WANTFA
Western Australian No-Tillage Farmers Association (Inc)

Submission to the State Sustainability Strategy

Prepared by the Western Australian No-Tillage Farmers Association (inc) (WANTFA)
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Overview

The no-tillage cropping system, that incorporates stubble rentention, has resulted in significantly reduced wind and water erosion simultaneous to improved farm profitability and crop reliability in WA agricultural cropping districts. Improved soil structure, increased carbon storage and biological activity have all resulted from the no-tillage cropping system.

WANTFA has been instrumental in the development of no-tillage cropping since the early 1990s, and has subsequently played a highly significant role in the widespread adoption of no-tillage sowing of crops across WA (WANTFA now represents 1300 WA, Australian and International members). WANTFA has positively influenced cropping in NSW, Victoria and South Australia. Through field days, newsletters, seminars and conferences we have increased knowledge on many aspects of farming.

WANTFA is widely regarded as a successful farmer organisation and has worked positively with Government agencies, corporations and other farmer groups. A GRDC funded Scientific Officer Project was critical to providing a sound scientific / technical knowledge base over the past five years. It is now vitally important for us to maximise the benefits of earlier work so that we can assist farmers to be more sustainable.

Weeds, herbicide resistance, diseases, input costs, and salinity still threaten the economic viability of grain-growing in Western Australia. Many of these issues are a result of repeated sowing of the same crop type due to a lack of profitable alternatives available to growers. A reversion to tillage in an attempt to lessen the impact of some of these challenges is constantly being promoted, and threatens to undo many of the benefits that no-tillage has produced.

Allied to a reintroduction of tillage is the continued practice of stubble burning, a practice that reduces soil carbon and nutrient levels, and increases greenhouse gas emmissions.

Lack of soil moisture is a challenge for farmers planting winter and summer crops in WA. Greenhouse predictions indicate more variability in winter rain and increasing summer rainfall. These factors make it even more critical to research, develop and promote integrated farming systems that include diverse crop types, rotations with maximum stubble retention, no-tillage sowing methods and “smarter” chemical usage.

KEY QUESTIONS

Is sustainability a worthwhile pursuit?

Definitely Yes

What benefits could flow if sustainability was taken more seriously?

More people will realise that every action they take has an effect on the environment and community. Hopefully they will make subsequent changes in their actions at home and work that will significantly reduce undesirable effects, protect, or even enhance future production and quality of life.

Opportunities to pursue

To develop efficient systems in Australian urban centres and on Australian farms that are better adapted to Australian ecosystems, soils and climates. Although WANTFA Farming Systems concentrates on farms, the principles are adaptable to towns and cities.

It is not desirable to prescribe a set recipe for all farms for a number of reasons including;

1. Systems need to be adapted to suit individual skills and ecosystems.
2. There are many unknowns. We believe that we are on the first rung of a long ladder to the "perfect sustainable state".
3. Our understanding of what is required will improve over time. Saying we want to achieve sustainability is a very important outcome of the 1990s.

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Therefore we recommend that a set of principles be established as a guide. Many of these have been recognised in your paper. WANTFA Farming Systems are outlined below. We hope they will be of use to you in determining State Policy. They need to be extended through practical examples, research and demonstration.

WANTFA Farming Systems® – WANTFA has adopted a set of five principles to guide farming systems development and farmers. These are

- *Minimise soil disturbance*
- *Diversify rotations*
- *Maximise stubble retention*
- *Smarter chemical use*
- *Maximise (in situ) water use*

By using the above principles, WANTFA desires to attain at least the following benefits

- Sustained profits for the long term
- Increased water usage and less salinisation
- Better soil structure and health, without erosion
- Increased organic matter with increased carbon sequestration
- Increased biodiversity
- Higher infiltration of rain
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- Less weather and commodity price dependence for farmers
- Lower input costs
- More microbial activity

The following issues are outside our area of expertise but are highly significant:

1. Renewable Energy – a long-term goal is for each farm to be dependant only on renewable energy captured on the farm. Examples include the use of locally sourced biodiesel. Solar and wind energy for pumping and electricity.

2. Communication – improve access to knowledge so that farmers can constructively and objectively adopt sustainable systems as understanding and techniques improve.

Undesirable Practices include

- **Stubble burning**, as it reduces soil organic matter accumulation and subsequent soil structure and soil biodiversity improvements. It also contributes to green house gass emissions
- **Fallowing** by ploughing, which increases soil organic matter mineralization and erosion potential
- **Over grazing** leading to wind and water erosion and soil structure loss

WANTFA sees its farmer-based approach as a competitive advantage in sustainable agriculture. Practical and profitable systems developed by or in conjunction with WANTFA have a high probability of adoption. Non-farmer driven research can often be adopted more slowly. For example the adoption of no-till ((seeding with a narrow point or disc) by 70% of WA farmers in ten years occurred with limited input from agencies other than WANTFA.

No-Tillage resulted in an increase of at least 2-3 million tonnes of grain production in the year 2000, equating to $300 to $450 million extra gross income for WA. Likewise in 2001, no-till enabled farmers to sow crops into firm dry soils that could not have been penetrated with full tillage systems. Despite a disasterous start, these crops grew slowly, used minimal water and did not drought like many conventionally sown crops. (see WANTFA *Farming Systems* August 2001 front page photos). After receiving good rains in late July, the No-tilled crops rebounded to produce above average yields.WANTFA believes that no-till resulted in anadditional two million tonnes of grain production in 2001 equating to $500 million income). Many farmers throughout the wheatbelt who still practice 2-3 full tillage operations did not plant crops.

Developing sustainable systems for farmers is pointless if they have no understanding of the processes involved and the adoption benefits. Hence the benefit in developing systems in partnership with farmers.

Role of Government, Business and Community

We strongly suggest that Government needs to be proactive in recognising, supporting and working with groups and farmers that are adopting practices that comply with the principles listed above. When Government supports groups like WANTFA it is saying “we appreciate your self help approach.” WANTFA desires to lead by example..

However, Government needs to also be adopting these principles in its own directly or indirectly funded research. The Department of Agriculture and CSIRO need to use no-tillage systems in research trials; research on these systems should be increased.

Business should be encouraged and rewarded for supporting such no-till sustainability principles.

WANTFA believes that it is important for the community to understand where food comes from and that it is not a "guaranteed forever product". Australians enjoy high standards of fresh farm products at cheap prices, yet how many stop to think "an Australian farmer produced this for me"? Further, careful management is required to ensure that Australian Farmers can produce in the future.

Over the past ten years WANTFA has established international networks and partnerships with research bodies, farmer organisations and Government agencies including CSIRO, Department of Agriculture (WA), The University of Western Australia and many others.

Succesful partnerships have been established with commercial companies such as Elders, CBA, CSBP futurefarm, BEELINE technologies, CropCare, Syngenta, PIBA, AWB, Grain Pool, CBH and various seed, machinery and equipment suppliers. These partnerships are vital to understanding and achieving sustainable production and should be encouraged by Government.

Each year WANTFA invites international speakers to share their knowledge with West Australians at its Annual Conference and has conducted international tours to Canada, USA, South America and South Africa. The President recently spoke at the World Conservation Agriculture Conference in Spain 2001. He was the only Australian Farmer invited to speak.

Best Practice Examples

Neil Young, Geoffrey Marshall, Derek Chisholm,

R&D needed

Stubble retention – stubble handling is a challenge
Finding more diverse and sustainable rotations

General Actions to pursue Sustainability

Hold State Sustainability Best practice forum in 2004 – The sustainable state. Sustainability awards and recognition could occur.

DIFFERENT PERSPECTIVES
Farmer and Community Groups

John Duff
For Neil Young
WANTFA President
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