brix analysis. Grower may experience some inconvenience with a larger trial.

3 years is all that can be expected from 1 variety. Research needs to provide the information to help manage risk in commercial adoption of new varieties in a rapid timeframe.

Some varieties may require a different nutrient regime to achieve optimum yield and solids. Opportunities to link the cultivar evaluation project with the nutrition/solids project should be considered.

Agronomic Issues (Solids and Nutrition)

If you have a 'standard' season growing processing tomatoes by 'recipe' might work. Some factors are beyond your control, but difficult to do one trial to prove things. We need to find ways of managing the variable and risk factors in a better way. This would say if a grower did x then the expected outcome should be y. This has been achieved reasonably well in California and Israel.

No more basic research is required on nutrition and irrigation. A considerable amount of information is currently available but adoption needs to be encouraged. The level of risk needs to be managed to ensure a grower does not experience crop failure. Perhaps a commercial crop needs to be managed to incorporate all this information. A grower may need to be compensated for any potential loss that may be experienced.

We need to identify the high solid varieties and learn how to grow them to achieve higher yields. There are always some growers that get a high yield off a high solids variety. Issue with this approach, some varieties will never make big yields. I.e. Hz 9614 is a variety that is able to maintain solids at high yields where as Hz 9035 solids drop away as yield increases. Some varieties perform better with higher solids and yield on old ground versus new ground, or at different times of the season. Growers knowledge on these issues needs to be shared.

Shift in emphasis in how we look at yield and solids. Back a number of years ago the industry was focused on yield to get our yield up to Californian level, now the shift is to solids and yield SS/ha (\$/ha).

Rather than looking at crop yield or Brix per ha we need to be looking at \$/ha or soluble solids/ha. Growers focus needs to be on high yielding, high solids varieties to lift the overall efficiency of the industry.

Rotational Crops/Best Bet

Other crops, different growers have different aims in this area. Some growers are looking for a return from the rotational crop whereas other growers a looking for something that will improve the paddock for future tomato crops.

Growers are already doing a lot of work in this area but not in formalised research projects. To date nothing has been found which is a viable option. Maybe the industry needs a watching brief, growers will continue to try things. Encourage individuals to do this and seek funding, with results circulated to the wider industry.

This is more likely to occur as the industry further consolidates. This could be incorporated into the Technology Transfer project.

Possibly best to look at break crops that may improve the soil for following tomato crops. Green manures etc to improve soil for the following year needs to be evaluated. Research in this area is an extension of the current agronomic projects and may be done by individual growers as additional VC projects.

Technology Transfer

This project includes a broader industry role and is an important function.

Industry data needs to be collated, at least by each individual processor to enable growers to see how they compare in yield and solids. This would enable growers to look at the top ones and observe what are they are doing differently. Ideally it would be good to see growers share this info and discuss around the table. This process could be facilitated through the technology transfer project.

If growers can see a financial benefit to change practices then it will get adopted very quickly. Some of the growers that have not adopted the new technology and research outcomes may not have a long future in the industry. The industry will always consist of the leading growers with others following. As an industry we need to aim to lift the performance of all growers but we can expect some to still drop out.

Future focus of grower meetings should be based around processor and growers as processors appear to get good support for their meetings. This would assist both growers and processors to have a greater understanding of each others issues. This is potentially very valuable. Growers and processors need to understand each others needs regarding solids etc. Growers feel that in the past the goal post has been moved by processors when they have achieved a given target.

Information exchange/research. Data has been collected but is confidential and has not been utilised in the past. Maybe supply chain concept could help with this as processors can help enforce these issues.

Marketing/Supply Chain

Research into the market place should still be done, perhaps by individual processor putting \$ into research program. Growers need to supply tomatoes to the factory that the market place wants.

Research and Development Topics for 2006-2011

Major:

- Technology transfer – fund 1 full time position
- Cultivars
- Solids/agronomy
- Factory Operation (individual processor decision)
- Supply chain efficiencies (not so much of a research issue but a mechanism to improve current procedures)
- Market research (individual processor decision)

Minor

- Alternative crops
- Tomatoes and Health
- Pest and disease management
- Industry information
- Natural resource management i.e. water, salinity

Overall vision for industry:

"In meeting the quality expectations of local and international consumers with enjoyable, healthy and safe tomato based products, the Australian processing tomato industry will maintain its environmental and social responsibilities, and offer a fair rate of return to its growers and processors." (Need to included shared, together etc.?)