11 September 2025

Committee Secretary
Senate Standing Committees on Rural and Regional Affairs and Transport
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Parliament House
Canberra ACT 2600

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Dear Secretary

Re: Submission – Opportunities for the development of a hemp industry in Australia

I am a farmer living at Orbost in the East Gippsland region of Victoria. As well as agriculture I have career experience in civil engineering, local government engineering, building surveying, civil contracting and various agricultural pursuits. Over the last year I have grown, a trial crop of hemp and have been very impressed by its potential. As a community member in a former hardwood logging area, I see potential to replace what was lost through closure of the timber industry, including employment, economic activity, building material, and more, with "environmentally friendly" alternatives as well as other downstream products possible from an active hemp industry.

In the body of this submission, I have attempted to briefly address each of the Terms of reference.

a. *the potential contribution of an industrial hemp industry to;*
    i. *Australian farming systems, including compatibility with existing agricultural practices, soil health and water usage/conservation,*

The dry land trial that I have carried out confirms the growing volume of research that the growing of hemp contributes to improvement in soils and to general soil health. The relatively deep rooted nature of the plant, together with the plants ability to capture and transmit carbon into the soil, is highly beneficial. My trial has demonstrated that hemp can be grown on unirrigated land with rainfall of only 300mm (equivalent to 3Ml of total water per Ha) if the soil is moist enough in the early stage of plant growth including germination. Plants grown in these drier conditions seem to develop good long fibre (ast fibre)in the outer stem of the plant, but lower levels of hurd (the short fibre from within the centre of the stem of the plant). Additionally, the plants will start to develop seed heads earlier in the drier conditions.

These downside of these dryland issues needs to be balanced off against the cost growing on land with the potential to be irrigated.

In any event, the water requirement for hemp seems to be considerably better than for cotton which can require up to 8 Ml per Ha.

The process of preparing and planting hemp seed is compatible with existing agricultural practices and equipment and suitable equipment is widly available across the agricultural industry.

The availability of equipment for harvest and further downstream processing is much more restricted and depends largely on the end use of the product. There are various streams of processing, and different streams may require different or specific use equipment to achieve satisfactory processing.

ii. Australian manufacturing, including the production of textiles, bio-based plastics, health and food products,

Significant opportunities exist across the spectrum of uses for hemp however this statement must be tempered by acknowledging the high cost of production in Australia compared with overseas competitors.
Textile production – Even though hemp fabric is superior to cotton in many respects, particularly regarding wear and abrasion, to my knowledge there is no industrial scale spinning mill in Australia capable of spinning hemp fibre. An opportunity to explore overseas sale of the decorticated fibre exists.
Insulation, garden mulch, and animal bedding – markets already exist for these products using decorticated bast fibre. Additional promotion required.
Health & food products – With regulation permitting an opportunity exists to tap into the health market. Research has shown hemp seed to be high in protein and essential fatty acids such as omega 3. Stock feed is also a potential market.
Bio-based plastics can potentially replace most petroleum-based products. The concerns around the growing level of micro plastics in our food chains and in most humans has a solution with hemp bio-based plastics. At "end of life" it is possible to recycle all bio-based plastics.

iii. the Australian construction industry, including the use of hemp-based materials and barriers to their adoption, and

Technology already exists to produce hemp-based products that can replace any wood-based product used in the construction industry. Protype constructions for replacement of steel members utilising the high strength, long carbon fibres has also shown great possibilities for future change in the construction industry. Unfortunately research and development costs and the huge step to full commercial processing and sale of these products is overwhelming. Additionally, building codes do not recognise these state-of-the-art materials and there is much work to do in moving them through an appropriate accreditation process. The leading-edge research in this area primarily utilises the long bast fibres of the plant to develop incredible strength and resilience in these products.

Another more commonly used product coming out of hemp is hempcrete that is manufactured from a mixture of hurd (the central fibre of the plant), lime, and water. This can be used in forms to produce a wall or pressed into bricks for building. It has extremely high resistance to fire, is anti-fungal, breathable, and an ideal insulation. Users of this product are also having trouble in obtaining building approvals because of its lack of accreditation.

iv. ***Australia's economy, including, but not limited to, job creation, export opportunities and regional development;***

Here is an opportunity for government to positively impact the decline in GDP as a percentage of manufacturing in Australia. A fully developed hemp industry has the potential to create thousands of jobs across Australia. The majority of these would be in regional areas. Meeting the needs of the domestic market would be of prime focus but acceptance of these products on a world scale could lead to enormous opportunity in export markets.

b. research and development required to harness the full potential of the hemp industry;

I have already alluded to the research and development required to continue to develop this industry. There is already a considerable amount of knowledge circulating in the industry throughout the country.

c. regulations related to hemp production, sale and distribution to domestic and export markets; and

State regulation licencing of industrial hemp growers "seems over the top" at present. If industrial hemp is restricted by law to less than 0.5% content of THC then no authority to grow it should logically be required.
An authority to grow a particular variety in an area (applicable to every grower) should be maintained to avoid cross pollination between varieties. (it is my understanding that industrial hemp can be cross pollinated from a plant up to 15km distant). The analogy here is with genetically modified grain, such as corn, polluting a nearby crop grown organically.

d. any other related matters.

While R&D has to continue, the immediate issue is the need to establish adequately resourced and funded regional hubs to support growers and get processing underway.

These need to be established at the centre of designated hemp production areas.

A hub would consist of hemp growers in the hub area and its purpose would be to:

- Maintain a management executive consisting of elected members for the purpose of administering the hub
- Collaborate with research institutions, industry (both nationally and internationally) to familiarise with latest research, trends and markets
- Collect and provide seed for growers in the hub
- Pass on advice and learnings to growers within the hub
- Provide processing capability on behalf of growers within the hub which as a minimum would involve decortication of harvested product to a saleable processable standard

- Arrange sale of product produced within the hub
- Liaise with the Commonwealth Department of Foreign Affairs and Trade to help establish export opportunities

A further suggestion is that, at a Commonwealth level, an attempt is made to seek out and provide financial support and resources to those in the industry involved in research and development of leading edge technology that utilises the high strength carbon fibres of the industrial hemp plant.

Stan Weatherall