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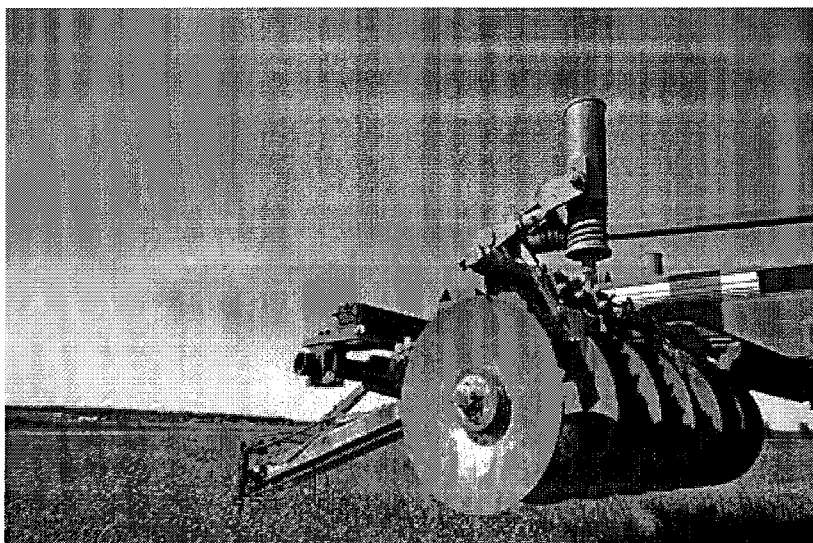
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FEATURES

FUTUREPROOFING IN OUR OWN HANDS



The need to shore up South Australia's agriculture for future global change seems something of a no-brainer. Warnings about water scarcity, soil degradation and skyrocketing fuel costs - not to mention climate change - bombard us almost daily.

By Lauren Drewery

Everyone agrees that the entire agricultural sector must become more efficient, more flexible and more environmentally responsible, or face a painful demise. Yet it seems that nothing is being done.

In sheds and offices across the State, however, farmers and their communities have been taking future-proofing into their own hands. And this quiet, grassroots revolution is leading to some brave new thinking and collaboration on an unprecedented scale.

"Producers are realising they have to be proactive," says Wendy Umberger, agricultural economist with Adelaide University's School of Agriculture, Food and Wine. "They know they can adapt now and help shape the future of agriculture in their favour, or be forced to accept what others decide for them later." In the agricultural district surrounding Hilltown, just north of the Clare Valley, a group of farm women set out two years ago to educate themselves about the practicalities of farming by organizing workshops on topics ranging from grain marketing to sheep breeding. "None of us come from farm backgrounds but we're all passionate about its future," says Jenny Cornwell. "We decided to drive our own learning."

Lately the group has been looking at ways to adapt to climate change and its precursor, climate variation, which is already ushering in warmer, drier weather and more extreme weather.

"We don't think the current situation is just cyclical," says Penny Drew. "We have to act, and we have to act now because to implement changes on the farm can take a long time. Seasons don't wait while you sort things out."

Penny and her partner Simon have made the decision to move into 'biological' farming. They roll stubble back into the soil rather than burn it, practice minimal till to retain soil moisture and are gradually eliminating synthetic inputs. Penny points out that while some risk can be reduced through off-farm investment, this kind of agricultural activity is not for the faint-hearted. "A lot of people are watching what we're doing and waiting to see what happens," she says. "The fear of change can be very strong."

South Australia's dryland farmers are no strangers to risk or seasonal variation. For generations they've been dealing with fluctuations in weather and harvests that would make farmers in others parts of world throw up their hands in despair. Grain producers in low rainfall areas, for example, typically count on just three years out of ten to make 80% of their profit. But what lies ahead could be well beyond their experience.

"At the moderate end of the climate predictions farmers will be able to manage by improving water efficiency and planting drought-resistant varieties," says scientist Peter Hayman of South Australia's Research and Development Institute. "But at the more frightening end of the predictions farmers could reach the limits of their adaptive capacity."

Many broadacre farmers along the Line have been developing and using specialised dryland practices for decades. Now they face pressure to push farming technology and knowledge even further, as Peter's research suggests that in coming decades more land in the upper north will become marginal, potentially pushing Goyder's Line of reliable rainfall south.

Whatever the climate outlook, farmers will be forced to deal with change sooner rather than later. As government measures designed to reduce greenhouse gas emissions lead to a carbon-constrained economy and prices for energy and fertiliser escalate, farmers who fail to become more efficient will simply go out of business. "The climate will vary and change over the next decade or two," says Judy Wilkinson, a member of the Hilltown group and state coordinator of the Partners in Grain initiative, "but limitations on carbon will affect us long before it does."

Changing climate and policies will determine not only how and what we produce in Australia, but also where we sell our products. The competitive advantages we have now, such a long growing season during the northern winter, for example, may be eroded as climate change brings warmer conditions to competitors in North America and Europe. On the other hand, the re-shuffle may open new doors.

"The producers who are most likely to survive in the future are those who innovate both on the production side, to reduce costs and improve efficiency, and on the market side, to predict and respond to emerging opportunities," Wendy Umberger says.

On Eyre Peninsula, which was hit particularly hard by the recent drought, producers have banded together to collectively develop new enterprises and identify new domestic and international markets. FREE Eyre is not your typical collective, however; it's a corporate venture involving more than 300 local farmers and agriculture-related businesses, all of whom have laid out significant cash investments to kick-start it.

"So much is happening right now – changing climate, shifting global markets, a reduction in the workforce - that many small to medium farmers feel uncomfortable and out of control," explains Susanne Tegen, Managing Director of FREE Eyre (which stands for 'Free Rare Enticing Eyre'). "This is about taking control and driving change, not just reacting to it. And when communities drive change, it is more likely to be sustainable."

The venture is looking to develop an alternative grain marketing enterprise, in partnership with grains management company Emerald, and a prime lamb production program. The aim of these projects is to improve efficiencies along the supply chain and open up opportunities for local value adding, thus increasing profits to the region. "We're trying to build capacity, but we want to make money, too. The idea is to create a bigger pie for everyone," says Tegen.

Another potential project is a large-scale mallee planting designed to earn income as a sink for carbon dioxide as well as a renewable source of oil and energy products. In a similar project in the Western Australia wheat belt, the Oil Mallee Company of Australia planted several million trees in 2002 to sequester carbon for the Kansai Electrical Power Company of Japan.

This type of project points to the largely unexploited potential of agriculture to produce other environmental services such as preservation of habitat and biodiversity, watershed protection and 'landscape amenities' (think of Balinese rice paddies, English hedgerows, Swiss alpine meadows or – closer to home - McLaren Vale vineyards) in addition to, or instead of, crops and livestock. Researchers have been looking at ways to evaluate such services and to pay farmers to deliver them.

"We have to remember that innovation isn't just machinery or technology," notes Tegen. "It's also about innovative thinking and approach."

Unfortunately, says Peter White, President of the SA Farmers' Federation, the drought of 2006-07 has severely limited the capacity of farmers to invest in innovation just when they most need it. "Farmers have overcome many tough challenges in the past so there's hope they can get through this phase, too," he explains. "And there are gains to be made, as we will have to become better and more efficient at what we do and the environment will be benefit. But the next five years will be very difficult for all of us."

The future will be especially difficult for Murray River irrigators as water overuse and

diminishing rainfall continue to choke off the flow. "Irrigated agriculture was once a rather secure, high-value, low-variability activity" says Jeff Connor, research scientist at CSIRO. "Then, in 2005, the paradigm shifted and irrigators entered the era of water scarcity."

While some Murray farmers already have shut down, many plan to tough it out. Catherine and David Harvey, whose dairy and beef operation on the Narrung Peninsula is literally at the end of the river system, started worrying about water levels and soil quality several years ago. "We became critical of our own farming practices and thought hard about how we could adapt," says Catherine. They trimmed their herds, planted less water-intensive pastures and began converting to higher-value organic production.

"Now that we have no access to water from Lake Alexandrina we have to plan on no irrigation for a very long time, if ever again," she says. "If you want to keep going, you have to be prepared to change."

"The resilience of agriculture is much greater than is generally thought and people are very inventive," Jeff Connor says. "Grape-growers in the Riverland, for example, are discovering that they can operate with half the amount of water by using new types of rootstock. Fortunately, we actually have a lot of resources to support research and adaptation."

There's another bright light at the end of the tunnel: the global demand for food, and for wheat in particular, is increasing every year. "We're growing something that people will need in the future," Jenny Cornwell says. Or, as Judy Wilkinson puts it, "Every urban dweller needs a farmer."

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