

**Bob Phelps – Gene Ethics Oral Evidence to
Productivity Commission Hearing 12/11/10 Melbourne
On Rural Research and Development Corporations**

<http://www.pc.gov.au/projects/inquiry/rural-research/public-hearings>

MR WEICKHARDT: We're now going to resume the hearings. Our first participants after that break are Gene Ethics. In a moment I'll ask you to introduce yourself in the capacity in which you're appearing. But can I say - I have read your submission - a large chunk of your submission to the previous inquiry really is not relevant to our terms of reference. So I'd like you to confine your remarks to things that are directly relevant to our terms of reference. I mean, we could have a long and interesting discussion about genetic modifications, but that's not why we're here. Therefore I want you to confine your remarks, if you can, to the matters subject to this inquiry. So if you could introduce yourself, please.

MR PHELPS (GE): Bob Phelps, executive director, Gene Ethics.

MR WEICKHARDT: Thank you.

MR PHELPS (GE): I appreciate your point, commissioner, but I think that part of your scope is what research and development and rural Australia should look like, whether it should be broad or narrow and who should do the work. So while I'll try to confine my remarks, I think there are some examples from the commitment of governments and research and development organisations to the genetic manipulation of crops and foods that are relevant as examples.

MR WEICKHARDT: Can I just correct you? Let's call it "gene modification," please, not "manipulation".

MR PHELPS (GE): Biotechnology Industry Organisation in the USA, of which our premier is a member, calls it genetic manipulation. Sorry to differ with you, but Monsanto has taken the view that we should call it "modification" because they want to argue that it's just an extension of traditional breeding, and it's a public relations term. It's not very descriptive of what really happens.

Your inquiry I think is about trying to scope out what rural research and development really means and who should do it, and we certainly agree that the long-term view of Australia's food future is crucially important. So our research and development should be a matter for the community as a whole. I draw to your attention Bob Katter's remarks in this week's Weekly Times (expressing his concern about the sale of Australian rural assets to foreign interests). They're relevant because InterGrain, the Western Australian public breeder, 20 per cent of that, which was previously owned exclusively by one of the RDCs, Grains Research and Development Corporation, and the WA government, is now 20 per cent owned by Monsanto. So that sell-off of public resources does influence research and development priorities, and I think should be within your scope.

We agree with you that it appears that decisions concerning individual programs are often made without sufficient regard to what the policy framework as a whole is intended to achieve. Taking that long-term and very broad view is really what I'd like to talk about today and how we arrive at the Australian public getting the benefits it wants from the very substantial federal government and state government investments in research and development. We have said in our submission, but I'll just quickly reiterate again, that healthy economies are based on healthy rural ecologies and communities and they're not produced in corporate laboratories.

Research and development should be simply complementary to valuing rural communities' provision of services, whether it's food and fibre production or looking after our environment, the fragile Australian environment, which is substantially covered by farming activities and rural and regional communities. It's claimed that these are non productivity related, but actually the environment, its assets, water and land are the basis of those productive activities, and without them our rural research and development would be irrelevant. So I don't think we can just focus on

yield, that we can just focus on productivity and ignore that, we need to also nurture those resources on which that productivity and those yields are based.

I think that research and development has to really give quite a bit of its attention and quite a substantial amount of its resources to a focus on how we make farmers into wonderful land managers, how we reward them for looking after that asset base, for future generations as well as this one. It's really crucially important that that be done. In your discussion about setting up Rural Research Australia to replace CSIRO Land and Water you say that it should encompass energy use as well as land and water matters. But I think too that rural communities, the people who live in rural and regional Australia and how those assets are managed is also crucially important and that should be part of the research and development picture as well.

We are very concerned that you mention Rural Industries Research and Development Corporation, RIRDC. When we look at what RIRDC does, it's a very broad suite of community-related enterprises and concerns, and, if RRA is established, while some of the activities of RIRDC might be transferred across, we are absolutely adamant that RIRDC not go the way of CSIRO Land and Water, that it does survive and that it has a legitimate role and a very important role to play.

It's all very well for the Department of Agriculture, Forestry and Fisheries to say, "Well, 80 per cent of our production is done by 20 per cent of the farmers and those are the ones that we cater for and they are the ones that we look to, but the fact of the matter is that most Australians are directly fed not by the production of commodities for export but by that 80 per cent of farmers who produce good, fresh, clean, green food for consumption within Australia and they need research and development resources as well. At the moment, in our view, they are grossly under-catered for.

The development of the organic industry, for instance, needs to be a priority. Governments make various promises and noises about that, but they haven't so far delivered on seeing how we can make food which is not harnessed to the agribusiness industrial machine, the high input agriculture which is now going to be limited by the end of oil, the end of phosphates, and global climate change. Those constraints need to be dealt with and we need to be looking at organic and beyond organic to see how future generations of Australians are actually going to be fed, housed and clothed from the Australian environment. I think that's the broad challenge and the long-term challenge.

We just made a submission - which I have given you a copy of - to the Grains Research and Development Corporation on their allocation of research, development and extension resources, and the development of these services for farmers and land managers to permanently and sustainably cope with adapting to and mitigating the effects of global climate change and resource depletion issues: oil, phosphates; synthetic chemicals, herbicides and pesticides, have got astronomically expensive and soon may not even be available; farm fuels as oil runs out will become more expensive and it will also be a challenge to run farms, certainly not in the way they are at the moment.

So we need to be researching and developing a transition to a different kind of agriculture for Australia and we need to begin that right now. In your thinking about this it would be good if you could bring that into the equation. One of the things in our submission to the Grains Research and Development Corporation concerned the knowledge that already exists. Farmers, particularly elderly farmers - and most of them are over 50 or 60 - are a repository of an enormous amount of information which is not readily available to anybody else.

The National Broadband Network I think should be part of your thinking as well, about how information is provided, not only from the official research and development side, which will feed into that and make available to farmers online, though NBN, information, but also be a way of gathering the collective knowledge and wisdom of the Australian rural and regional communities and making that available, particularly on a regional basis, to other growers and producers, people who are value-adding the produce that's actually grown. This is going to be a lot better than trying to continue producing mass commodities primarily for export. It's grand that we mine Australian

soils to feed 60 million people by sending vast quantities of unprocessed commodities overseas, but it's a bit like mining out minerals - you know, it has got a limited life, it's a limited resource - and we are going to be much better off thinking strategically about food sovereignty for Australians for the future as well. We need real solutions for family farmers, land managers and other producers, not false promises. So we agree with you that it appears likely that the government's very significant funding contribution has induced only a modest overall level of genuinely additional research. I think that is really true.

The research and development that farmers and land managers could actually do needs to be nurtured as well and needs to be taken into account in this while mix. I think the official stream of money for research and development is often poorly spent and, you could say, wasted perhaps. As an example, one of the problems of course is the intrusion of corporations into this equation, as I have just mentioned a minute ago with InterGrain in Western Australia. Monsanto has got 20 per cent, the government has still got 54 per cent, but Monsanto is committed to buying up to 26 per cent, which, between GRDC and Monsanto would give them a majority if they chose to exercise it against the interests of the government in Western Australia. Relevant to genetic manipulation is the observation by Prof Adrienne Clarke of Melbourne University, who says that foreign seed, chemical and food processing giants already own the patents on most of the genes of interest for crop development.

This is why we feel pouring more money into a technology, which has primarily corporate goals, rather than into the interests of farmers is a waste. Billions of dollars have been spent over the last 25 years by Australian governments. Just one example was Warren Truss between 2003 and 2005 saying that some \$1.29 billion had been spent on gene-manipulation research and development in that period alone. So an enormous amount of money has been invested or spent; I would say wasted. However, there is no mechanism for reality testing this, because governments have decided that gene technology, and now nanotechnology, are engines of economic activity; and that mantra remains unquestioned, it seems. It's picking winners. It's what you actually counselled against on page 19 of your paper, where you say:

"The risk that governments will assume too great a role in directing outcomes, or attempt to 'pick winners'."

That is the problem with the current situation with the current funding arrangements, that they have picked winners and they have got a loser on their hands in gene manipulation and they, somehow or other, have never reality tested it and can't see that the money that's going to it is wasted, because it's still being driven along by false promises of things like drought tolerance, salt tolerance, more nutritious food, nitrogen fixation and grains, and a whole raft of other promises, which, in our view, cannot come true because they are multi-genic traits, they depend on a relationship of genes and the simple cut and paste gene manipulation does which has delivered Roundup tolerance and Bt single genes transfer cannot work for multi-genic traits.

MR WEICKHARDT: If I could just ask you to bear in mind that not all the money that's being invested in this area is being invested directly by government. Quite a lot of it is being invested by RDCs, and those RDCs have presumably decided, because they're being directed by their levy payers, that it is worthwhile putting some money into this area.

MR PHELPS (GE): Not only their levy payers, they all have partnerships, contractual partnerships with gene manipulation companies. So that's I think where the push comes from. When we look at it in fact we see - from the figures that you provide in your paper - that as little as 7.1 per cent of the research and development budget, after tax concessions, is actually contributed by corporations. But I dare to say in the case of GM cotton and now GM canola that the vast majority of the benefits actually accrue to those corporations, even though all they did was provide the rights to their genes, which were then incorporated into local varieties by Australian researchers using Australian research and development money, and then the companies have the hide to charge a technology fee to the seed, require people to use their chemicals and then charge an end-point royalty on the harvest as well. So the research and development is being skewed.

MR WEICKHARDT: I invite you to read the transcript of Cotton Australia, who appeared in Canberra - or Sydney, I've forgotten which - and the Cotton RDC submission. Both of them would say that GM cotton has been the salvation of their industry, it wouldn't be here if it were not for that, and they seem entirely happy with the outcome that they have received.

MR PHELPS (GE): Right, so their farmers don't mind paying \$315 a hectare end-point royalty to Monsanto?

MR WEICKHARDT: They didn't say that. They said their industry wouldn't exist if it weren't for that.

MR PHELPS (GE): Yes, because they were polluting the Australian environment with synthetic chemicals and they needed to do something about it.

MR WEICKHARDT: Correct.

MR PHELPS (GE): Which they have done in the short term. We'll see whether it's sustainable or not. Another point that you make, with which we very, very strongly agree, is that:

“As a condition of receiving government funding, RDCs should use government funding solely for R and D and related extension purposes and not for any marketing, industry representation or agri-political activities.”

That is spot-on. That is what the principles should include. We strongly support it.

But the situation now - hopefully it can become like that - is that this year the federal government has put \$38.2 million into NETS, the National Enabling Technologies Strategy, to promote gene technology and nanotechnology. Agrifood Awareness was set up a decade ago jointly by the Grains Research and Development Corporation which puts \$100,000 a year, at least - that was the initial figure - into Agrifood Awareness which is purely for promoting gene manipulation. It is done jointly with CropLife which is the peak body of the agrichemical and GM industries, and the National Farmers Federation. I think that that is an irresponsible use of research and development resources, to promote a technology and to try to back winners; that's really what they've done - the thing that you've counselled against. Another example, AusBiotech which used to be the Australian Biotechnology Association, was a scientific organisation, was transformed into a promotional body for GM. \$450,000 of federal government money was allocated to the establishment of that organisation and I'm sure that they continue to be supported, and so on.

The Victorian and Queensland premiers' offices both belong to the group, Biotechnology Industry Organisation based in Washington DC that promotes GM worldwide on behalf of the US government and US corporations. Our premiers are full members of that organisation and an organisation which uses the term "gene manipulation" not modification.

So we strongly support and back your principles for moving in the direction of research and development meaning that, and not meaning backing winners, and not meaning promoting particular technologies politically and through the public domain. You also say, and again we support these things:

"Invest in a balanced portfolio, including longer-term, riskier and potentially higher reward research."

That's really what we would take to mean those things about the environment, communities and the other things that support farmers out on the land to actually do what they do and we really want to emphasise that as the long term, sustainable. We have a responsibility to bequeath to future generations this environment, even in a better condition than we found it, if we can, and I think that should be a substantial function of our research and development push.

Timely adoption of research results - to come back to our presentation to the Grains Research and Development Corporation. The national broadband, Wiki sites which allow people to actually post information to debate, to put ideas up there, real community engagement - that's how we're going to get good research and development priorities set and real good outcomes that can be implemented by rural communities on behalf of the whole community. There's an enormous amount of interest now in food and farming issues and I think that some kind of vehicle like that - the National Broadband Network - is promising rural communities access. It's going to be fast but what's it going to be used for? Getting that information out there and up there and into people's hands where they can really use it and where it can be tested and subject to debate and so on. That, I think, will be really, really good for the future.

You mentioned promoting effective communication with industry stakeholders, researchers and the government. The interested public needs to be factored in there too, please. We are paying for it and we need to be engaged. You also say,

"Information on private funding for rural research and development is particularly limited,"

and we agree again that needs to be remedied. It's very small at the moment but in our view the corporate partners of the people who are doing the research and development are disproportionately the beneficiaries of this. You say also:

"Whatever the total funding commitment, using that funding solely to support the activities of industry-specific RDCs is highly unlikely to provide the best return to the community."

Yes, again, that's why we support the establishment of a new research organisation and it's funding, but again qualified by saying that the Rural Industries Research Development Corporation which has primarily a public-good charter, needs to be kept there as well. Please don't give our government an excuse to shut down another important research and development organisation, as they did virtually unilaterally with CSIRO Land and Water.

Community engagement, yes. If the public is not heard, then the lessons won't be learnt. I think that's the thing, this community, we are a scientific community, science is highly valued but, as we mention at the end - and this is a problem - those corporate partners, as has been found in the USA extensively, can influence priorities and can squelch findings that are not to their liking. Both the Nature Biotechnology and Scientific American, as we quote there in my notes, wrote editorials and extensive informational pieces last year showing that the constraints imposed on, for instance, access to genetically manipulated seed for independent research purposes was meaning that the information about biosafety and environmental impacts simply wasn't becoming available. What little research was being done was finding negative impacts, but wherever it could, the GM industry was denying people access to the materials they needed to do the research and, secondly, if the research findings weren't to their liking, was denying them the right to publish.

Now, I'm not saying that that is happening in Australia, but I think that these are the kinds of influences which we maybe don't hear much about unless a group of very brave scientists speak up; that we are not hearing or getting the full picture about not only that, but other technologies. I think of no till, for example, which is now starting to fall over in the USA, still being embraced by a lot of farmers here and we haven't yet realised the negatives on that. We need to be looking at the environmental and public-health impacts as things as a part of our normal research and development priorities and funding, as well as looking at whether something works, whether it's productive and effective or not. We need a much broader suite of criteria when we're considering whether research and development is needed or should be done. Thank you.

MR WEICKHARDT: Thank you very much indeed.

DR SAMSON: I'll just focus this question on the GRDC because it's the organisation you've referenced the most and it is typical in its structure and its operation of the statutory corporations. In terms of our inquiry, do you feel there is something inherent in the structure and the operation of an entity like the GRDC that is producing skewed outcomes or are we saying that the existence of a skills based independent board comprising a whole cross-section of expertise is simply producing answers you don't like?

MR PHELPS (GE): They need to be open to public critique. They are publicly funded and they're not open to public critique. The reason we made comments, even though we have been engaging with them for the last 20 years and getting their publication every two months and seeing that Agrifood Awareness gets a page every edition to put its point of view in favour of GM that they are locked into relationships with corporations and with interests that have made a commitment to promote gene-manipulation technologies, for instance, without challenge or discussion. Recently, of course, with your inquiry going on and with other questions about research and development coming up in the public domain, they finally have put out a discussion paper which we have responded to and we appreciate the opportunity to have done that.

But that should have happened all along and we should have been able to engage. We never were. The doors have been shut to us constantly. I think that is what needs to be remedied, that we need to breathe a breath of fresh air through all these institutions. I could mention the place at Bundoora, the state government, we want to go and meet German Spangenberg and his collaborators there. We can't get an invite. They won't answer our calls. We have sought to meet the people at GRDC. We have had a couple of meetings with the NFF who are also committed to this and are a sponsor of Agrifood Awareness but in very limited ways. It just needs to be opened up so that all this public money which is being spent has some priorities attached to it that the community has a say.

Ultimately, we're the ones, not only paying, of course, but who also have the benefit of the outcomes of the productive activity and I think we're partners in that way and should be partners in all aspects. The Plant Functional Genomics Centre in Adelaide is another one that we've tried to engage with without too much success, although, again, about a month ago we got a response finally and an invite to actually go and meet the people there, which is good. So there is a new breath of fresh air and you're part of that and I think that a report which emphasised community benefit, community engagement and participation would be really very helpful. Did I answer the question?

DR SAMSON: I guess I'm still not sure - if you had a magic wand, in terms of how the RDCs are structured, how the boards, at least of the statutory ones, are comprised, is there anything in the organisation and structure that you will change or is what you're looking for a behavioural change of the existing structure?

MR PHELPS (GE): It's a mind-set change and a behavioural change. These organisations all have their critics and we see, of course, the pushing and shoving about wool at the moment and wheat with AWB being sold off and so on. There are all sorts of debates and discussions but none of them are really open. You've got decisions being made by small coterie of people who have particular interests who are able to exclude their critics, and it's not healthy.

MR WEICKHARDT: You mentioned no-till farming falling over in the United States. We would have had multiple people referring to no-till farming in Australia as being one of the greatest steps forward and innovations that has occurred. What do you say it's falling over and what are the lessons?

MR PHELPS (GE): There has just started to be a discussion and debate about what really is going on. But one of the problems appears to be, of course, as usual, overdoing a good thing. If you go spraying the same chemical year after year, as you do on GM crops if you've got Roundup Ready, you keep spraying Roundup, then you get resistant weeds. In Southern USA they've now got weeds that break farm machinery, they're pulling them out with grubbers and their hands, for

instance. The perturbations and soil microflora, blooms of all sorts of pathogens as a result of just doing the same thing time after time. But, of course, you're right, these things take time to come undone, to be seen to do the damage that they do. But we ought to get warnings. Chris Preston, weed scientist from Adelaide, is now talking every couple of weeks in the rural media about which rye grasses or other plants are resistant to a whole raft of different chemical herbicides.

These are expensive problems. Australia spends something of the order of \$5 billion a year on weed management, most of it on synthetic chemicals at the moment. That option won't be available after a while or it will become astronomically more expensive than it is at the moment. We have no way of, for instance - he can give all the advice he likes but many farmers ignore it. They will, because it's easy, to put in the herbicide-tolerant crop and just spray the same chemical. That's the signal that the system sends, you know, "Here we've got a great answer to your weed problems, all you have to do is spray everything out and then you're home free." Ecological systems are not that simple and yet people, because they are marginalised," as Bob Katter says real farm incomes have halved over the last 30 years. People are at the end of, "What can I do next to try and survive out here?" So here's something that promises to be easy and trouble-free but the trouble has come along later.

We now know from North American experience since 1996 that these things do have dramatic impacts after a while. You don't see them straight away, that's the thing. But we should be knowing that. That information should be available.

MR WEICKHARDT: I accept that cautionary tale. Of course, that applies to any change, including some of the ones you're advocating, so I guess it does suggest that you proceed cautiously, you experiment and you observe over a long period of time.

MR PHELPS (GE): Yes, and you use the collective wisdom of those people who have already been doing it for a long, long time, all their working lives, perhaps. If you can collect that and make that available somewhere - that's why I'm passionately keen on this idea of using the Internet for that purpose. Getting this (GRDC Ground Cover magazine) every couple of months is helpful and they have a lot of other stuff, but if there was a truly interational situation and rural people didn't feel so isolated - that's why the government is so keen, I think, to get the national broadband going and that we could have a real debate and discussion, both in the cities and in the country, about what should be happening, it would be, I think, a breath of fresh air.

In the discussion about the population of Australia, we might also think about making a priority category a new wave of those small-scale producers who came in the 50s and 60s and went on the land and value added products and are still - I go to the farmers markets, half the people there are those older folk who have been doing that agricultural activity for all that time sustainably, value adding their products, producing a great product and now marketing it direct to their customers and we need them to be replaced. Most of the people in the city are not interested in going and being a farmer but there are plenty of people around the world that's their life, that's their expertise and maybe we need a new influx of people to populate rural regions to do science based, well thought out activities that will feed and clothe and house future generations of Australians without wrecking the environment and having a good future for Australia. We need that big picture goal in order to see where we should go, whereas at the moment the agenda is more yield, more productivity, more inputs, how do we deal with the higher prices of the scarcer inputs - like the fertiliser price goes up 500 per cent, what do we do?

Those are the practical things that research and development could try to look to and there are many ideas: natural sequence farming, keyline even which has been around for a long time which hasn't had much attention. Maarten Stapper, ex-CSIRO, working on soil organisms and other laboratories doing soil testing to get people's soil right, you know, to get those resources really working for us without being dependent on inputs of synthetic chemicals, fertilisers, herbicides and pesticides.

We need a new vision.

MR WEICKHARDT: Thank you very much indeed for your input. I appreciate you taking the trouble to come along.

MR PHELPS (GE): I hope it was helpful. Thank you very much.