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Committee Secretary  
Senate Education, Employment and Workplace Relations References Committee  
PO Box 6100  
Parliament House  
Canberra ACT 2600

**Inquiry into higher education and skills training to support future demand in agriculture and agribusiness in Australia**

Dear Committee Secretary

The Australian Veterinary Association (AVA) is the national organisation representing veterinarians in Australia. Its 6500 members come from all fields within the veterinary profession. Clinical practitioners work with companion animals, horses, farm animals, such as cattle and sheep, and wildlife. Government veterinarians work with our animal health, public health and quarantine systems while other members work in industry for pharmaceutical and other commercial enterprises. We have members who work in research and teaching in a range of scientific disciplines. Veterinary students are also members of the Association.

Veterinarians have an important role in agriculture and agribusiness. They are generally seen as clinicians but have a wider role as participants in the overall production chain. The AVA has expressed concern over many years regarding the shortage of veterinarians in some rural areas. We are also concerned about the shortage of agricultural scientists and the difficulties in attracting suitably qualified students into agriculture.

The attached submission addresses several of the terms of reference of the Inquiry. I would be available to address the Committee in person if this would be of assistance.

Yours faithfully,

Dr Barry Smyth  
President

## **Senate Education, Employment and Workplace Relations References Committee**

### **Inquiry into higher education and skills training to support future demand in agriculture and agribusiness in Australia**

#### **Submission from the Australian Veterinary Association (AVA)**

##### **Executive summary**

Rural professionals and workers are essential for food security, food safety and maximum production. They also play a crucially important role in monitoring, detecting and responding to outbreaks of diseases of animals, plants and bees.

Australian Veterinary Association (AVA) members deal with farmers daily and recognise that Australia is a very efficient producer of animal-derived food. The AVA is well aware of Australia's role in world food security and as a provider of safe food from animals of high animal health status. It is anticipated by FAO that world food production must increase by between 70% and 100% to feed the expected nine billion world population in 2050.

The Australian Council of Deans of Agriculture (ACDA) established in 2010 that there is a consistent demand for 15,000 agricultural employees in Australia. ACDA also identified a six-fold gap between demand and graduate numbers.

It is clear that higher funding and priority must be given to the attraction and retention of graduates in these areas to meet both current and future needs. There is a clear public benefit to be gained from stemming the increasing shortfall in skilled professionals working in agriculture.

The AVA believes that outdated stereotypical images of agriculture need to be addressed by promoting an industry image that highlights contemporary and emerging job roles and their associated employment pathways. Innovative programs like The Primary industries Education Foundation, collaboration in training between industry, education and government sectors; and *Investing in Youth Program* are going some way to providing answers and need to be fostered and encouraged.

Well-trained technicians, paraprofessionals and professionals will drive greater adoption of innovative practices, new knowledge and technology. This will demand continuing investment in research and development and the availability of well qualified graduates.

It will be necessary to provide better local services and infrastructure to improve the attractiveness of living in and doing business in regional Australia.

It will be necessary for governments to work collaboratively with key stakeholders to increase the delivery of qualifications and skill sets to meet industry's requirements.

##### **Recommendations**

Recommendation 1: Increased priority needs to be given to the funding of higher education and vocational and educational training in disciplines related to agricultural production, global food security and food safety in order to meet current and future needs.

Recommendation 2: The appropriate allocation of funding needs to be made in consultation with the industries and education providers.

Recommendation 3: The study of agricultural, veterinary and animal sciences and subsequent employment should be encouraged by an incentive program of HECS forgiveness based on the number of years working in rural areas and agricultural industries.

Recommendation 4: Innovative programs like the Primary Industries Education Foundation and *Investing in Youth* coordinated by the Rural Research and Development Corporations should be supported with resources and encouraged.

Recommendation 5: Animal welfare considerations are now a central component of all Australian animal agriculture enterprises and must have a high emphasis in education and training for the sector. Particular priorities include:

- The training of stockpersons to enable better husbandry and humane slaughter of livestock as well as to facilitate the use of group housing rather than intensive systems
- The training of agricultural technicians, workers and paraprofessionals must include animal welfare and interaction with professionals.

Recommendation 6: Education and training must emphasise modern methods of production and animal welfare through industry quality assurance, co-regulation and self-regulation schemes that allow continuous improvement be fostered.

Recommendation 7: Australia's contribution to international bodies in development of animal welfare and other agricultural standards such as the OIE, Codex Alimentarius and international Plant Protection Convention should continue to be supported.

Recommendation 8: The Australian Animal Welfare Strategy should be fostered and used as a basis for training, research and education in animal welfare at local in international level.

### **Terms of reference**

- **the adequacy of funding and priority given by governments at the federal, state and territory level to agriculture and agribusiness higher education and vocational education and training;**

It is clear that the current level of funding and priority to higher education and vocational education and training is inadequate to meet present and future needs.

The decline in numbers of agricultural scientists graduating and the ageing of senior scientists are well documented by the Australian Institute of Agricultural Science and Technology. At the same time, FAO has indicated that projected increases in world population demand an increase in food production in the order of 70 to 100% by 2050.

To meet food needs, animal production and ethanol production, millions of hectares are being planted with coarse grain. Over the last 20 years an additional 75 million hectares have been planted to crops and it is predicted that in 2012 alone another 75 million hectares will be planted. Over this period research and its field application have enabled yields to be increased by 0.72 tonnes per hectare (FAO). Continuing

increases in yield will be necessary in the coming years because of the natural limits to available land.

In addition, early recognition and diagnosis are crucial in eradication of emergency animal diseases (EADs). Delays have been shown to increase costs and reduce the possibility of eradication. Early recognition is crucial for Australia's preparedness to deal with outbreaks of EADs such as foot and mouth disease (FMD) but also diseases of plants and bees. Appropriately skilled veterinary and agriculture professionals are the first line of defence against emergency animal diseases. Shortfalls in our rural workforces may have serious consequences in the event of an outbreak.

Recommendation 1: Increased priority needs to be given to the funding of higher education and vocational and educational training in disciplines related to agricultural production, global food security and food safety in order to meet current and future needs.

Recommendation 2: The appropriate allocation of funding needs to be made in consultation with the industries and education providers.

- **the reasons and impacts of the decline in agricultural and related educational facilities;**

The AVA is principally concerned with the animal industries. These industries are reliant on the support of agricultural scientists and workers whether they be pasture based as in the extensive industries, such as beef, sheep and goat production or the intensive industries such as beef feedlots, poultry and pig production.

Outdated urban stereotypes of farm and rural and regional life do not stimulate interest in agriculture or rural industries nor attract students to these disciplines. Several initiatives have sought to change misconceptions about farming and emphasise that farming requires skilled workers and professionals. Veterinary surgeons, agricultural scientists, (including agronomists, plant pathologists, soil scientists and plant breeders and geneticists) and others such as farm managers, ecologists, commodity traders, and horticulturalists, are essential to the agricultural industries.

Closure or reduction of agricultural colleges and schools of agriculture are symptomatic of a decline in demand. This is exacerbating the shortage of professionals and limiting research and implementation of innovative new approaches to meet Australia's unique situation.

Lack of professionals also reduces the level of monitoring for animal, plant and bee diseases and the insect vectors of certain diseases. It also limits effective and immediate responses to incursions of such diseases. Myrtle rust and bee diseases are recent examples.

- **solutions to address the widening gap between skilled agricultural labour supply and demand;**

Veterinarians find lower wages and a range of other factors to be disincentives to entering farm animal practice, especially when holding high HECS debt. Veterinary science is one of the costliest courses alongside law, medicine, accounting, commerce, administration and economics.

In response to several government inquiries and reviews into veterinary services in rural and regional Australia, the AVA has called for incentives for veterinary surgeons to enter rural practice on graduation, principally through forgiveness of HECS debt. We believe that students could be induced to enter veterinary and agricultural science and go to rural areas if their HECS burden was reduced as a result.

The AVA proposes that for each year spent working in areas classified as rural or regional an agricultural or veterinary scientist should have a year's worth of their study subtracted from their HECS debt.

The Government announced in June 2011 that it will not alter the funding arrangements for the Rural Research and Development Corporations. This is evidence of an ongoing demand for skilled researchers in the agricultural industries. The government is seeking to increase public and private investment in agricultural research, development and extension to increase innovation and employment. This initiative is likely to be a positive one provided that skilled and trained researchers are available.

The Primary Industries Education Foundation seeks to foster agriculture-related education in Australian schools through collaboration between the agricultural industries, education and government sectors.

The *Investing in Youth Program* is coordinated by the Rural Research and Development Corporations. Having commenced in 2010 the Program provides a small number of scholarships to undergraduate students involving some financial support, mentors and industry placements. Such programs have the potential to help in redressing the gap in graduate numbers.

Recommendation 3: The study of agricultural, veterinary and animal sciences and subsequent employment should be encouraged by an incentive program of HECS forgiveness based on the number of years working rural areas and agricultural industries.

Recommendation 4: Innovative programs like the Primary Industries Education Foundation and *Investing in Youth* coordinated by the Rural Research and Development Corporations should be supported with resources and encouraged.

- **the impacts of any shortage on agricultural research;**

Agriculture is becoming increasingly complex. Public health, food security and maximum yields with minimal effects on the environment demand the most current, evidence-based production methods. Where chemicals are required they must be registered and used with precision and care. Research and innovation have to be maximised. The Australian situation is unique and much research must be locally provided.

The Rural Research and Development Council in their National Strategic Rural Research and Development Investment Plan reported that "With an ageing research workforce and evidence of an increasing skills deficit, there may already be insufficient capacity in the rural sector to develop and adopt innovations at the desired rate" (Rural Research and Development Council 2011).

- **the economic impacts of labour shortages on Australia's export oriented agricultural industries;**

The AVA has no comment on this term of reference.

- **the incorporation of animal welfare principles in agriculture education;**

Training in animal welfare is an essential part of the education of veterinary, agricultural and animal scientists.

The agricultural sector has to address community standards and concerns for the welfare of animals. Animal welfare is important in domestic production and to Australia's exports of animals and animal products. Enforcement of standards, research and policy development in animal welfare are crucial. The AVA believes that the national debate must be evidence-based.

Animal welfare requirements are being included in international standards such as those developed by the World Organisation for Animal Health (OIE) and in domestic industries. Industry quality assurance programs now regularly include animal welfare standards, and they are through co-regulation and self-regulation. These approaches demand a highly skilled workforce. They facilitate ongoing incremental improvements in standards and improve the lot of animals more than minimum standards generally set out in black letter law.

Efforts have been made to improve standards through development of an Australian Animal Welfare Strategy (AAWS) that has involved all interested stakeholders and all species of animals. The Strategy has been managed by the Department of Agriculture, Fisheries and Forestry through an Advisory Committee. The detailed work has been done by six sectoral groups on which all major stakeholders are represented. These groups cover:

- Companion animals
- Livestock and production animals
- Animals used for work sport, recreation or display
- Aquatic animals
- Animals used in research and for teaching purposes
- Animals in the wild

This diversity reflects the level and diversity of education and training required to appropriately address animal welfare issues in the current environment.

Australia contributes to the international animal welfare debate, particularly through membership of the World Organisation for Animal Health (OIE) and its Regional Commission for Asia, the Far East and Oceania. This underpins industry efforts in importing countries and regions. The Australian Animal Welfare Strategy (AAWS) has influenced development of OIE codes on animal welfare and regional animal welfare strategies in the Middle East and in Asia, the Far East and Oceania.

Australia and New Zealand are leaders in animal welfare research through the OIE Collaborating Centre on Animal Welfare which is comprised of three Australian and two New Zealand research institutes.

Veterinarians along with graduates in agricultural science, animal science and livestock officers are important in development of animal welfare standards. Such standards need to be practical and enforceable and fit with the physiological and

psychological needs of the animals. They also need to be adapted to production systems and incorporated into industry quality assurance programs.

Current animal welfare activities include converting current codes of practice into standards (mandatory) and guidelines (guidance) and harmonising them in the legislation of states and territories across Australia. This will facilitate regulation and law enforcement and improve the confidence of industry in the process.

**Other related matters**

The AVA has no further comment.

*The Australian Veterinary Association  
10th November 2011*