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A hard-hose irrigator

# IRRIGATION ROAD TEST

This year at Agfest, *Electric Farm* took the opportunity to speak to three irrigation exhibitors and asked them to give us a quick pitch about one type of irrigator they sell ...

## CASE ONE – hard-hose irrigators

Philip Paterson of Moreton Hill (agents for Irriland Irrigators)

“We sell these hard-hose irrigators. They come with either a gun or a boom, and the boom can be anywhere up to 60m wide. They are suitable for most cropping, in most situations – from the vegetable industry right through to people just using them

for irrigating grass. So they’re for a broad range of farming.

In terms of efficiency I guess they don’t compete as well – with the gun anyway – as a centre pivot, but a lot of people just haven’t got the scope to put a centre pivot in ... they still need this type of irrigator. If you fit a boom to them, the efficiency increases quite dramatically. You’d probably cut the operating pressure by

about half with a boom, of what you would with a gun.

They are quite expensive, but they’re still a lot cheaper than a pivot. So I guess you could say that they’re cost-effective in that regard.

They’re not used so much for your smaller hobby-style farms, although they [Irriland] make a range of much smaller machines as well that are more suitable for

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# IRRIGATION ROAD TEST *CONTINUED*

Continued from page 1

that sort of thing. But the market we're aiming at with machines like this one is just the more conventional-style farms."

## CASE TWO – low pressure travelling irrigators

Kelvin Weston-Green  
of Vaughan Irrigators

"These were originally designed as effluent irrigators but we find now, because we've sold nearly 4,000 into the dairy industry, we've just about saturated that market. We've been selling them more to people who want to water small acreage – say, two to fifty acres.

This is probably the cheapest spray irrigation system you can buy. For example, the one illustrated below will do up to fifty acres and it's only \$5,500, plus GST. We've found that farmers – especially hobby farmers – who want to get into irrigation and spray irrigation in particular, are going to these irrigators because they are cheap, efficient, purely mechanical, there is no gear box, no water winch, and there are no hydraulics. So there's a simple mechanism that's virtually foolproof, and they just don't fail – they go on and on and on and on and on.

We've been manufacturing them for 15 years; so we've ironed out all the bugs and there are many



A centerliner irrigator

extras that can go on them such as hose-winders, twin-front steer systems and extensions for watering maize and all those sorts of things.

As an irrigation system, we've found that when they're flooding – because we have a lot of flood irrigation in Victoria and New South Wales – we can save up to 70% of the water they're using and get a better crop result as well ... they'll run off gravity feed, for example. You don't have to have a pump if you're in that situation. You can pack them up and put them in a 6x4 trailer and take them 1,000 miles away and set them up in five minutes – it's that simple."

## CASE THREE – centerliner irrigators

Rick Beales of Bauer

"A 'pivot' has a fixed point and then rotates around that point. Then you have a 'linear', which has a cart – and that goes up and down the paddock. And then this machine is called a 'centerliner', so it can go up the paddock, perform a pivot function, and then go back down the paddock – it's very versatile.

These are very popular with farmers because they can utilise as much of their land as possible. And with a longer linear run, the cost per acre to irrigate is reduced. With pivots, linears and centerliners – from a manufacturer's point of view – our goal is to have the connection pressure at the machine as low as possible, so we have a threshold of 3 Bar. And the reason for that is that it's a low energy machine – we want to reduce our running costs as much as we can.

With pivots, linears and centerliners, you buy them in span lots. So a span might constitute 59m – you can have multiples of how ever many spans that you need to give you the cover

that you require. The beauty of a centerliner is, because it goes up the paddock, does the pivot then comes down, the width of the paddock is halved so the size of the machine is considerably smaller than it would be if it were a linear. So they're very, very cost-effective from a running cost point of view, and from the capital expenditure point of view.

This technology has been around with Bauer for about 12 years now, and Australia would be one of the hot spots around the world, where we sell a lot of these, because we [Australians] have embraced the technology.

Centerliners are used by a lot of vegetable growers – spud growers. We also use a lot of these machines on dairy farms and feed lots, for corn and maize production. Up north in Queensland a lot of them are used for sorghum. And we have a high profile model that gives you more ground clearance, which is used on cane. In fact, these are very good from a cane point of view because a lot of it is grown in residential areas. They've got really irregularly shaped lots and they farm from fence to fence, so these are ideal for that sort of thing."



A low pressure travelling irrigator

# AGFEST WRAP-UP

Well, Agfest has come and gone for another year, and despite some 'challenging' weather, the crowds turned out in their droves to experience what is undoubtedly the highlight of the Tasmanian agricultural calendar.

The Aurora tent was once again a huge success, with our interactive display attracting

thousands of people over the three-day event. We were also fortunate enough to take out the award for the 'Best Multi-site' exhibition.

We'd like to say a big thank you to everyone who stopped by the big Aurora tent, and we hope to see you again at Agfest in 2008!



## WINNERS ARE GRINNERS!

Aurora would like to thank everyone who entered our Agfest competitions, and also our 'Name-the-Sheep' competition (from *Electric Farm* #9).

After receiving a huge number of entries, we'd like to congratulate our winners:

### Agfest Adult's Competition (\$150 Allgoods gift voucher)

- M. Kendall – Blackmans Bay
- J. Wright – Mole Creek
- K. Amos – Burnie

### Agfest Kid's Competition (4GB iPod Nano)

- L. Matthews – Smithton

### 'Name-the-Sheep' competition

- J. Wicks – Campania

With the name 'Shearyl' (like Cheryl but pronounced 'Shear-All')



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# FROM THE GRAPEVINE



Pipers Brook's outdoor storage tank farm

**Since the first vines were planted in 1974, Pipers Brook Vineyard has grown to become one of Tasmania's leading wine producers.**

Located at Pipers Brook in north-east Tasmania, the winery produces a number of award-winning varieties with grapes sourced from nine different vineyards around the Tamar Valley and north-east Tasmania. Its labels include Pipers Brook, Ninth Island, Kreglinger and Norfolk Rise.

Winery Manager, Dion Turner, says that while the energy used in the vineyards is minimal, electricity plays an important role once the fruit reaches the winery.

"From a processing point of view, power is used right throughout the whole winery process.

"We use electricity for all of our refrigeration; for all our bottling, which is done here on site at our own bottling facility. We've got heat pumps and we've got mechanical agitation on a lot of our tanks as well."

And the scale of the job is not a small one either – working at maximum capacity, the winery can process about 150 tonnes a day.

"We probably average about 1,400 tonnes a year, but I think

we could cope with about 3,000 tonnes if we really needed to," says Dion.

During the winemaking process, one of the most crucial aspects is temperature control.

"Once the fermentation process starts there's a lot of heat that's generated, so we use chilling and refrigeration on all of our tanks which allows us to control and maintain all of that, from a quality perspective.

"If the tanks get too warm you can oxidise the wine, so refrigeration is crucial at that point in time."

As the winery has expanded, Pipers Brook has had to make some considerable changes with regards to its energy needs – particularly in the last decade.

"We've upgraded our power from a 300kVA transformer to a 500kVA transformer with the new developments that we've put in," Dion says.

"We built the outdoor storage tanks in 2002, and they can hold up to 800,000 litres, which is about what we can hold inside, so we've more or less doubled our capacity.

"We've got a new heating and cooling system that we built out there too. We've got two separate systems; one for inside and one for outside – the new one [outside]

is obviously a lot more efficient. Plus, we've got agitators in all of the tanks here, which provides better temperature control."

The temperature of all the tanks is monitored centrally from within the laboratory.

"We've got solenoid valves on all of the tanks so we can flick a switch and set a tank to 12 degrees, for example, and the system will monitor it. If it gets down to 11 degrees – or whatever our differential is – it'll actually open the solenoids and start cooling or heating the tank, depending on what the need is.

"That's something new that we've implemented over the last three to four years. The rest of our system is not automatically operated – it's just the newer outdoor tank farm. Ultimately, we'll look at doing it throughout the rest of the winery as well.

"We also built a warehouse at the back of the winery in 2005. It has a coolroom inside which represents about a third of the interior and that's maintained between 11 and 13 degrees. We primarily keep our sparkling wines in there, plus most of our Pipers Brook premium wines that require some bottle age before release.

"The rest of the warehouse is insulated and sits at around 16 degrees. If we get an increase in temperature we can open doors and divert fans through there too."

In addition to its expansions, Pipers Brook has also made changes aimed at saving on some of the winery's considerable energy expenditure.

"Our offices are actually set up on OffPeak floor heating, and our barrel cellars are set up on OffPeak floor heating too – that's one of the conscious decisions we've made.

"We've also done tariff analysis with Aurora – to work out what the best tariff is for us to use."

## Contact Us

**Business enquiries**  
**1300 13 2045**

**Residential enquiries**  
**1300 13 2003**

(7am – 7pm Monday to Friday)

Call these numbers for all natural gas and electricity enquiries. This includes advice and information on the following;

- natural gas
- electricity
- energy costs
- heating and cooling
- hot water
- lighting
- payment options.

**Dial before you dig**  
**1100**

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**emergencies and faults**

(24 hours a day, 7 days a week)

**13 2004**

**Natural gas (Powerco)**  
**emergencies and faults**

(24 hours a day, 7 days a week)

**180 2111**

**Electricity product sales and services**  
**1300 13 2006**

**Alterations to our network**  
**1300 13 7008**

- easements
- private powerlines
- pole queries
- new supply.

**Web address**

[www.auroraenergy.com.au](http://www.auroraenergy.com.au)

**Correspondence**

GPO Box 191, Hobart Tas 7001

**Payments by mail**

Locked Bag 4, Hobart Tas 7001



A fully stocked first aid kit is an important addition to any farm

# SAFETY FIRST

**Being properly prepared in the event of a medical emergency is important for any workplace, but it's especially important in the farming sector.**

David Quill, Senior Trainer/Centre Manager for the Launceston branch of St John Ambulance Australia, says that farmers, their employees and also their families, should be equipped with some form of first aid training.

“We’ve pushed [our training] quite heavily towards the farming industry in the last few years, and there are a couple of reasons for that. Number one is the environment that farmers work in and the hazards they work with. But an even bigger issue is the fact that they are often really rural and remote.”

David says that in the event of an accident, the actions taken by farmhands, farmers and their family before emergency services arrive can save lives.

“If we can get farmers to understand and appreciate the need for general first aid, then that’s a big inroad to ensuring

their safety ... and it’s something that people are becoming more and more aware of.”

When it comes to the courses themselves, there are a number of different options on offer.

“We do a lot of general first aid training, but we also do courses orientated around farming,” says David. “In other words, if we do it for a group of farmers, we put together a course specifically to meet their needs.”

David says that these courses look at the specific risk factors and environmental conditions, as well as the types of problems that typically occur on farms and how they can be prevented.

The courses are very practical and once completed, the first aid certificate is valid for three years. St John Ambulance also tries to meet the demands of the farming community by being as flexible as possible and conducting courses right around the state.

“Our training has reached the stage where we really need to be able to supply anywhere at a time that’s needed. So while it’s a

15-hour course, it can be divided up into segments – one day per week, half a day per week, half a day per day – anything at all.

“We do offer an annual re-accreditation that only involves a 7-hour program that can be done in one day, or two evenings and re-accredits you for a further three years,” says David. “Provided you stay on that annual rotation, there’s actually no need to come back and do a full course.”

In addition to being a potentially life-saving decision, David says that first aid training is also 100% tax deductible for farmers.

*For more information on St John Ambulance first aid training, or to book a course, please call St John Ambulance on 1300 360 455 or visit [www.tas.stjohn.org.au](http://www.tas.stjohn.org.au)*

*Alternatively, you can contact one of St John’s three centres state-wide, which are located in Devonport, Launceston and Hobart.*

## THE IMPORTANCE OF BEING KITTED UP

Restocking first aid kits is something that tends to get overlooked – not just by farmers, but right across the board in any workplace and even in the family home.

It’s not until you go to use a kit and find that what you want isn’t in there that you realise it needs to be restocked.

Because of this, St John Ambulance recommends that you restock your first aid kit(s) every six months.

St John’s ‘small industrial’ kit generally meets the first aid requirements set for farms by Workplace Standards.

If you have a farming shed or a shearing shed, Workplace Standards recommend that you have one kit per shed.

At the start of shearing season, make sure it is complete, and at the end of shearing season, restock it. That way it’s sitting there ready to go for next season.

# Q&A **More of your Q&As from our Customer Contact Centre files**



## **Q: What should I do if I have a power interruption?**

A: If you lose supply but notice that your neighbours still have power, check your fuses and circuit breakers. If everything seems in order, call Aurora's 24-hour emergencies and faults line on **13 2004**.

## **Q: Is there some way that I can view and manage my accounts online?**

A: Aurora Online Services is a free service for Aurora customers that allows you to pay your bills, manage and track your energy use and change your details. You can quickly and easily register for Aurora Online Services.

Please visit [www.auroraenergy.com.au](http://www.auroraenergy.com.au) or contact the Aurora Business line on **1300 13 2045** to register.

## **Q: How do I know if my pump is on the correct tariff?**

A: Please contact the Aurora Business line on **1300 13 2045** with details of your pump. We can provide you with a tariff comparison to ensure you are on the correct tariff.

## **Q: I'm currently receiving several Aurora accounts. Is there some way I can combine them into one?**

A: Anyone who receives more than one account may apply for an Aurora Combined Account. We can also list all your installations with a customised name for clear identification.

Please contact the Aurora Business line on **1300 13 2045**.

## **Q: How do I know if my business is classed into 'small business' or 'commercial and industrial'?**

A: Small businesses are typically those who consume up to 160MWh (approximately \$4,000) of electricity annually, whereas commercial and industrial businesses are those who use more than 160MWh.

We have a dedicated business team in our Customer Service Centre who can help you determine where your business fits. Simply call them on **1300 13 2045** or send an email to [business@auroraenergy.com.au](mailto:business@auroraenergy.com.au)

## **Q: Why is the energy rate for my business account charged at a higher rate than my home?**

A: Businesses generally place a higher load on the electricity system and require more electrical infrastructure to supply them with the electricity they need. This requires more assets and therefore comes at a higher cost.

The Office of the Tasmanian Energy Regulator (OTTER) sets the maximum allowable revenue Aurora Retail is able to recover from its regulated tariffs on a regular basis. Pricing reviews are conducted to determine how much revenue Aurora requires in order to:

- cover the costs of electricity supply (e.g. the cost of buying power from the Hydro and for transmission services from Transend)
- provide sufficient funds to maintain our assets
- provide an appropriate level of service to Tasmanian businesses.

## **Want more information?** Get an *Electric Farm Fact Sheet*

- Kids' safety
- Fatal illness – the dangers of faulty wiring
- Dairy
- Irrigation
- Private powerlines
- Private power pole maintenance
- Safe access to your meter
- Woodsmoke

For free copies please contact Aurora's Customer Service Centre on **1300 13 2045** or visit our website at [www.auroraenergy.com.au](http://www.auroraenergy.com.au)



## **Safety signs for farming properties now available**

Overhead powerlines pose a potential danger to employees, contractors and visitors to your property.

To help in your duty of care to make everyone aware of the dangers of overhead powerlines, Look Up Look Out signage is now available in A4 and A3 sizes.

Purchase yours for \$15 or \$23 respectively by contacting the Tasmanian Farmers and Graziers Association on **1800 154 111**.

# SAVE MONEY AND EMBARRASSMENT: DIAL BEFORE YOU DIG

A single cut in a cable or pipe can leave an entire community without essential services such as communications, electricity, gas and water.

If you dig without knowing what networks are underground, you are exposing yourself to the risk of damage, injury and financial costs. In many states and territories, you may also be contravening local Workcover and Occupational Health and Safety rules.

Dial Before You Dig is a national non-profit association dedicated to the protection of Australia's underground networks. It is a unique partnership between most of Australia's communications, gas, water and electricity providers.

By joining forces, these organisations are able to offer a one-stop shop for underground network plans so you no longer

have to contact each of them individually. It is a free service that covers most utilities and provides the location of gas, telecommunications, water and other services.

Dial Before You Dig is the most efficient way to obtain information on underground networks at your excavation site. It is a national service and can be called from anywhere in Australia to access plans for anywhere in Australia.

If your proposed excavation site has underground networks, all relevant plans showing their location should be provided to you within two working days.

Remember that plans are only indicative – care still needs to be taken to find the exact location of the networks in the area to allow you to move and/or protect them so you can work safely in the vicinity.

Dial Before You Dig to save time, money and potentially, lives.

*To determine the location of underground services before you begin excavation, call Dial Before You Dig on 1100 or visit their website at [www.dialbeforeyoudig.com.au](http://www.dialbeforeyoudig.com.au)*



## CARELESS DIGGING CAN:

- cause death or serious injury to workers and the general public
- inconvenience users of electricity, gas, water and communications
- lead to criminal prosecution and damages claims
- cause expensive financial losses to business
- cut off emergency services
- delay project completion times while the damage is repaired.

## ELECTRICITY TARIFFS

**A tariff is simply the rate at which your energy consumption is charged. While determining the best tariff for your business is not always straightforward, getting it right can save your business a lot of money.**

Several regulated tariffs are available to agribusiness customers. These include irrigation tariff (Tariff 73/74); OffPeak tariffs (T61 and T62) and all purpose tariffs (T22 and T82).

In determining the most appropriate tariff to use, it is valuable to consider the provisions and the terms and conditions of the tariff, as well as simply comparing the fixed daily charges and rates per kWh.

All electricity in Tasmania is supplied in accordance with Aurora's Standard Tariff Agreement, which forms the contractual basis between Aurora

and the customer. The Tariff Agreement outlines such things as regulations on electricity supply, payment and disconnection. The terms and conditions of each tariff detail restrictions such as availability to particular business types, the possibility of combining several tariffs, and the hours during which supply under a particular tariff is available. Technical requirements, including such things as Australian Standard adherence requirements, are also detailed.

The Tariff Agreement is supported by Aurora's Customer Charter, which outlines Aurora's obligations and commitments to the customer. Both of these documents are available at [www.auroraenergy.com.au](http://www.auroraenergy.com.au) and provide important information when deciding which tariff is most suitable.

### Powering your irrigation pump

For many farmers, irrigation needs draw heavily on total electricity usage. Fortunately, there are several tariff options available and choosing the right one can minimise costs and maximise efficiency. The following four tariffs are suitable for powering irrigation pumps:

#### Standard irrigation tariff (Tariff 73/74)

This tariff provides power 24 hours a day split over two rates. There is a high day-time rate and a very low night-time rate. The fixed daily charge is higher than General Tariff 22.

Irrigation Tariff 73/74 is suited to irrigation pumps that can be used on a timer to pump overnight and take advantage of the OffPeak rate.

#### OffPeak tariff (Tariff 62)

Tariff 62 provides only

night-time power and must be used in conjunction with the general tariff (Tariff 22). This combination requires a switchboard to allow the pump to use Tariff 22 during the day and Tariff 62 at night.

With lower fixed daily charges than irrigation Tariff 73/74, this tariff is suitable for pumps that are used occasionally.

#### General tariff (Tariff 22)

Tariff 22 provides power 24 hours a day. With a lower fixed daily charge and lower total day-time rate than Tariff 73/74, this tariff is suitable for pumps that are used occasionally or during the day.

#### kVA low voltage demand tariff (Tariff 82)

This tariff has a moderate fixed daily charge and a low 24-hour energy rate. It also includes a charge based on the maximum demand measured as an average over any 15 minute period. The demand is measured in kilo-volt

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amps (kVA) and is charged on demand measured during the day. If a pump were to be used only at night, no demand charge would occur.

Because the actual charge under this tariff depends on the amount of energy (kWh) used and the chargeable kVA, it is difficult to make exact price comparisons with other tariffs. However, for larger pumps and those used mainly at night, this can be a tariff worth considering. Before changing to this tariff, it is advisable to have an energy expert measure the kVA and kWh registered by a pump over a period of several weeks.

### Which is the best tariff for me?

To simplify the task of deciding which tariff is right for you, Aurora is developing an irrigation calculator that will allow cost comparisons between tariffs 73/74, 22 and 82. Users currently on the irrigation tariff will be able to input details from previous bills, and get an indication of whether an alternative tariff could be cheaper for them. The irrigation calculator will be available on the Aurora website at [www.auroraenergy.com.au/goto/irrigationcalc/](http://www.auroraenergy.com.au/goto/irrigationcalc/) and is due to be launched early September.

## TARIFFS IN BRIEF

The following table outlines the differences between each of the tariffs listed.

Tariff	Usage limitations	Time limitations	Other
Tariff 73/74	Irrigation pumping for approved agricultural purposes under ANZIC Class 01	Night-time rate (8pm to 7am) Day-time rate (7am to 8pm)*	Cannot be combined with other tariffs on the same installation
OffPeak tariffs (Tariff 61 and Tariff 62)	Can be used for approved water pumping and any other approved purpose	At least 9 hours between 8pm and 7am. Tariff 61 has a higher energy price as it includes a 2-hour afternoon boost between 1pm and 4.30pm	To be combined with Tariffs 31, 22 or 36 on the same installation
Tariff 82	Available for any purpose	Includes a demand charge payable on the maximum demand recorded between 7am and 8pm on any day	Cannot be combined with any other tariff on the same installation
Tariff 22	Available for any purpose	Available 24 hours per day	There are no restrictions on Tariff 22, but it cannot be used in conjunction with some tariffs

\*Currently, the night-time rate is available for a period of 10 hours between 8pm and 7am, and a special contract must be entered into to extend the night-time rate to the full 11 hours. It is Aurora's intention to standardise the night period as 11 hours, without the need for an additional contract.

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This is our tenth edition of *Electric Farm* – a publication specifically designed to help agricultural businesses manage their energy requirements.

We would welcome your feedback so we can continue to improve future editions. Phone 1300 13 2045 or email [business@auroraenergy.com.au](mailto:business@auroraenergy.com.au)

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- *The Business Guide to Electricity*
- *What's the best rate for my business?*
- *Organising a new power supply? Upgrading your power supply?*
- *Fact sheet: Energy efficient irrigation*
- *Fact sheet: The energy efficient dairy*
- *Combined account application form*
- *Fallen Powerlines*



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