



In reviewing submissions from other organisations I realise Wattleseed is an opportunity for transformational innovation that is likely to be missed by other submissions.

Below is a copy of an email sent to the recent Chubb review to highlight this unique Australian opportunity. This gives the government a clear pathway to investment. If another pathway is preferred this is fine with me. I make this submission to highlight this transformative opportunity. Also, significant investment will be required to lift agriculture beyond our industries' 'business as usual' momentum.

If you would like to make this submission public I would welcome this and give all required permissions.

Duncan Farquhar

Dear Chairman Professor Chubb and distinguished panel members.

I write to highlight Acacia as a transformative prospect for material impact on climate. I also note substantial investment (circa \$500M) required to develop acacia into a new global grain. ACCU's provide a high integrity but insufficient incentive for this investment given the urgency of 2030 and 2050 targets.

I am emboldened by your recent comment to the Emissions Reduction Summit that Photosynthesis can bring abatement at scale.

Acacia is the leading regenerative genus in Australia's ecology. Wattles come back first after fire and other disturbances. There are over 1200 species. There is a wild harvest and developing plantings. Grape harvesters have been used to demonstrate successful mechanical harvest. As a legume they fix their own nitrogen to produce a high protein grain. As a tree they provide year round ground cover. The retained plant architecture (roots, trunk and branches) gives a fundamental photosynthetic efficiency in grain production over annual systems.

At the current rate of industry development and investment it could be 1000 years before wattle seed becomes a new global grain. This is too slow.

Australia invests over \$800M per year through the Rural Research and Development Corporations (RDC's) in our existing agricultural industries. There has been 6000 years of investment in wheat production. At some stage we may hit diminishing marginal returns.

Through you I would like to offer the Australian Government an opportunity to invest circa \$500M in Wattle, our national emblem, as a new world grain. Plant variety rights would be a key cornerstone of a return on this investment. Priorities for investment include.

1. Sequence all acacia species and look for markers for seed size.
2. Rapid breeding program focused on seed size and yield.
3. Taxonomic and biodiversity studies of the ecology of each acacia species.
4. Integrated Pest Management studies with a focus on thresholds of abundance for each key pest or disease
5. Mechanisation
6. Post-harvest treatment and product development
7. Phytochemistry and toxicology
8. Production systems including understory animal industries.
9. Soil Carbon sequestration dynamics. Particularly earthworm ecology and other species that can build deep, likely more stable, soil carbon resources.

It's a considerable R&D challenge requiring an integrated and concurrent large focused effort of a scale similar to COVID19 R&D. The program could be open to private investment but the dynamics of waiting for this are too slow.

The moral logic of RDC's (systematic under-investment in R&D) is true for biodiversity. Ecoconnections is a global private RDC startup focused on biodiversity with particular capability in new agricultural industries.

Indigenous peoples often have totems as a major part the social capital that underpins capability in managing natural systems. By managing this investment under the Ecoconnections [Indigenous](#) program we can bring an additional target in scope. This is the 'living in harmony with nature' by 2050 vision of the convention on biodiversity.

For the purposes of your review; this opportunity demonstrates the dynamics of ACCU's as an incentive with integrity. They are very important but in this case, insufficient.

Your sincerely

Duncan Farquhar

Founder

