TWELVE dollar beef burgers, demand generally mushrooming, consumers forsaking TVs and cars for holistic comfort food, all Australian governments talking up organics.

Farmers' interest in marketing opportunities tied to the boom in organic farmgate sales has also driven the need for access to education and information, so NSW DPI is encouraging them to tap into the skills of extension officers around the State.

- Organics feature, p7-9.

Karen O’Malley and Scott Seaman at NSW DPI’s organic vineyard at Bathurst. Karen can download information to the wireless device she’s holding from buried sensors.
Environment’s role in averting a food crisis

ENVIRONMENTAL breakdown may cause worldwide food production to plummet 25 per cent by 2050, according to a new United Nations report. In the environmental food crisis: Environment’s role in averting future food crises, the UN says better management of the natural environment that underpins agricultural production is crucial if the world is to feed its growing population.

“The natural environment comprises the entire basis for food production through water, nutrients, soils, climate, weather and insects for pollination and controlling infestations,” said the report.

The report was commissioned last year after food prices surged, triggering riots in Egypt, Haiti, Cameroon and Bangladesh.

A rapid response team of international and internal experts concluded that the rise in food prices was caused by droughts, low food stocks and speculation in commodity markets.

They believe that unless food production and consumption are managed more sustainably and intelligently to minimise environmental degradation, food prices will become more volatile and expensive.

The combined effects of climate change, land degradation, cropland losses, water scarcity and species extinctions may reduce yields by 25pc by 2050.

The report says that increasing food supplies by expanding croplands will reduce forests, further reducing biodiversity and ecosystem services and accelerating climate change.

And simply cramming up the fertiliser and pesticide-led production methods of the twentieth century is unlikely to address the challenge, says the report.

These practices would increasingly undermine the critical natural inputs and nature-based services for agriculture such as healthy and productive soils; water and nutrient recycling, and pollination.

The report suggests that all countries need to help their farmers develop systems that provide critical ecosystem services such as water supply and regulation, habitat for wild plants and animals, genetic diversity, pollination, pest control and climate regulation, as well as adequate food to meet local and consumer needs.

Another path to increasing global food security is to minimise food energy losses from production, processing, consumption and recycling, an area that has received little attention in the past.

The report offers seven major recommendations to improve global food security:

1. Regulate food prices and provide safety nets for the impoverished.
2. Promote environmentally sustainable higher generation biofuels that do not compete for cropland and water resources.
3. Reallocate cereals used in animal feed to human food consumption.
4. Support small scale farmers through a global fund for micro-
finance, and by developing diversified and resilient eco-
agriculture and intercropping systems.
5. Increase trade and market access.
7. Raise awareness of the pressures on ecosystems caused by increasing population growth and consumption patterns.

The report provides an easy to read illustrated overview of the range of issues facing world food supplies today. You can read more at www.grida.no/publications

OWRA farmers John and Janet Leigh say an integrated pest (IPM) exercise on their farm eliminated the need for chemicals which, during drought, might have caused economically sign-
ificant damage to crops.

A two-year IPM monitoring program in four pasture and crop paddocks containing lucerne, canola and wheat started in April 2007 on their property, “Nanda West”, with help from NSW Department of Primary Industries (DPI) research officer Elizabeth Makonnen, in consultation with IPM Technology, Victoria.

Weekly insect collection from pitfall traps and sticky tapes were submitted to NSW DPI’s scientific collection unit at Orange Agricultural Institute for identification.

The analysis was then communicated to the Leighs to help them make informed decisions.

The most important pests of interest were red-legged earth mite, blue oat mites, aphids and lucerne flea. Beneficial insects found to be preying on them included parasitic wasps, wolf spiders and predatory mites.

Other beneficials (IPM) were present, though not in large numbers.

“In 2008 monitoring continued on two previously monitored paddocks and the result, compared to the previous year, showed the number of pests were lower than the number of beneficial insects,” Elizabeth Makonnen said.

“This was an indicator that chemi-

cal free management had boosted the number of beneficial insects.”

According John Leigh, if it was not for IPM he might have used insecticide at the first appearance of pests.

There is a growing interest from stockholders who would like to intro-
duce IPM to their properties.

“A better understanding of IPM in the broad farming community is imperative for a sustainable envi-
enmental outcome,” Ms Makonnen said.

She says further funding for IPM studies is required, to add some mod-
elling and comparison trials between heavy chemical users and those who rely on IPM.

Discuss long-term planning options

A FREE workshop for farmers on options to consider when planning long-term decisions will be held in Griffith in April.

NSW Department of Primary Industries Griffith-based drought support worker, Lou Revelant, said the workshop would provide information on long-term options available to farmers wanting to examine their viability, consider other enter-
prises, or investigate alternatives to farming.

“There will be sessions on the skills needed for long-term viability plan-
ing, technical skills, diversifying into new crops and temporary water trad-
ing,” Mr Revelant said.

“Other sessions will focus on alterna-
tives such as leasing the farm and sub-
dividing the property.

“For those looking at selling up, there will be a speaker discussing assis-
tance available to irrigators consider-
ing exiting the industry.”

Mr Revelant said the workshop was designed for those wanting to object-
ively assess their situation, even if they expect to continue as farmers.

“The best way to objectively examine all the options is to openly discuss the range of options before making any decisions and the consequences of dif-
cult life changing decisions,” he said.

“A large part of the day will be devoted to looking at alternatives and cop-
ing with change.”

John and Janice Moore’s case study

Covra farmer John Leigh looks through a magnifying glass at a canola plant infested by parasitised aphids as Dr Paul Horne from IPM Technology, Victoria, explains what he’s seeing.

The project was funded by Western Region Grain and Grazes.

“Reliance on knowledge, experi-
ence, observation and integration of multiple techniques make IPM a per-
fet method in organic food as well as in pasture production,” she said.

“IPM can be equally applied to both agriculture (large and small farms) and home gardens.”

Contact Elizabeth Makonnen,
Triangle, (02) 6880 8056, elizabeth.makonnen@dpi.nsw.gov.au or John Leigh, Covra, (02) 6345 3200, phezuli@mail.com.au

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A CHANGE in the severity of the disease theileriosis in NSW cattle is being investigated by veterinarians from NSW Department of Primary Industries ( DPI) and the Livestock Health and Pest Authority.

“Theileriosis is a disease affecting red blood cells that has been present in NSW cattle for 50 years – but in the last year it has emerged as a serious cattle health problem, in parts of the State,” said NSW DPI regional veterinary officer Paul Freeman.

“In a recent case on the Mid North Coast, multiple deaths and abortions were seen in introduced cattle on a beef cattle property at Dorrigo.”

Theileriosis is caused by a parasite of red blood cells spread by bush ticks – but not by either cattle tick or paralysis ticks. Theileria are normally common at low numbers in blood smears from healthy animals.

Mr Freeman said in the past, severe illness due to theileriosis was rare and associated with very high levels of Blood cell parasitism and most affected animals recovered uneventfully.

“In the last year, however, there has been a five-fold increase in the number of reported outbreaks of clinical theileriosis in cattle on previous years,” he said.

“The first cases were seen in the Gloucester-Kempsey area and the eastern far country around Walcha.

“Since then cases have been noted from most coastal areas of NSW and the Northern Tablelands.”

Mr Freeman said the majority of the recent theileriosis outbreaks had been in cattle recently introduced from areas free of bush ticks.

“Unlike the sporadic cases seen in the past, these outbreaks featured severe symptoms and many deaths at all ages,” he said.

Clinical signs in affected animals include anaemia, lethargy, poor milk production and sometimes jaundice.

Abortion is a frequent outcome in pregnant animals.

Mr Freeman said the change in the severity of the disease in NSW may be due to a slight variation in the theileriosis strain – but this is not yet clear.

“NSW DPI has arranged for isolates from NSW strains of theileria to go for DNA analysis,” he said.

“This will help us understand the difference in severity of Theileria within NSW and Queensland.

“Different transmission rates by tick vectors is another possible cause of variation in the disease’s severity.”

Mr Freeman said a workshop on theileriosis is being held at the LHFA District Veterinarians’ conference at Port Macquarie this week, to develop a greater understanding about these issues.

This will be attended by experts in the field of tick transmissible diseases including Professor Sugiimoto from Japan, who is keen to increase the understanding of the epidemiology of theileriosis infection in Australia.

Mr Freeman said that there was no recommended treatment for theileriosis in Australia.

“However, in other countries drugs that are effective against other species of theileria are used in the treatment of clinical cases,” he said.

“Contact has been made with animal health companies regarding the potential to trial treatment options for the disease.”

NSW DPI is also advising cattle producers on the NSW Mid North Coast to maintain good bush tick control, particularly on introduced cattle – to reduce the likelihood of cattle getting the disease.

■ Contact the district veterinarian with your local Livestock Health and Pest Authority.
State recognition for inspirational women

EACH year I am impressed by the NSW Rural Women’s Award finalists. This year is no different. Passionate advocate of food and wine promotion for the Central West, Orange’s Kim Currie, was named winner of this year’s NSW RIRDC Rural Women’s Award at a recent gala event at NSW Parliament House.

Kim was recognised for her commitment to improving agritourism and using farmers markets and other initiatives to boost awareness of food production efforts in NSW, and help strengthen rural communities.

Kim’s energy and enthusiasm for the innovative promotion of food and wine in the Central West is well known, and has the potential to help similar rural communities across the State better promote their products to consumers. This year’s runner-up, Gillian Hogendyk of Warren, is equally impressive.

Gillian has shown incredible leadership by inspiring cotton industry members in the North West of the State to play their part in improving wetlands such as the Macquarie Marshes, and sharing their new knowledge with the general community, university and school students. This year saw one of the largest and most diverse range of applicants attracted by the award in recent times, and indicates the depth of talent in our rural sector.

Despite more than half the State remaining in one of the worst droughts on record, these women are developing new initiatives and projects that benefit their communities and industries. I congratulate both these women on their achievements.

PROfarm success
THE State can be proud of what has been developed to educate farmers and those associated with land management in NSW by Tocal College.

Short courses delivered by Tocal under the PROfarm banner have been an outstanding success with over 18,000 people undertaking courses, most of them farmers and hands-on managers.

PROfarm courses are run in locations which suit farmers – in other words our clients do not have to travel for hours to do a course. PROfarm has around 125 short courses ready to go, depending on needs and seasonal requirements. These courses are mapped and accredited to comply with National Standards.

As a result, those who undertake a PROfarm short course build a basis for a full qualification – no other State has such an integrated system for short course development and delivery.

Information is available at www.dpi.nsw.gov.au

Fodder fire demos at Tocal field days

A DAILY haystack fire will be part of a demonstration at this year’s Tocal Field Days to graphically illustrate what to avoid and how to protect and maximise winter fodder.

Research was conducted after several hundred hay shed fires occurred under extreme and unusual conditions last year.

At the field days demonstrations, from May 1 to 3, district agronomist at Tocal, Neil Griffiths, will release temperature data from test bales and a fact sheet for farmers, which will also contain insurance advice.

Mr Griffiths will provide information to help farmers address financial, environmental and social impacts from winter fodder, shed and equipment losses.

One of the event organisers, Marie Williams, says the weekend will show the usual range of high standard events that have made Tocal Field Days famous.

She says despite the uncertain economic times, site bookings are solid across educational and commercial sectors, with more to be locked in.

This year marks 26 years promoting sustainable farming, served up with Tocal College’s famous country hospitality.

Free expert agricultural and gardening advice will be offered on climate change, property planning, soils, insects, pastures, weeds, water quality and use, livestock and energy savings.

Information on new Private Native Forestry opportunities for landholders and contractors will be available at the NSW DPI marquee, along with 10 other features from agriculture, mining, forestry and fisheries.

Farmers of The Year Nigel Kerin and Tally Matthews will also attend the DPI marquee.

Raymond Terrace-based Riding for the Disabled is the chosen charity for 2009, invited to promote its work at Tocal, raise some funds and recruit volunteers for its service.

Horse lovers will be able to watch a saddle being made, see horse skills in action and several horse breeds, plus cattle mustered on horseback at the Skills Centre.

A livestock auction, with tips on how to sell and buy, will be conducted on Sunday.

Schools are being offered 13 workshops in the Friday school education program, including learning about meat cuts painted on a live Red Lincoln cow, and checking strawberry DNA under a microscope.

Look out for magnificent, brightly painted fibreglass life-sized cows as part of the schools Picasso Cows promotion.

Each year the Tocal Field Days attracts around 28,000 visitors and 400 exhibitors. Parking will be free at Tocal from May 1 to 3. Gates open nine to five daily.

Contact Marie Williams, Tocal, (02) 4939 8820.

NSW DPI’s bookshop 1800 028 374

This book describes the growth and development of the wheat plant from germination to grain tilling and environmental factors and management actions that influence each growth stage. The aim of wheat growth & development is to link plant physiology and crop management. It will help agronomists and farmers to understand the life cycle of the wheat plant, and factors that influence growth and development, and to identify the growth stages of the wheat plant using Zadoks decimal growth scale. This knowledge can then be applied to crop management to maximise yield and profit. Included in each chapter are practical exercises to demonstrate how knowledge of plant physiology can be applied in the paddock. R71.50 $10.00 (inc GST)


Research conducted after several hundred hay shed fires occurred under extreme and unusual conditions last year will be discussed at the Tocal Field Days in May. A daily haystack fire will be part of the demonstration. (Photo courtesy NSW Rural Fire Service)
Delayed water on rice results at field days

Delayed permanent water on rice demonstration results for rice crops have drawn great interest at six recent field days.

The field days were held on farms in the Griffith, Yanco, Collambarra, Finley, Deniliquen and Barmah districts and attracted 155 farmers and other visitors. The irrigation and rainfall water use of the three farmer demonstration crops to mid February was around 12.5 megalitres per hectare, compared to the Murrumbidgee Irrigation water use target of 15.1ML/ha.

NSW DPI district agronomists presented the results, along with research agronomist Brian Dunn. A delayed permanent water research trial by Mr Dunn at Yanco revealed that 40 and 80 millimetre evaporation flush treatments saved water at the rate of 1.7ML/ha and a 160mm treatment saved 2.5ML/ha, compared to normal early permanent water yields and gross margins/ML are still to be repeated and nitrogen timing, greenhouse emissions and weed control investigated.

The six field days were a great success, according to DPI rice farming systems industry leader, John Lacy. “We decided to go out to the farmers and their response was great, given some in the Murray Valley have not grown rice for several years,” Mr Lacy said.

SunRIce deputy chair, Mark Robertson, painted an optimistic future for rice with overseas demand for medium grain rice very strong. “A rainfall after drought” talk by DPI dairy livestock officer, Michael Cashen, showed the current rainfall to be similar to the 1936 to 1945 drought. However, there is less rain falling in autumn.

Research agronomist Geoff Beecher presented spatial variability results. “Soils with cut areas exposing alkaline soil may need higher rates of phosphorus than we had previously realised,” Mr Beecher said.

Nitrogen and phosphorus fertilisers tended to give better responses on cut areas than fields and chicken manures.

Farmers will evaluate a combination of fertilisers and manures next season.

DPI rice breeders, Russel Reinke and Peter Snell, gave an update on the rice breeding program. The program’s resources have been reduced but it is targeting high priority industry needs of lines for cold tolerance, straighthead and aerobic rice production.

Irrigation companies Murrumbidgee Irrigation, Collambarra Irrigation and Murray Irrigation gave updates on water issues and on RiverReach at the Murrumbidgee valley field days.

Contact John Lacy, Yanco, (02) 6951 2738, john.lacy@dpi.nsw.gov.au

Helping landholders understand rates

LANDHOLDERS are being provided with assistance to help them understand how they pay to Local Livestock Health and Pest Authority rates.

A new rating system has been introduced this year as a result of the 2007 Bull rating review conducted by the NSW Government and many landholders have received their new rates notices.

“Landholders may require more information about how their rates are calculated and we want to assist them with their questions,” Livestock Health and Pest Authorities State Management Council CEO, Steve Orr, said.

The rates landholders pay to their local Livestock Health and Pest Authority allow the authority to fund the services it provides to landholders and contribute to its Statewide biosecurity and pest functions.

“For example, last year our vets carried out more than 10,000 disease investigations across the state,” Mr Orr said.

“Rangers ran around 1200 group control programs to help landholders eradicate wild dogs, rabbits, foxes, pigs and other pests. “A call centre has been set up and additional information has been added to our website to give ratepayers easy access to information.

“Landholders with queries about their rates notice should not hesitate to phone or visit the website. “They can also contact their local authority and speak first hand to LHPA staff,” Mr Orr said.

The major change for 2009 as a result of the Bull rating review is that a base charge has been introduced in place of minimum rates for both the general and animal health rate.

“As a result of these changes, some ratepayers will pay less and some will pay more,” Mr Orr said.

“Overall the increase in the amount of rates collected to fund authority activities is in line with the CPI in most authorities.”

Another change this year is the reintroduction of the pest insect levy as a result of the 2008-09 plague locust control campaign. Mr Orr said the collection of this levy was a requirement of the NSW Government and these funds go directly to the NSW Department of Primary Industries Pest Insect Destruction Fund. “This is over and above the amount of $28 million being collected through rates to fund LHPA activities,” Mr Orr said.

Mr Orr urged landholders to take time to look at the information on their rates notices and if they had any queries to make contact.

Livestock Health and Pest Authorities replaced Rural Lands Protection Boards (RLPBs) on January 1.

Former RLPB offices across NSW have remained open as offices of the new local authorities.

Contact LHPA, (02) 6391 3242, visit www.lhpa.org.au/rates or contact your local authority.

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At the Yanco rice trial site, NSW DPI research agronomist, Brian Dunn, explains delayed permanent water results during a recent field day. Evaporation flush treatments saved water.

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New ‘horti’ to start at Young

A NEW horticultural extension officer has been appointed to the Department of Primary Industries (DPI), to be based at Young from mid-April.

Currently with the Department, Sean Brindle has experience in horticulture, research and the management of invasive species, which will all be of great benefit to growers. Mr Brindle will work with cherry and prune growers in the Young district to further develop the valuable local industries.

Cherries contribute about half the $40 million a year horticultural crops bring in to the district’s economy. He will help growers increase the value of their production by encouraging them to make the most of advances in technology and industry best practice.

Other horticultural producers in central and southern NSW, such as Cowra wine grape growers, can also call on Mr Brindle’s expertise for information and advice.

He started his career with a horticultural science degree, focusing on stone fruit production and plant pathology, and before joining DPI, worked for nearly six years in horticulture in Sydney implementing plant protection spray programs.

In his five years with DPI, Mr Brindle has worked on winter stone fruit not far from Young at Temora and more recently at Orange, monitoring, evaluating and reporting on invasive plant and animal species.
Twelve buck burgers – who says recession?

NY organic beef producer who sells the meat that tens of thousands of burgers at one event at 12 a dollar is a hit to the keenness of both the current demand and supply sides of organics industries in most parts of the world. The organic Wagyu of Rob and Nita Lennon’s Gundooee Organics stimulated the taste buds of willing consumers at the inaugural Taste of Sydney festival, held over four days in mid-March.

For the occasion they teamed up with the largest regular purchaser of their beef, award winning Sydney chef Justin North, proprietor of Bécasse restaurant. On their Central Tablelands property, “Gundooee”, near Dunedoo, the Lennons are succeeding with a smaller Wagyu herd than conventional wisdom advocates.

“By keeping total control of their whole production and marketing systems, the Lennons have been able to maximise returns from fewer animals,” NSW DPI beef products district livestock officer, Brett Littler, said.

When it comes to advice, the Lennons are open-minded. Mr Littler, based at Mudgee, has worked with them to improve their live animal assessment skills including fat scoring and physiological maturity, which helps to ensure they better meet customers’ needs.

“Gundooee” has been certified A Grade Organic with the Biological Farmers of Australia since 2004. The Lennons invest time and effort into monitoring the growth and welfare of their animals, and this continues beyond the farm gate.

Customers have different requirements, and the producers match their animals to best meet each client’s specifications. They directly supply six butchers and, in addition to Bécasse and Plan B, to Mr North’s other well reviewed restaurant, Etch, which opened in November.

Producers (wholesalers) in both Sydney and Canberra also buy, then on-sell cuts to another six restaurants. The Lennons have open communication with all these clients and act on their feedback. “Meeting consumer needs and listening to feedback is ensuring satisfied customers, as ‘Gundooee’ continues to increase its product quality,” Mr Littler said.

“‘It has been really interesting working with the Lennons, with their open minded approach to beef production.

“They have adopted a whole different way of thinking to gain maximum results from their property.”

While most beef producers are concentrating on key performance indicators like kilograms produced per hectare and the cost to produce those kilograms, Rob and Nita have taken a different approach to improve their property. The Lennons adopted a rotational grazing system to enhance soil health, which has increased their farm biodiversity including the soil biology, their highest agro-ecological priority.

They have promoted the return of native perennial pastures, shrubs and trees. Mr Lennon says a natural and active approach to management, with ethical and environmentally sustainable farming techniques at “Gundooee”, will remain their primary considerations.

He completed the Meat Standards Australia meat science course in 2007, gaining valuable knowledge about what affects tenderness, juiciness and flavour, and things directly applicable to his business. Mr Lennon believes everyone who handles live animals, and all meat handlers, would gain greater understanding of their own situations from this course, and learn about all aspects of the production and supply chain.

Contact Karen O’Malley, Bathurst, (02) 6372 4712 or visit www.gundooeeorganics.com.au

Above: Rob Lennon with his organic Wagyu cattle at “Gundooee”, near Dunedoo.

Left: The inaugural Taste of Sydney festival has come and gone but Bécasse restaurant proprietor Justin North’s Sydney takeaway sandwich shop Plan B is the alternative place to get a burger made from Gundooee Organics beef. (Photo courtesy Fig and Cherry website.)

Farmer interest in marketing opportunites tied to the boom in organic farmgate sales has also driven the need for access to education and information.

The biggest risk is lack of knowledge about what to do, says NSW Department of Primary Industries (DPI) organic industry development officer at Bathurst, Karen O’Malley (pictured). “Many farmers are interested in converting to organic production, but are not sure how to make the transition.”

Ms O’Malley said. “They have a wide range of questions about what organic farming would mean for them in terms of soil and pest management, marketing and certification.”

So last month DPI conducted training workshops for Departmental livestock officers, to help them identify ways to improve animal care on organic farms.

Ms O’Malley said the workshop gave livestock officers the knowledge to help landholders understand, identify and manage the risks of transition to an organic system.

The workshops focused on the impact of farm level practices on animal health, and on quality aspects of organic livestock production. Ms O’Malley encouraged organic producers to now use the wealth of experience and knowledge of DPI livestock officers.

“Much of their day to day work is about helping farmers reduce unnecessary chemical inputs, farming sustainably and producing the best quality product possible,” she said.

While most farm assurance schemes, including organic farming certification, are primarily concerned with regulating the production system, animal health and welfare are particularly important in organic livestock production.

“Organic certifying bodies across the country and the Australian National Standard all require strict adherence to humane handling of livestock, high quality feeding and health care, and provision of housing and social conditions that maximise the expression of natural behaviours,” Ms O’Malley said.

“Making the change to certified organic farming isn’t easy, but very possible.”

Organic farmers are also encouraged to go to the many conventional field days such as Prograze, Paddock Plants, weed control, animal health risk management, and farm planning, to gain valuable information directly applicable to organic systems.

“Agronomic challenges include finding a way to control weeds without herbicides and to control internal parasites in livestock without relying on dewormers,” Ms O’Malley said.

“Marketing challenges include finding an organic market and processors for a small amount of product.”

Diverse knowledge and experience is required for a successful organic transition.

In many ways organic production, requires a vastly different set of assumptions, tools and techniques. Ms O’Malley says a lack of knowledge or experience in applying inputs, timing harvest, dealing with disease or identifying markets can result in increased risk and lower rates of return.

The approach to organic production requires more multi-year thinking – looking forward to build soil fertility and backward to understand root causes of pest problems.

The switch to organic production may also be occurring alongside other changes in a business, such as increasing direct marketing.

Contact Karen O’Malley, Bathurst, (02) 6330 1512, karen.omalley@dpi.nsw.gov.au.

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Governments all on side

A RECENT Primary Industries Ministerial Council (PIMC) statement of support for organic farming in Australia is a significant development, aimed to strengthen the future of the industry.

“Support at a federal level now acknowledges the position held by NSW, where we are committed to the development of the organic farming sector,” Primary Industries Minister, Ian Macdonald, said. “The NSW Government has a significant history of supporting the industry and acknowledges that organic products are important to addressing key aspects of future food security for the State.”

Organic products are important to the majority of Australian consumers. A survey conducted by Newspoll says 61 per cent of Australian grocery shoppers buy organic products. The PIMC announcement recognised the rise in consumer support for organic products and the heightened interest in organic agricultural production, following strong figures showing 10 to 30pc yearly production, following new figures showing 10 to 30pc yearly growth for some retail sectors and an 80pc increase in organic farm gate values, since previous 2004 benchmarks.

It also recognised the potential benefits of organic agricultural practices to natural resource management and the financial benefit that organics contribute to the economy.

The statement encouraged the Organic Federation of Australia (OFA) and other industry bodies to work closely together to co-ordinate industry development.

Biological Farmers of Australia recently estimated a $600 million contribution to the national economy by organic industries and OFA says flow-on industries push the total value above $1 billion dollars.

Mr Macdonald says the industry is worth over $200 million to NSW and is continuing to grow.

“An Organic Ministerial Advisory Council has also been established, its priority issue being to develop a standard that meets the requirements of both the domestic and export markets, so producers and consumers can be in a position of informed choices,” he said.

“In October 2006 a range of new initiatives were announced, including additional staff and resources to be added to the existing Centre for Organic Farming at Bathurst.”

Federal support signifies an important policy shift which may provide some opportunity for better national co-ordination of industry development and acknowledges that governments have a role in mitigating barriers and maximising opportunities for growth.

Ancient spelt for many tastes

“CHEERS!” How could the news that spell beer is gaining popularity in Europe not spur the market for the ancient grain in Australia? This relative of wheat, one of the oldest cultivated grains, is also increasingly popular in the health food market – but before we chime “good health”, let’s read the caveat in the main story.

The most common use for spell is as a substitute for wheat flour in breads, pasta, confectionery (licorice) cookies, crackers, cereals, cakes, muffins, mixes for breads, pancakes and waffles. Spell grain and forage is often used as livestock fodder, with some spell genotypes having greater protein yield than wheat end oats.

In Australia it is estimated that markets exist for approximately 10,000 tonnes of organic spelt grain per annum with an on-farm value of $10 million (de-hulled), and estimated retail value of $10.2 million.

While returns to producers for spell are attractive at around $1000 per tonne, low yields and the cost for de-hulling (around $150/tonne) reduce potential returns. Market irregularities are further frustrating industry expansion.

Three new types but a health claims caution

GREAT caution should be taken when making health enhancement claims to promote spell products, says a research team at the EH Graham Centre for Agricultural Innovation. Some consumers, particularly those experiencing wheat hypersensitivity or mild wheat intolerances, base their production and spell products on the belief that wheat gluten proteins are not present,” organic farming liaison officer, Robyn Neeson, said.

However, our finding through DNA analysis of 90 genotypes, is that some so-called spell genotypes are in fact spelt-wheat hybrids.”

Beyond that cautionary note, a three-year research project to find new and improved spell genotypes for organic producers, now nearing completion, has discovered three possibilities.

The three genotypes could replace the industry standard, Kamarch, with potential to provide a more consistent supply of organic spell grain to processors, and consequently to consumers of spell products.

Ms Neeson says significant milestones have been achieved in the understanding of spell and how this cereal grain performs in the Australian environment.

“We found three true spell genotypes which out-yield Kamarch,” she said.

“Pending further organic and conventional yield trials in multiple locations along with quality assessments, they could be considered for commercial release.”

“One of the genotypes is free-threshering.”

The work conducted through the EH Graham Centre in Wagga Wagga was a collaborative alliance between NSW DPI and Charles Sturt University, funded by the Rural Industries Research and Development Corporation.

“The spell genotypes exhibited a wide variation in genetic and agronomic attributes,” Ms Neeson said.

“A range of stripe and stem rust disease and aluminium tolerance were measured.”

Results of phosphorus uptake trials revealed that spell genotypes were more efficient in converting internal phosphorus into biomass, but were less efficient in converting either applied or internal P into grain yield. Early maturing spell genotypes out-yielded later maturing genotypes.

Early sowing April to June is the preferred option. Increased tillering in spell was at the expense of yield. The spell genotypes achieved on average 15.7pc per cent grain protein compared to 15.7pc for wheat.

Several spell genotypes were found to have comparable or better flour extraction rates than wheat.

The researchers acknowledged the co-operation and support of David and Mary Bloor, “Buronga”, Cootamundra, and Biological Farmers of Australia for financial and in-kind contributions.


Contact Robyn Neeson, Yanco, (02) 6951 2735, robyn.neeson@dpi.nsw.gov.au.
From niche to a significant player

Coconning boosts industry in global downturn

THE global economic downturn has not so far retarded the expansion of organic industries worldwide. The financial crisis has not, in fact, put a halt to the growth in organic farming, according to researchers and industry leaders. "We have achieved net premiums of $578,000,000 with reports of between 10 and more than 30 per cent annual growth for some of our clients," said Mr Cresswell, the National Organic Federation Australia said.

André Leu says market information from the US and Europe is showing a considerable increase in the sales of the types of organic products used to prepare raw materials for cosmetics, factories, processors and marketers. "Major retailers now carry in excess of 500 different organic lines in fresh and grocery categories. Australia accounts for the largest amount of certified organic farmland in the world - 11,880,044 hectares, the majority of which is used for extensive grazing. Number of certified organic operators increased by an annual 5.2pc average over the last four years, the total number of certified organic operators was 2750 - made up of farmers, processors and marketers. The average age of an organic producer in Australia is lower than a non-organic producer. The industry is consolidating; average size of organic farms has increased, highlighting a trend towards larger scale professional farming and farm area expansion by farmers experiencing long term success, using organic systems, and Horticulture remains a major part of the industry: two thirds of organic farmers make up the sector, which represents almost half the total organic farm gate value in Australia. Fresh produce remains the primary point of entry for new organic consumers.

"This year was the twentieth anniversary of Biofach. Over 40,000 trade visitors from 130 countries and 271 exhibitors spread over 12 halls participated in the largest global organic event. Several countries gave presentations on their organic sectors with the consistent message that sales continue to expand. "Our members are telling us that sales have increased significantly," said OFA director and convenor of the Organic Traders' and Consumers' Network, Catriona Macmillan.

"While there is some evidence of a slowing in sales of some of the more expensive packaged organic products, this is more than compensated by the increase in all other lines," she said. Mr Leu said a recent report showed the industry was worth over $600 million. "When we add flow-on industries such as the compost industry ... worth over $400 million, it is easy to see that the [total] is worth over a billion dollars to the Australian economy," he said.

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"There is one little thing that no one is talking about, which is that many of the factors driving the growth of organic are also driving the growth of conventional industries."}

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From niche to a significant player

Cocooning boosts industry in global downturn

THE global economic downturn has not so far retarded the expansion of organic industries worldwide. The financial crisis is actually contributing to a change in buying habits in favour of organic products, the chair of the Organic Federation Australia said. Agriculture Today.

Andre Leu says organic sales continue to increase because, the first are buying more organic products for home consumption, rather than spending on more expensive items such as cars and TVs. NSW DPI's organic industry development officer, Karen O'Malley, agrees.

"People's tendency to cocoon into a stay at home lifestyle in a financial crisis reflects the organic ethic of producing and shopping locally," she said.

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Honey bee killer is still on the increase

American foulbrood disease (AFB) is caused by the bacterium Paenibacillus larvae. It has been in Australia since early introductions of honey bees. Only bee larvae less than 24 hours old can become infected when fed food containing bacterial spores, resulting in the death of the larva or pupa after the cell is capped off. Each individual that dies produces 2.5 billion more P. larvae spores which provides a further source of infection to the hive. This rapidly increases the spore load in the hive, raising the chance of infection of young larvae. The spores are very hardy and long lived (more than 50 years). The increasing numbers of larvae dying from AFB eventually results in the death of the colony.

How it takes hold

AFB is a notifiable disease under the Apiaries Act 1985, requiring notification to NSW DPI within 24 hours of discovery.

Contact Nick Annand, Bathurst, (02) 6330 1210, nick.annand@dpi.nsw.gov.au

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Duck industry opens new forum

GOOD prospects for domestic and export growth point to the duck meat industry becoming an increasingly important part of the poultry meat sector. The industry is estimated to have a wholesale value of $100 million per year, says NSW DPI poultry livestock officer, Joanna Blunden. Commercial production involves integrated operations where a company operates hatcheries, breeder farms, growing farms, processing plants, and contract growing farms.

The Australian industry is built on Western Sydney with one major player, Pepe’s Ducks, supplying most of the market. This company processes 70,000 birds per week, up from 35,000 in 2003.

The Australian Duck Meat Industry Association (ADMA) was formed in 2008 as a representative body. One of the first initiatives of the association was to establish national biosecurity standards. ADMA encourages all duck industry participants to become members.

Contact Joanna Blunden, Tocal, (02) 4939 8946, joanna.blunden@dpi.nsw.gov.au

Cross-section view of comb with three AFB infected larvae and pupae at different stages of breakdown.
Complementary forage rotation is sustainable

A N INTENSIVE system offering dairy farmers the opportunity to produce more home grown feed than could be achieved from pasture alone is environmentally sustainable, according to a study.

Project leader, Associate Professor Yani Garcia, said FutureDairy's complementary forage rotation (CFR) may have benefits to dairy farmers with limited land and irrigation, particularly if grain-based concentrates become more expensive.

The CFR involves growing two or three crops on the same area of land within the one year, for example, maize, forage rape and Persian clover.

"The idea is to allocate inputs, such as nitrogen and water properly in a relatively smaller area, rather than scattered throughout the whole farm with reduced efficiency," Yani Garcia, based at Elizabeth Macarthur Agricultural Institute (EMAI), said.

Annual yields from the CFR are more than double the dry matter per hectare, compared to a maximum of about 26t from the best managed perennial ryegrass pastures.

"We use crops that complement each other or the system. But the CFR is an intensive system, involving high inputs of fertiliser and water so we were particularly interested in its environmental impact," said Assoc Prof Garcia.

Over the past four years, FutureDairy conducted several studies to investigate this.

Firstly, Pancha Shrestha evaluated the impact of growing double- and triple crop CFRs on soil fertility, health (microbial activity) and pathogen build-up in the soil.

The study found no evidence of any adverse effect of the CFR on these soil characteristics.

In a larger scale study Bertin Kabore monitored the key indicators of health status and nutrient flows within the system over four seasons.

The data allowed Mr Kabore to assess the likely impact on areas away from the CFR site and to compare nutrient and water use efficiency with both intensively and extensively managed pasture systems.

The results showed no changes in soil organic matter or any adverse effects of an intensively managed CFR.

The organic matter content of a soil is an indicator of its potential fertility and it can be dramatically reduced after a few years of continuous cropping. However this doesn't seem to happen with CFR, which involves crops such as forage rape and legumes which provide beneficial properties to the soil.

Although the system requires a high level nitrogen fertiliser, it is twice as efficient at using nitrogen due to increased forage yields.

"And the high yields mean the CFR is also twice as efficient at using irrigation water," said Associate Professor Garcia.

"The loss of soil nutrient through run-off was surprisingly low, even in a relatively wet year.

"Overall, these studies show that the increased intensification in home grown feed through CFR system can be achieved without adverse effects on soil physical and chemical properties," he said.

FutureDairy's ongoing research is investigating the CFR on a larger scale, where it is being grown on 35 per cent of the farm area, with the cost used for intensively managed kikuyu-based pasture, oversewn with short rotation ryegrass managed each autumn.

Contact Dr Yani Garcia, Camden, (02) 9351 1631, sgarcia@usyd.edu.au or www.futuredairy.com.au

Save with old stocking test

FEED which passes undigested through a pig represents a waste and a significant loss in many pig businesses, sometimes attributable to improperly milled grain.

At $300 a tonne for feed, a reduction of particle size from 1000 to 700 microns could increase profit by $24 per sow, after accounting for the additional cost of milling the grain finer.

Close inspection of pig manure may not be the most appealing assignment, but it can yield a valuable understanding of what is happening to your pigs' diets, says NSW DPI industry development livestock officer, Greg Mills.

"The easiest on-farm technique to look at residual material is to place manure in a stock tank and flush out the contents in a bucket of water or with a slow running hose," Mr Mills, based at Moree, said.

"The larger undigested feed particles will remain in the stocking and can be examined and identified.

"If larger particles of grain are evident in the residual material, address the issue immediately – it is an indication the grain has not been milled sufficiently."
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PASTURES

Reconsider the ‘king of warm season grasses’

Reconsider the ‘king of warm season grasses’

KIKUYU grass can rightly be called king of the warm season grasses, says Richmond district agronomist Ashley Senn.

“If you have thought until now that kikuyu is a weed, it might be time to reconsider your beliefs,” Mr Senn said.

“As long as you keep it green, it can be an excellent feed for close to half the year in many parts of NSW.

“In the right conditions, it can yield over 25 tonnes of dry matter per hectare per year.

“For both quality and quantity, it ranks first among warm season grasses – in the right conditions.

“According to Mr Senn, the fresh green leaf of kikuyu regularly attains digestibility close to 70 per cent.

“Expressed as metabolisable energy (ME), this is equivalent to just under 10 megajoules per kilogram of leaf dry matter (MJ ME/kg DM).

“All livestock can fatten well grazed in just 10 to 12 days.

“Set-stocked paddocks will support at least five head of cattle.

“Between weeks three to five, leaf quality falls from good to moderate.

“Leaves older than five weeks can still be considered to have reasonable quality, especially when compared to other warm season grasses or to the dead leaves of cool season grasses from the previous year.

“The secret to managing kikuyu is to graze it hard and keep it green,” Mr Senn says.

“Over summer, kikuyu pastures can be setstocked or rotationally grazed every two to three weeks.

“Kikuyu needs at least moderate levels of fertility and moisture and it does not tolerate very wet sites, Mr Senn said.

“LIVESTOCK

Nitrogen fixation is directly related to dry matter production.

Lucerne winter growth therefore impacts on the overall nitrogen contribution from lucerne pastures to subsequent crops.

Work measuring the impact of a variable climate on aspects of pasture performance is continuing.

Contact Kathi Hertel, Dubbo, (02) 6881 1276, kathi.hertel@dpi.nsw.gov.au
Any returns from broomleaf control?

RARELY do herbicide trials analyse economic returns to the farming system as a result of herbicide use. Traditionally, they have been run to look at the ability of herbicides to control weeds. NSW DPI established a two-year trial at Tooma to measure the impact on pasture dry matter (DM) production of four herbicides commonly used on Paterson’s curse – considering the cost to the grower it can offer.

“In some grazing systems to lose a large proportion of total dry matter including Paterson’s curse may lead to a feed gap at a critical time,” said Tumut district agronomist, Nathan Ferguson.

“Pasture measurement in September showed that herbicides were an effective method of eliminating Paterson’s curse, but it came with a sting in the tail.”

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TWIN sowing is a promising new technique of establishing self-sustaining crop-pasture rotations in a single pass operation, which eliminates competition for moisture between the crop and pasture. A range of annual pasture legumes have the potential to be used in twin sowing systems for the establishment of self-sustaining crop-pasture rotations. “A recent survey of 300 farmers highlighted many producers were dissatisfied with the performance and lack of flexibility of their current pasture system,” said NSW DPI research agronomist, Belinda Hackney. With increasing farm input costs they wanted lower pasture establishment costs, more robust pasture legumes, alternative sources of nitrogen for cropping systems and greater options for fodder conservation. Mrs Hackney says under climate change predictions these needs will only increase. Twin sowing overcomes some of the limitations of cover cropping. The system was developed in Western Australia by Angelo Lui and Brad Nutt and is currently under evaluation in NSW as part of a Pastures Australia funded project. Uncarted hard seed (or in the case of serradellas, seed encased in pod) is sown with a crop. “The seed of annual legumes is very hard and therefore does not germinate in the year of sowing,” Mrs Hackney said. “Because there is little legume germination in year one, there is no need to cut back on the normal crop sowing rate.” The legume seed softens in year one and then germinates and emerges in year two, which is a pasture year. The pasture grows, fix nitrogen and acts seed in year two.

As seed set by the annual legumes is almost all hard, it is essential to crop again in year three to allow the legume seed to soften. The crop grown in year three uses the nitrogen fixed by the legume in year two and therefore reduces the need for fertiliser nitrogen. This type of crop-pasture rotation can then continue with pasture followed by crop without the cost of re-establishing pasture. NSW DPI will be establishing small plots trials and larger farmer scale sowings to evaluate twin sowing over the next few years. Contact Belinda Hackney, (02) 6938 1999, or Nigel Phillips, 0427 102 707.

FLOREN BLUEGRASS

- Sui ted to alkaline, cracking-clay soils
- Silt tolerant
- Very palatable and leafy
- Recommended for suppressing Lippa
- Very tolerant of drought
- Persists up to 10 weeks
- Resists Lippa
- Salt tolerant
- Adapted to alkaline, cracking-clay soils
- Makes excellent digestible hay
- Feeding native pastures
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- year round.
- native pastures on the
- many small changes recorded in
- in an attempt to establish
- a more productive legume species within the pasture.
- The work, part of a project
- species within the pasture.
- NSW Department of Primary Industries technical officer at Cooma, Jo Powells.
- Staff at Cooma are investigating the response of native pastures to improved soil fertility, to determine what increases in productivity are possible, while preserving valuable pasture species and biodiversity.
- In the Monaro region, 70 per cent of pastures are based on native species, the mainstay of livestock production,” Ms Powells said.
- On a granite derived soil supporting an Austrostipa and Avenidanthus pasture, paddocks were treated with no fertiliser or a low rate (125 and 250 kilograms per hectare, respectively) of single superphosphate. Subclover seed was also broadcast with the fertiliser in the first year of fertiliser application, in an attempt to establish a more productive legume species within the pasture. The work, part of a project funded by the Southern Rivers CMA, has so far shown greater pasture dry matter production and significantly increased levels of ground cover can be achieved using fertiliser. Ms Powells said from a feed quality perspective, significantly higher crude protein levels in the pastures were recorded, from seasonal peaks of 13.4pc in unfertilised paddocks, to peaks of 18.8pc and 26pc in the low and high treatments respectively.
- “Significant increases occurred in pasture dry matter digestibility, meaning more pasture could be consumed and digested by animals on the fertilised paddocks,” she said.
- “It has also been possible to run higher stocking rates with heavier and faster growing animals on the fertilised paddocks.
- Higher stocking rates have not compromised ground cover in these paddocks and any small changes recorded in botanical composition in the pastures since have been an effect of the recent poor seasons.
- Contact NSW DPI Cooma, (02) 6452 3411.

Get a ground cover plan well before storms fall

IF THE productivity of native pastures could be improved without compromising their persistence and sustainability, they could become a more prized asset. “Native pastures are persistent, well adapted to their environment and have proved valuable during recent drought years, despite the general perception they are low in both plant productivity and quality,” said NSW Department of Primary Industries technical officer at Cooma, Jo Powells.

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Contact NSW DPI Cooma, (02) 6452 3411.
Tablelands fertiliser decisions for 2009

FIONA LEECH and PHIL GRAHAM  
Yass

T O HELP prioritise paddocks and decide on fertiliser use in 2009, a first key action is to take a meaningful soil test to provide quality data. Take a minimum of 30 cores per sample which must be sampled to 10 centimetres soil depth, along a fixed transect, at the same time each year.

It is better to do a smaller number of representative paddocks per year than more on a random basis.

Use the Phosphorus Buffer Index (PBI) to determine the target Colwell Phosphorus (P) level and if the paddock is above target P, don’t fertilise. If the paddock is at target P (for example 20) use maintenance fertiliser rates – approximately 90 kilograms per hectare (Paddock Colwell P 18-22).

If below target P, you could use a maintenance fertiliser rate to hold, or if a long way below target, you could do nothing – the decisions here are controlled by stock numbers. A scenario for doing nothing would be if a paddock is at Colwell P 12-14, and the target P for the paddock is 20.

How many stock will you run in 2009?

This question will determine how much country you need to fertilise.

Paddocks which are near target P level should be running stock at 10-15 dry sheep equivalent per hectare, no lower.

SUMMER dormancy may be a powerful drought resistance trait in cool season grasses but its nature is poorly understood, so its potential is not usually realised.

Leading research to improve the drought resistance of some of our most important sown pasture grasses including rachis, cocksfoot and tall fescue, NSW DPI pasture scientist, Mark Norton, will take a delegation of six Australians to an international workshop in the US in early April.

NSW DPI fescue breeder, Carol Harris, will accompany Dr Norton, with scientists from CSIRO and the Victoria DPI to the first International Workshop on Summer Dormancy in Grasses, in Oklahoma.

“As droughts are predicted to increase in frequency and severity with climate change we need to marshal all the drought resistant traits of plants at our disposal,” Dr Norton said.

“The workshop will bring together scientists from around the world including the US, Australia, France, Italy, Israel, Morocco and Argentina to discuss how we can better use plant genetics and management to improve the drought survival of our pastures.”

Contact Mark Norton, Canberra, (02) 6246 5548, mark.norton@dpi.nsw.gov.au

RIGHT: Pasture scientist Mark Norton shows how tall this stand of cocksfoot is, measuring with his hand. It’s mid summer and the grass looks dead, but it’s just dormant.

Local trial data has been 12-15 DSE/ha at a target P of 12-14. This decision of the correct stocking rate is made on our soil P level, not the fertiliser rate for the paddock.

As our soil P level drops our stocking rate will drop with it.

Local data, soil with a PBI in the range 40 to 120, is:

Four to five DSE/ha on country with no fertiliser history and with a Colwell P of 8.

Approximately eight DSE/ha on pastures with a Colwell P of 14.

Forget about treating the whole paddock the same way and focus on the parts which will give you the best payback.

Other factors – the dollar payback from fertiliser decisions is also influenced by the profitability of enterprises.

The variation in profits from one livestock enterprise is greater than the difference between enterprises within a district.

At the lower profit end, the decision to use fertiliser might be questionable because of the lower capacity to generate profits.

In this situation, there are major issues about the enterprise which needs to be addressed with or before the fertiliser decisions.

Pastures respond to soluble P in the soil.

This will come from fertiliser applied and the cycling of nutrients within the soil.

Where you source your fertiliser P is another question.

The plant does not care.

You need to evaluate all products on a soluble P basis spread on the paddock and not on total P.

Some products provide additional benefits which you need to consider (for example insoluble P content, limiting effect, other nutrients such as sulphur).

Contact Fiona Leech, district agronomist, or Phil Graham, livestock grazing systems technical specialist, Yass, (02) 6226 2199.

What assistance is available

Fixed interest rate loan up to $150,000

Repayable up to 15 years

Repayments each six months

Some of the works I can apply for include:

Soil conservation work

Noxious weed control

Improving stock and domestic water supply

Upgrading/improving existing irrigation systems

Hail netting

De-silting/refurbishing dams

Hay sheds and silos

Planting perennial species.

Cool season grasses dormancy tip

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Who can apply?

Eligible Primary Producers who own and work farming land and who:

* earn the majority of gross income from the farm
* have net assets less than $5 million
* show they can provide suitable security
* have the ability to repay an additional loan

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Improving stock and domestic water supply

Upgrading/improving existing irrigation systems

Hail netting

De-silting/refurbishing dams

Hay sheds and silos

Planting perennial species.

Who can apply?

Eligible Primary Producers who own and work farming land and who:

* earn the majority of gross income from the farm
* have net assets less than $5 million
* show they can provide suitable security
* have the ability to repay an additional loan

What assistance is available

Fixed interest rate loan up to $150,000

Repayable up to 15 years

Repayments each six months

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