

DAFF Science Delivery
Follow-up from Audit

November 2014



DAFF Science Delivery Audit

Findings	Recommendation	Status as at November 2014
<p>1. <i>Current science delivery business model</i> Model of collaborative co-investment with industry, universities, federal and other state government agencies is appropriate, but presents risk to highly leveraged science programs, for example the grains program relies on industry for more than 70 per cent of its funding.</p>	<p>1. Retain the current core strategy of collaborative co-investment in the science delivery programs of ASQ and BQ within the available funding envelope.</p>	<p>The department continues to strengthen the co-investment model in research and development (R&D) improving the ratio of government to external funds in all areas. The higher leveraging of grains RD&E is to be celebrated as an example of an industry being well organised in its approached to RD&E.</p>
	<p>3. Immediately seek high-level engagement with the Grains Research Development Corporation to address the following concerns:</p> <ul style="list-style-type: none"> ○ exposure of highly leveraged grains RD&E programs ○ inadequate capacity to deliver on high-priority projects because of lack of capability in key areas ○ need for decisive and responsive program leadership ○ DAFF's commitment to implementation of the National Primary Industries Grains RD&E Strategy (see above). 	<p>Discussions with the Grains Research Development Corporation (GRDC) have highlighted the excellent matched industry funding coming from the grains industry and with that the realisation that this is the norm rather than a concern. This enables a greater depth of work to be conducted than is achievable in other industries.</p> <p>The department has moved to remove itself from low priority areas with GRDC; for example, barley and wheat breeding has been transferred to the private sector and DAFF is focussing on industry priority positions such as regional agronomist and succession positions in entomology and plant pathology.</p> <p>In a program leadership sense the resignation of the previous General Manager of Crop and Food Science and the Science Leader, Farming Systems has provided the opportunity for leadership change</p>
<p>DAFF research, development and extension (RD&E) is heavily focused on primary production, with relatively little resource devoted to the post-farm gate value chain.</p>		<p>DAFF remains committed to the National Primary Industries RD&E Framework Grains RD&E strategy and has been supported by GRDC in its approach. DAFF is taking national leadership for mechanisation, automation, robotics and remote sensing.</p>

<p>DAFF's outsourcing of most of its sugar RD&E to Sugar Research Australia (SRA) has worked well in the past, but future use of this investment to advance government priorities may be compromised by industry moves to merge BSES and the Sugar Research and Development Corporation (SRDC). We are especially concerned about the potential conflict of interest in creating an organisation that both funds and conducts research.</p>	<p>4. Actively participate in discussions of the industry-sponsored proposal to merge SRA and SRDC to ensure that DAFF's investment in science delivery to support the sugarcane industry continues to be aligned with Queensland Government priorities; provide leadership in revision of the national RD&E strategy for sugar.</p>	<p>DAFF investment in sugar cane R&D has increased by \$4.6m over four years giving a total investment of \$16 million for the period 2012/13 to 2015/16. A very satisfactory relationship exists with the newly formed Sugar Research Australia (SRA). A quality project portfolio of the State Government's investment has been developed and SRA is providing high quality reporting back. The joint revision of the Sugar National RD&E Strategy between SRA and DAFF is well advanced.</p>
<p>Secondment of 34 DAFF senior research staff to QAAFI is a favourably regarded work-in-progress with substantial potential benefits, but also significant risks, including the possibility of drifting from DAFF priorities, which must be actively managed by DAFF leaders.</p>		
<p>DAFF's reliance on other state agencies (especially DSITIA) for environmental sciences capability reduces the likelihood of duplication within government and increases interdepartmental understanding, but is vulnerable to changing priorities of other departments.</p>		
<p>Separation of the management of policy and industry development within the Agriculture & Forestry division from science management in Agri-science Queensland (AQ) and Biosecurity Queensland (BQ) may pose a future risk due to senior staff turnover and loss of existing intra-departmental networks.</p>		
<p>2. Resources and capabilities</p> <ul style="list-style-type: none"> Recent funding cuts have damaged staff morale, especially in BQ which had sustained steady growth since its formation in 2007. 	<p>7. Closely monitor the new science management structure within BQ to ensure that resources and priorities for R&D programs are not diluted by pressures of the non-R&D functions of BQ.</p>	<p>Science R&D in BQ is directly aligned with Program objectives. BQ is committed to a strong R&D capability that underpins policy development on biosecurity matters. BQ is exploring new funding strategies for R&D as part of its program for renewal such as the co-investment model currently in place for the Invasive Plants and Animal Program.</p>

<ul style="list-style-type: none"> Recent and pending losses of experienced, industry-savvy senior staff have raised widespread industry concerns. 	<p>6. Develop succession plans for replacement of key science capabilities and leadership in ASQ and BQ.</p>	<p>In ASQ the four branches have succession plans for key positions. These work well when officers give lengthy notice of retirement or resignation but often fail when Senior Officers depart without notice.</p>
<ul style="list-style-type: none"> Lack of capability in key areas (for example, in field crop agronomy, and plant pathology) is jeopardising substantial industry funding. 	<p>8. Strongly encourage BQ science leaders to explore collaborative opportunities with the new CSIRO Biosecurity Flagship (for example, marine biosecurity) and The University of Queensland School of Veterinary Science (for example, diagnostic services).</p>	<p>BQ is actively exploring collaborative opportunities and engagement with: the CSIRO Biosecurity Flagship (Advisory Board membership); Invasive Animals CRC (Program Leadership and Project input) Plant Biosecurity CRC (Project Collaboration) for plant disease diagnostics; QAAFI, UQ and JCU Vet Schools (regular discussions and project involvement for R&D on biosecurity issues especially for improved diagnostics).</p>
<ul style="list-style-type: none"> The change from regional to central management of research infrastructure with direct responsibility to the Managing Director of ASQ has enabled appropriate consolidation of infrastructure and improved linkage of resource management to science delivery needs. 	<p>5. Retain the current model of centralised management of infrastructure with direct responsibility to the Managing Director of ASQ and continue the consolidation of research infrastructure, including disposal of underutilised assets and co-location with other science agencies.</p>	<p>Centralised management of DAFF's Research Infrastructure has proven highly efficient via uniform practices and management systems at each site. The four year rationalisation and revitalisation program of DAFF's research facilities to identify underutilised sites and assets is almost complete. However, the Department will continue to review the usefulness of sites particularly via its 10 year Infrastructure Plan. A shift in departmental policy sees infrastructure being made available for private sector and university research on a fee for service bases as well as for departmental research purposes.</p>
<ul style="list-style-type: none"> Reduction of library staffing to four full time equivalents (FTEs) is sufficient to provide vital services to DAFF scientists - providing the responsibilities of this group are confined to advanced information technologies, management of electronic subscriptions and curation of valuable holdings of unique historical and other documents. 	<p>9. Endorse the plan to retain a reduced (four FTEs) library services capacity focussed on advanced information technologies, management of electronic subscriptions and curation of valuable holdings of unique historical and other documents.</p>	<p>A successful Research Information Services group consisting of four FTEs is now operating out of the EcoScience Precinct replacing the former library service. The group is funded by both Agri-Science Queensland and Biosecurity Queensland in order to retain this service.</p>

<p>3. Alignment with state and federal priorities</p> <ul style="list-style-type: none"> • DAFF's science delivery focus on agricultural productivity and biosecurity is well-aligned with the Queensland Government's policy of growing a four pillar economy, including agriculture, and its target to double Queensland's food and fibre production by 2040. 		
<ul style="list-style-type: none"> • Commitment to and alignment with the National Primary Industries RD&E Framework is uneven across industry sectors, with greatest progress towards implementation in beef and horticulture where DAFF staff have positions of national leadership. Industry leaders have questioned DAFF's commitment to the grains strategy while progress towards final agreement on strategies for sugar, forestry, and plant and animal biosecurity has been slow 	<p>2. Review the state's commitment to and alignment with the National Primary Industries RD&E strategies for beef, grains, horticulture, sugarcane, and plant and animal biosecurity, and meet with leaders of relevant research and development corporations (RDCs), Plant Health Australia and Animal Health Australia to review and confirm priorities and directions.</p>	<p>DAFF has led a process within the National Primary Industries RD&E Framework to review all 22 strategies both cross sector and commodity based.</p> <p>The review will be an ongoing process. As each strategy is reviewed this provides an opportunity for Queensland to restate its commitment and adjust its alignment in terms of its investment and support. Currently the Mechanisation, Automation, Robotics and Remote Sensing (MARRS) sector is being reviewed as to the possibility of it becoming a strategy. All strategies vary in their robustness and activity. DAFF remains committed to maximising the performance of each strategy.</p>
<ul style="list-style-type: none"> • The Government's recent allocation of \$4.8 million for research and development (R&D) on pulses seems to be at odds with the Grains Industry National Research, Development and Extension Strategy. 		
<ul style="list-style-type: none"> • Recent cuts in RD&E programs are aligned with the national framework, for example intensive livestock production, Wormbuster (sheep) program. 		

<p>4. Performance</p> <ul style="list-style-type: none"> DAFF is fortunate in having a corps of high-performing, nationally prominent senior managers and science leaders. However, some stakeholders are concerned about a number of key roles filled by acting managers, with perceptions of inaction. 		
<ul style="list-style-type: none"> Major stakeholders are generally satisfied with responsiveness and industry relevance of DAFF science delivery and complimentary about science quality, but commented on the need for more rigorous scientific and economic evaluation of project outcomes. 		
<ul style="list-style-type: none"> Motivation and performance of DAFF scientific staff have greatly benefited from the Scientific Progression Scheme for promotion of officers consistently performing to competencies above their grade. 	<p>10. Reinstate the Scientific Progression Scheme to enable retention of high-performing officers and boost staff morale, motivation and productivity.</p>	<p>The Scientific Progression scheme is no longer supported by the Department. DAFF HR is accessing ways of providing incentives and rewards that will attract and retain high performing employees through Award Modernisation policies.</p>

<p>5. <i>Alternative science delivery models</i></p> <ul style="list-style-type: none"> • QAAFI is considering expansion to strengthen some areas (for example, horticulture and plant breeding) and add new capability in others (for example, entomology, animal nutrition and biosecurity). 	<p>11. With regard to QAAFI:</p> <ul style="list-style-type: none"> ○ quickly negotiate a more flexible funding agreement that will enable extension of the current program of work and eligibility for external funding into the future ○ delay any decisions about increasing DAFF investment until after the three year review in 2013 ○ as part of the three year review, benchmark with the Tasmanian Institute of Agriculture ○ develop and implement robust governance mechanisms to ensure that QAAFI's work plans reflect Queensland Government strategic priorities for agri-food R&D, and that QAAFI research outcomes are linked to DAFF's science delivery platforms. ○ will be trialled and evaluated in the priority sectors of beef, grains and horticulture before implementation, beginning with grains which already relies significantly on privatised services. 	<p>The mid-term review of QAAFI has been completed. With a very satisfactory review provided by the reviewers.</p> <p>A new five year rolling Funding Agreement is currently in an advance stage of negotiation. This Agreement will see staff transitioning from staff being employees of the Department on Leave without Pay to being employed as university staff. The rolling Agreement gives the University of Queensland greater certainty around offering long term contracts to staff and funding bodies requiring long term commitment from UQ.</p> <p>Any increased investment beyond Stage 1 has been delayed while the new Agreement is being developed. But significant discussions have held to agree on what Stage 2 will comprise. Significant effort is being put to an effective reporting mechanism that makes outputs and outcomes from the State Government investment to QAAFI very transparent. University investment will be included in the department's RD&E plan</p>
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<ul style="list-style-type: none"> • Models adopted elsewhere for delivering state-supported agricultural RD&E include outsourcing of all functions to another institution (as done in Tasmania), co-funding of R&D positions with universities and CSIRO and partial outsourcing of extension to industry (seen in Victoria), and reliance on knowledge-based e-extension (as has been done in Western Australia, South Australia). • “Train-the-trainer” approaches have largely replaced traditional extension models in some United States Land Grant Universities, for example the Cornell University Pro-Dairy program. Key elements of this approach are: <ul style="list-style-type: none"> ○ fewer, well-paid, highly-trained extension specialists with high industry credibility ○ ability to work in interdisciplinary teams to address regional or state-wide issues ○ the inclusion of strong capability in business and whole-farm systems management ○ enablement of translation and delivery of R&D outcomes by continuing education and advanced training of consultants, agribusiness personnel and producers, often on a fee-for-service basis ○ that it does not provide service to individual producers except to demonstrate and evaluate changed practices for a wider audience 	<p>12. Transition the current mixed model for extension to a leaner, more highly skilled “train-the-trainer” model which:</p> <ul style="list-style-type: none"> ○ is focused on productivity, profitability and resilience of Queensland’s major agricultural industries ○ has credibility with researchers as well as industry ○ gives priority to the advanced training and continuing education of private consultants, agribusiness professionals and producer groups, using e-extension as part of its delivery mechanisms ○ facilitates producer-led discussion groups to share and promote best practices ○ has strong capability in farm business and systems management ○ will form the link between R&D outcomes and conversion of these outcomes into formats and communication packages to maximise delivery to producers - either directly or through industry consultants 	<p>The current departmental situation is that industry development officers continue to provide regional and commodity services particularly in horticulture, grains and cotton in cases where private sector market failure exists.</p> <p>Intensive livestock industries is an area where the Department has largely exited because of the ability of large private sector enterprises to provide their own technical expertise. On the other hand the vast beef pastoral areas and almost 20,000 producers has required a different model where the FutureBeef extension program is relying on a significant on-ground presence with 34 staff using e-extension methodologies with support from Federal Government Reef Plan funding to provide a network that is improving productivity and environmental practices in Queensland’s largest agricultural activity.</p> <p>DAFF continue to test a model where we provide incentive to the private sector by co-investing in the career development of recent graduates. A trial was set up with two beef extension officers being employed and trained by the private sector in Central Queensland on a two year basis before returning to the Department. Both officers have now resigned from the Department to work within the industry in a non-government capacity. This is a successful outcome.</p>
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