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Spelt: an emerging crop for organic producers

Increasing demand for organically grown spelt (*Triticum aestivum* var. *spelta*) in the health food sector has seen an increased interest in production over the last few seasons.

The origin and distribution of spelt

The origin of spelt is somewhat controversial. In their review of alternative wheat cereals as food grains, Stallknecht et al (1996) discuss two primary hypotheses for the origin of spelt:

‘One hypothesis suggests a single site of origin in the geographic region of present day Iran. The second suggests two independent sites of origin, the Iranian region and a south-eastern European region. Suggested dates for the Iranian origin range from the mid-late Neolithic (Stone Age) 6,000-5,000 BC (Zohary and Hopf 1993). While the majority of evidence indicates the single site of origin, possible evidence for both sites are reviewed by Harlan (1981), Kema (1992), and Zohary and Hopf (1994) who reviewed 19 and 21 references by Zohary and Hopf respectively, specific to the origin of cultivated crops. The majority of evidence indicates that the origin of spelt must have occurred when either wild or cultivated emmer (AABB) dispersed to regions where *T. tauschii* (*Ae. squarrosa*) (DD) was an indigenous wild grass species.

Spelt was widely distributed from the Near East origin during the Bronze Age (4,000-1,000 BC), throughout the Balkans, Europe, and transcaucasia. Some of the earliest recordings of spelt appear in the Bible (Exodus 9:30, Isaiah 28:25, and Ezekiel 4:9). The first reference to spelt is found in the “Edict of the Roman Empire Diocletian,” in 301 (Flaksberger 1930). Along with the free threshing wheats, spelt may have played a role in the first politically established welfare system in Rome, beginning in 59 BC when after food riots, grain was distributed free to the Roman citizens (Harlan 1981). The wide distribution of spelt was facilitated by the northern and southern route migrations of early civilizations westward.’ (Stallknecht et al 1996)

Spelt uses and quality attributes

Spelt production continues to be a major cereal crop in isolated regions throughout south-eastern Europe, primarily in Germany and Switzerland where it is grown for stockfeed, and more recently, the health attributes of spelt have sparked significant interest from the health food sector as a substitute for wheat flour in breads, pasta, cookies, crackers, cakes, muffins, pancakes and waffles.

Bread Research Institute Dietician, Trish Griffins, recently undertook a review of the health attributes of spelt for the Grains Research and Development Corporation (GRDC). She notes that spelt is a similar composition to modern wheats - high in carbohydrates, low in fat, with protein, fibre, vitamins and minerals. Zinc levels however, can be up to twice as high in spelt as in modern wheats. The level of some other micro-nutrients - copper, manganese and cobalt - can also be higher. Spelt is

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higher in protein than modern wheats, but the lysine level remains low (as with all wheats). Spelt is not gluten-free and is not suitable for people who have coeliac disease or any other form of gluten intolerance. Other sources report a higher water solubility of gluten in spelt. As with wheat, there is considerable variation in protein content with variety and environment. Spelt may be higher in vitamin E activity and have a higher proportion of monounsaturated fats to the total fat content. However, the content of total and insoluble dietary fibre has been reported to be considerably lower in spelt than modern wheats. Whilst she acknowledges that ancient wheats such as spelt offer sensory and functional characteristics, she warns against claims that spelt is nutritionally superior to traditional wheats, since “there is currently no strong evidence to support this”. (Griffins, T. 2005)

New project aims to improve spelt lines

NSW DPI, in conjunction with Cootamundra organic producers David and Mary Booth, other organic producers, and Green Grove Organics owner Neil Druce, will be conducting evaluations and selections of spelt over the next few years in order to improve the grain’s agronomic and quality attributes.

The project will take a participatory approach to plant breeding where the farmers will do the “work”, i.e. plant the on-farm plots and make the selections, with assistance from DPI to advise them, analyse the results, and help make the selection decisions.

Whilst the Booths were initially encouraged by the voluminous growth of their first spelt crop, the final yield of the crop (around 1.8 tonnes / Ha) was disappointing. Harvesting and de-hulling difficulties (the hull is tight and difficult to remove by normal methods, removal often damaging the grain) added to the crop’s yield losses. Despite these difficulties they believe that spelt is worth persevering with due to good returns (\$400 per tonne for hulled organic grain and \$1000 per tonne for de-hulled organic grain), its seeming adaptability to organic production and its versatility in the manufacture of health food products and as a stock feed (for grain and grazing). David Booth identified a number of areas that he felt could progress spelt production. This included selections that offered improved agronomic features such as early vigour and yield, and improved ease of de-hulling. He would also like to investigate the use of hull for stock feed. David believes he may have two different lines of spelt.

Neil Druce, the owner of Green Grove Organic, uses spelt to produce flour, which is value-added into the companies’ flagship product, spelt licorice. Demand for spelt is currently outstripping supply and Green Grove is offering producers forward contracts for organic spelt. Neil believes that there are significant benefits to be gained by improving the yield and quality features of spelt. He stressed the need to maintain the grain’s milling features and gluten solubility characteristics during any selection process. A looser hulled selection would be a distinct advantage to improve ease of processing.

NSW DPI Senior Research Scientist Dr David Luckett has agreed to assist the producers with their efforts to select improved spelt lines. The first part of the process will be to correctly identify the species currently being grown, i.e. that *Triticum aestivum* var. *spelta* (not the wild diploid *Triticum speltoides*) is the most likely seed source.

Dr Luckett believes that within-population selection of desirable features (such as grain size and length, early vigour etc) in spelt should produce quite rapid results. This would involve producers selecting some single heads (200-300) harvested from random plants during the season (from normal winter plantings). These selections will be rapidly increased (in a glasshouse) and then put back into ear-rows on farm, with further selections made of those plants which show desirable characteristics. Bulk crops will also be examined at various times during the season and promising plants ‘tagged’ for individual harvest at maturity.

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Below: Spelt 'get together' at David and Mary Booth's property "Buronga". Photo courtesy of Philip Bowden, NSW DPI



Dr Luckett suggested that plants from as many genetic sources as possible should be grown so as to capture the available variation that farmers already have available. He reported that 40 accessions of *Triticum aestivum* ssp. *spelta* have been identified in the Tamworth Australian Winter Cereals Collection with seed currently available. Initially seed of these lines will be rapidly increased in the glasshouse and then grown out at Cootamundra along with the populations available from growers. Dr Luckett also indicated that there are also many overseas lines (in Europe, the Ukraine and USA) worth investigating. These included both culinary and stock feed lines.

It was agreed that once a number of potential lines have been identified then a range of farm sites that cover all potential production districts and planting dates, as well as irrigated cropping, will be selected to undertake the final evaluations.

References

Stallknecht, G.F., K.M. Gilbertson, and J.E. Ranney. 1996. Alternative wheat cereals as food grains: Einkorn, emmer, spelt, kamut, and triticale. p. 156-170. In: J. Janick (ed.), Progress in new crops. ASHS Press, Alexandria, VA. <http://www.hort.purdue.edu/newcrop/proceedings1996/V3-156.html#SPELT>

Griffiths, T. (2005). Spelt - when old becomes new again. GRDC website: <http://www.grdc.com.au/growers/gc/gc55/gograins.htm>

Spelt Websites of Interest:

An interesting proceedings on 'hulled' wheat: <http://www.ipgri.cgiar.org/publications/pdf/54.pdf>

Alternative Wheat Cereals as Food Grains: Einkorn, Emmer, Spelt, Kamut, and Triticale

<http://www.hort.purdue.edu/newcrop/proceedings1996/V3-156.html>

Technological Value of a Spelt and Common Wheat Hybrid:

<http://www.ejpau.media.pl/series/volume6/issue1/food/art-02.html>

Alternative Field Crops Manual –Spelt:

<http://www.hort.purdue.edu/newcrop/afcm/spelt.html>

The Q locus of Iranian and European spelt wheat:

<http://www.agronomy.ucdavis.edu/mcluo/TAG2000.pdf>

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Nutritional Quality of Organic Spelt Products:

http://www.gov.on.ca/OMAFRA/english/research/special_research/2001/sr9077.htm

Ancient Wheats and New Perspective

<http://www.medicinalfoodnews.com/vol09/issue2005/wheat.htm>

Although about Einkorn shows relationship with spelt. Note - they mention a spelt variety 'Kipperhaus' with a yield of yield of 3.47 t/ha and only 32% hulled.

<http://www.darzau.de/en/projects/einkorn.htm>

North Spanish emmer and spelt wheat landraces: agronomical and grain quality characteristic evaluation:

http://www.ipgri.cgiar.org/pgrnewsletter/article.asp?id_article=3&id_issue=125

For further information contact Robyn Neeson Organic Farming Liaison Officer NSW DPI Yanco. Phone (02) 6951 2735 Email: robyn.neeson@agric.nsw.gov.au

The Dorper – the new sensation in organic lamb

Introduction

The Dorper, a relatively new breed to Australia, is generating plenty of interest amongst prime lamb producers and processors, particularly in the organic trade. The Dorper is proving to be an excellent choice of breed for organic production, largely due to their wool shedding characteristics, their tolerance of ectoparasites (external), their excellent performance under drought conditions and their superior carcass quality.

Origins of the Dorper

During the 1930's South Africa exported a surplus of fat-tail breed carcasses. Unfortunately European consumers preferred the 'Canterbury' style lamb (16-18kg crossbred style carcasses) and the fat-tail style was not well accepted.

The challenge was to produce a meat breed that would produce a high quality carcass and yet, thrive under arid to semi-arid conditions. Crosses of Blackhead Persian (fat-tail) and Dorset Horns led to the development of the Dorper (with a black head) and White Dorper. The term 'Dorper' is used to describe both breed types (see below)The Blackhead Persian is a hardy, non-selective fat-tail hair breed with exceptional fertility. Skins are highly valued internationally. The Dorset Horn offered fast growth and heavy muscling.

The Dorper is today the second largest breed by number in South Africa. There has been increasing interest in White Dorper within Australia's domestic market and abroad (export).

Advantages of the Dorper

The Dorper is a hardy breed which will survive and produce under harsh environmental conditions. This is a desirable characteristic in pastoral regions such as the Western Division of NSW that is characterised by low, unreliable and highly variable rainfall. Producers running Dorpers in the Western Division of NSW have reported lamb marking rates of 130 percent, ewes producing three lambs in two years, and a carcass large enough to market at six to seven months. This has been achieved during drought, while Merinos run under the same conditions were failing to breed at all.

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Figure 1: The Dorper (left) and White Dorper (right)

The Dorper is a hair breed that sheds the wool component of its fleece annually. This means that from a third generational cross the progeny will shed their wool, making crutching and shearing unnecessary.

Research undertaken in South Africa has shown that although Dorpers may be infested by various louse species these do not seem to reach large numbers or cause production loss, and that blowfly strike caused by *Lucilia cuprina* is very rare (Fourie, L.J. and Horak, I.G., 2000). This tolerance to ectoparasites is a distinct advantage in an organic system where chemical treatments are disallowed, and on the extensive rangeland properties where mustering, crutching and shearing is expensive, which makes parasite management difficult. Furthermore there are no shearing shed maintenance or establishment costs. Less shearing also means reduced OH&S issues. In addition, the reduced handling and improved tolerance of the Dorper to parasites provides animal welfare benefits.

Environmentally, the adaptability of these breeds to the rangeland ecosystem appears to conform well to organic standards. The Dorper will browse shrubs and trees, as well as grazing grasses and ephemeral plants. It has been suggested that Dorpers are less selective grazers compared to Merinos. A study conducted by Brand (2000) on the benefits of Dorpers, as well as other related species, in extensive grazing situations in South Africa supports the view that they are less-selective grazers compared to Merino sheep, utilising a larger number of different plant species, walked less to select food or a suitable location to graze, consumed less herbage per metabolic size compared to Merinos, and the relative trampling factor for Dorpers is less than that of evaluated Merino-type sheep (Brand, T.S., 2000). However, in a similar study de Waal and Combrinck (2000) reported that there was no difference in the selective grazing behaviour of Dorpers and Merino (de Waal and Combrinck, 2000).

Processors too are impressed with the Dorper. Slaughtermen commented that 'clean' points made pelt removal easier, whilst one abattoir floor manager commented that the White Dorper lambs consigned had consistently been the best lambs he'd seen in 15 years.

Costs and returns

As a relatively new breed into Australia, establishment costs for Dorper breeding stock are relatively high. An increasing number of producers have bought rams to cater for the traditional markets and the growing organic trade.

Most producers prefer to cross existing stock until generational crosses achieve the desired carcass quality and shedding characteristics. Many Damara (another shedding, hair bred) breeders have joined ewes to Dorpers to improve carcass quality.

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Most Dorper rams ($\frac{3}{4}$ and higher) are currently selling from \$800+. At the 2004 Dubbo Sale White Dorper rams sold for an average of \$2806 with the top price paid \$5500. Dorper rams sold for an average of \$1595 with the top price \$3250. Ewes averaged \$1532 for White Dorper and \$1506 for Dorper.

Returns for organically certified Dorper lambs were significantly higher than traditional sale yard prices in 2004/05. Organic Dorpers realized a 25-50% premium over conventional product (44% for lamb chops).

The following returns were achieved from sale of organic Dorpers from a Western Division property:

Nov 2004. Average figures in bold.

Weight	21.4kg	(15.0kg-30.4kg)
Fat Score	12mm	(2mm-21mm)
Price	\$117.67	(\$82.50-\$167.20)

Plus skins (the skins / leather is highly valued for car seat covers by Mercedes Benz, but this is yet to be reflected in the prices received for skins: \$3-\$8)

The Dorper cross lambs received 550c/kg (Organic flat rate, less kill and transport costs). Similar carcass weight lambs were paid 352c/kg (Wagga Wagga saleyard average)

Analysis of Dorper carcass quality, as with crossbreds, showed that fat score increases proportionally with carcass weight (Figure 2). However, indications are that Dorpers begin to deposit fat at a lower carcass weight than crossbreds. Trials showed that carcasses ranged from a fat score (GR) of 2-21mm, averaging 11mm. 18-22 kg carcass weight (HSCW) appears to be optimal sale weight.

Figure 2: Fat score (GR) & carcass weight (HSCW) of 'Annalara' Dorpers processed on 25/11/04

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Cleavers Organic Meats has indicated a preference for Dorper sired crosses, paying from 10 to 30c/kg more than 'traditional' breeds and crosses. Preference and premiums currently offered by Cleavers are (in declining order):

1. White Dorper
2. Dorper
3. Damara
4. 1st Cross
5. Merino

Cleavers indicated that price for organic meat is less volatile than traditional saleyard returns, with prices for organically certified stock reviewed and set quarterly. Prices are consistently set higher than traditional markets.

Cleavers has indicated they require organically certified lambs with the following preferred specifications:

Zero Teeth

Dorper, Damara, First Cross 18 to 22 kg

Fat Score 2-3. Max 13mm fat on 12th rib.

ALL MEAT TO BE AUSMEAT CERTIFIED

Cleavers has estimated their Best Guess Price for organic lamb breeds/crosses (Hot Standard Carcass, Over the Hook) in 12 months time to approach:

1. \$5.80 /kg for White Dorper/Dorper/Damara higher order crosses
2. \$5.75/kg for traditional 1stX (Terminal Sire over Merino)
3. \$5.40 /kg for Merino style carcasses

Notably Cleavers believes the market will start to segment away from merino and towards better meat conformation breeds such as the Dorper.

Future products

Cleavers has identified that the future lies in the ability to value-add products. This includes Meal solutions, Value added Meals, and Shelf Stable Meals. Other products include pies, pate and meat stocks.

Supply and production issues

Fibre contamination

There has been some concern regarding the contamination of wool and wool producing properties from hair breeds such as the Dorper. In Tasmania, for example, these breeds have been banned in an attempt to minimize the risk of fibre contamination. Carcasses may also retain hair, with the potential to contaminate meat, although processors who have handled Dorper have not indicated this is a significant issue. There appears to be less concerns regarding clip contamination with White Dorpers than some other (for example, coloured) hair breeds.

If running both Merino and Dorper breeds, producers can minimise clip contamination by:

- Isolating coloured and kemp breeds/crosses from Merino's
- Shearing / crutching separately or after Merino's are shorn
- Removing rams a minimum of 8 weeks prior to shearing / crutching
- Weaning a minimum of 4 weeks prior to shearing / crutching
- Adopting and developing QA programs

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Supply and processing issues

Distance and availability of organic certified processors has been a major issue for Western Division pastoralists. The dispersed supply base necessitates dispersed production facilities.

The processing of organic meat products requires a pool of specialized labour and knowledge. Abattoirs must be organically certified and therefore have the ability to segregate, house and feed to organic specifications, and unique quality control issues such as specific wash-down and separation procedures and the requirement to use organically acceptable sanitizing agents and preservatives in processing meat products. The abattoir must be relatively easy to certify, and have in place established QA procedures to ensure full traceability. Livestock slaughtered in organically certified abattoirs must then be transported in segregated form. This transport needs to be dedicated to organic stock.

Past experience has shown that the processing of organic meat through existing channels is inefficient (stop/start for small runs due to the need to segregate organic and non-organic lines). The lack of markets for processing poor quality, trim and lesser cuts is also an issue.

Organic processors have cited that the main problems have arisen from an erratic supply in volume and quality.

Marketing issues

Establishing a successful organic meat sheep enterprise based on Dorpers will be determined by the producer's ability to not only supply and deliver a quality product, but to also successfully market their product. Cleavers has identified some key issues that producers need to address to facilitate product penetration in the marketplace:

- Organic meat is not well understood (misconceptions as to what it actually is). Industry promotion is required.
- A clear positioning for the meat has not been firmly established (Taste? Purity? Environmental?)
- Shoppers will not automatically select or trial (Product Tasting Events)
- Skepticism over authenticity (Producers must ensure there is a clear audit trail and the Certification procedure must be well defined)
- Sale volumes must allow for quality segmentation and carcass utilization

Market development

Any producers considering organic livestock production should consider developing regional production alliances. Production alliances are being developed in the Western Division to facilitate the supply of organic lamb. This will allow processors and purchasers of organic lamb access to the product through one avenue and the potential to a year round supply. Regional branding of products is another option open to producers.

NSW Department of Primary Industries, NSW Department of State and Regional Development, and the Federal Government's New Industries Development Program can assist producers to develop and market their products.

For further information contact Geoff Duddy Livestock Officer NSW DPI Yanco Phone (02) 6951 2688 or Robyn Neeson Organic Farming Liaison Officer NSW DPI Yanco (02) 6951 2735.

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Organic Industry encouraged to unite under a restructured OFA

An Organics Industry Round Table meeting held in Sydney on May 11 encouraged the organic industry to unite and confirm support for the restructured Organic Federation of Australia (OFA).

The purpose of the Organics Industry Round Table was to:

- Confirm industry support for the restructured Organic Federation of Australia's three high order priorities;
 - Appropriate protection of the domestic industry under the National Organic Standard for all "Certified Organic" produce in Australia;
 - Appropriate management and support for the peak national body and organics industry research and development; and
 - Sustainable financing for the peak national body industry research and development; marketing and promotion.
- Scope practical strategies to the three industry priorities.

Participants confirmed their support for the three priorities and working groups discussed issues and strategies to carry the priorities forward. Following the workshop, Hassall & Associates will research the three agreed priorities and develop practical 1-2 year strategies to address them. These will then be presented for consideration at a second Round Table in June 2005, coinciding with the formation meeting of the restructured OFA.

Whole-of-chain participation is being encouraged in the newly restructured OFA. The OFA is the only fully representative National Organic Body and includes all sectors of the industry: Certifiers, horticulture, broadacre agriculture, meat production, wholesalers, exporters, retailers, consumers, processors, IFOAM, inspectors, regional organisations, education and research. Their role is to work in co-operation with all sectors of industry and government to develop the Australian Organic Industry from a niche industry into a major component of Australian and deliver benefits to consumers, producers and the Australian environment.

For further information on the OFA restructure and how you can participate go to: http://www.ofa.org.au/papers_menu.html

Food Processing in Regional Australia Program

The Australian Government is investing in the future of our processed food industry with the four-year, \$12 million Food Processing in Regional Australia Program.

Grants are now available for small to medium farm businesses and food processors to undertake projects that will increase the amount of value-added food produced in rural and regional Australia.

Grants of up to \$200,000 are available on a competitive basis for individuals and groups seeking funding for projects involving activities such as:

Eligible activities and costs may include the following:

Value adding:

- The development of new or modified methods for processing or presentation of food products including new or by-products.

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- The purchase and installation or modification of specialised capital equipment to undertake processing activities.

Marketing arrangements:

- Assistance in the building of networks, alliances, and chains with other producers and/or processors and/or marketers.
- Market research on new products/markets.
- Training to improve marketing skills.
- Assistance to coordinate marketing activities on a regional basis or on a commodity/product basis.

Market establishment:

- Activities that help establish new markets (market visits, establishing systems to meet new market entry requirements).
- Costs associated with addressing regulation requirements.

Facilitating partnerships:

- Building investor attractiveness.
- Funding meetings with finance sector representatives, chain partners etc.

Other professional advice directly related to the project.

To apply you must be:

- a small to medium farm, food processor or agri-business;
- operating in rural or regional Australia; and
- proposing a commercially viable food business project that will benefit your region.

Funding is provided on a matched dollar-for-dollar basis with the applicant. The maximum Commonwealth funding available is \$200,000 or 50% of the total eligible budget items, which ever is the lesser.

Applications for round one of the program close on 1 June 2005.

For more information see: <http://www.daff.gov.au/regionalfood> Call 1300 794 550 or E-mail regionalfood@daff.gov.au Application forms and guidelines are available online at: <http://www.daff.gov.au/content/output.cfm?ObjectID=5BA20AB1-5EB2-4083-A15334151E825BE2>

Demand for National Accreditation Scheme: Natural Resources, Agriculture and Related Sectors

There is a growing demand for specialist information from advisers and consultants in all fields. The critical issue then becomes the quality of these specialist inputs, with quality related to the competency and performance of advisers and consultants. This RIRDC project found there is a significant demand for a National Accreditation Scheme for professional advisers and consultants to the Agricultural, Natural Resource Management and Related Sectors. Report summary: <http://www.rirdc.gov.au/reports/HCC/w05-042sum.html>

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Symposium Announcement: “Organic Seed Production and Breeding Crops for Organic Systems”

This symposium will be held during the annual meeting of the American Society of Agronomy, Crop/Science Society of America/Soil Science Society of America (Tri-Societies) Annual Meetings November 6-12, 2005 in Salt Lake City, UT.

The symposium will be cosponsored by Division C-4 and C-1 of the Crop Science Society of America. Division C-4 focuses on subject matter in seed physiology, production, and technology, and C-1 on crop breeding, genetics and cytology. The organizers of the symposium are soliciting volunteered oral and poster presentations that report research results in the area of seed production and breeding crops for organic agriculture.

If you are interested in presenting a poster or talk, you may register the author and title on-line at the Tri-Societies website: <http://a-c-s.confex.com/crops/2005am/index.htm>

“Genetically Engineered Crops and Pesticide Use in the United States: The First Nine Years”

This report by Charles M. Benbrook (BioTech InfoNet, Technical Paper Number 7) is the first comprehensive estimate of the impacts of GE crops on pesticide use over the nine years of commercial use, since 1996. The report draws on official USDA statistics on the acreage planted to GE varieties from 1996 through 2004, coupled with USDA data on the volume of pesticides applied to corn, soybeans, and cotton. These three crops account for nearly all acres planted to GE crops in the United States.

The analysis addresses the impacts of the two major types of GE traits:

- Herbicide-tolerant (HT) corn, soybeans and cotton;
- *Bacillus thuringiensis* (Bt) transgenic corn and cotton.

One of the key findings of the report shows that overall pesticide reduction claims are unfounded. Whilst overall insecticide use has reduced, herbicide use has increased, resistance in weed populations has increased. Whilst initially reducing herbicide use, the ecological adaptations predicted by scientists have been occurring in the case of Roundup Ready crops for three or four years and appear to be accelerating.

The Author, Dr Charles Benbrook, is an agronomist and director of the Northwest Science and Environmental Policy Centre. See the full report, at http://www.biotech-info.net/full_version_first_nine.pdf

Environmental News

The 2005 Environmental Sustainability Index has been released by a combined think tank from Yale and Columbia universities in the United States. The index combines 21 indicators of environmental performance, such as greenhouse-gas emissions and water quality. The index benchmarks the ability of nations to protect the environment over the next several decades. Australia came in 13th, just pipping New Zealand (14), well behind the winner Finland, but holding a significant advantage over the United States which came in 45th out of the 146 contenders. North Korea was last. http://www.yale.edu/esi/ESI2005_Main_Report.pdf

Banksia Environmental Awards 2005

The Banksia Awards recognise and reward individuals, community groups, businesses and government organisations for leadership and excellence in protecting Australia's environment and the ecological services it provides. This year's program will highlight environmental education. There are 12 categories across four themes, and full details and application forms are available at www.banksiafdn.com/index.php?page=10.

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Ecolivingexpo- solutions for a sustainable future. 3, 4, & 5th June 2005 at the Ridley Centre, Royal Adelaide Showgrounds, Wayville South Australia.

Want to know about energy efficiency, recycling, water minimisation or conservation? You'll find it all at the Ecolivingexpo where displays and special activities will showcase the very latest eco-related products or services.... and all promoting environmental responsibility or contribution to a sustainable future. To find out more, visit the website www.ecolivingexpo.com.au

First Tropical North Queensland Organics Conference: “ Organics – a path to best management “ 15 – 16 June 2005 Sheridan Plaza Cairns

The Organic Producers Association of Far North Queensland Incorporated (OPAFNQ) is presenting the first Tropical North Queensland Organics Conference and Tropical North Queensland Organic Produce and Product Expo, Wednesday 15 June 2005 followed by a one day Soil symposium with Dr Elaine Ingham, Thursday 16 June 2005.

The conference committee is looking for papers to be presented at the conference. They are interested in Technical papers from researchers, agronomists and scientists and non-technical presentations from growers, retailers, manufacturers, wholesalers, retailers, certifiers, extension providers, consultants, consumers, health workers and all others involved in the organic industry.

Papers are invited for oral and other presentations in the following areas: Soil Nutrition, Erosion, and Restoration; Pest, Disease and Weed Control; Holistic Management Systems; Farm Biodiversity; Harvest and Post Harvest systems; Agripolitics; Marketing and Trade; Certification; Commodity Sectors; Retail; Consumers; Health; Science Research; Social Research; Economics; Ethics; Sustainability and Technology.

For more information contact the Conference Coordinator at Email: opafnq@austarnet.com.au or Phone: (07) 4067 6492 (1-3pm weekdays)

Sydney Organic Expo, 29-31 JULY 2005

Sydney Exhibition and Convention Centre will be the venue for the Sydney Organic Expo, Australia's first major organic expo. For more information contact: Lena Smeaton – 0413 043 287 or Mary Hackett - 0414 306 689

15th IFOAM World Organic Congress, Adelaide, 20-23 September 2005

For more information contact: Jan Denham 2005 Organic World Congress Co-ordinator General: +61 8 8339 7800 Direct: +61 3 5027 9249 E-mail: ifoam2005@nasaa.com.au or got to the Congress Website: <http://new.webtemplate.com.au/bridgehead/NASAA/>

Third International Conference on Non Chemical Crop Protection Methods, Lille, France 13-15 March, 2006

The French Association of Plant Protection organises the Third International Conference on Non Chemical Crop Protection Methods, in Lille, from March 13th to 15th 2006. This conference will provide an international forum for scientists, teachers and technicians. It will also provide training and information for growers and other people, in order to promote the use of non chemical crop protection methods. All types of non chemical crop protection methods available for all types of field and protected crops will be presented. See: http://www.afpp.net/Calendrier/Lille_presentation_UK.htm

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Symposium Announcement

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Do you have any Organic News?

Do you have any research results, field day reports or other information that may be of relevance to organic agriculture? If so, let us hear about it! Send your contributions to:

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Note: Electronic format is preferred. Text - Times New Roman 11 point.

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