

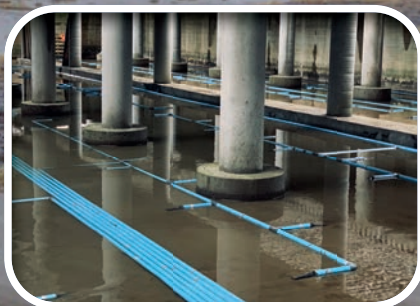
# DAIRYPOWER

## EQUIPMENT

### MANURE MANAGEMENT SYSTEMS

SINCE 1973

*Specialists in Manure Management Systems  
for Dairy, Beef & Hog for Over 45 Years*



Cost-Effective  
Eco-Friendly  
Safer

## SMART MANURE

AERATION SYSTEMS

   [www.dairypower.com](http://www.dairypower.com)



## About Us...

Dairypower Equipment was established in 1973 by my father Mr John O'Donovan and is a family owned business based in Cork, Ireland. Over the years, we have been able to build great brand awareness through developing and manufacturing high-quality products for the agricultural sector.

Initially set up as a milking machine company, we now concentrate in providing the best, cost effective, trouble-free manure management solutions, for cattle, hog and poultry houses. Such is the popularity of our systems we now export equipment to over 30 countries Worldwide.

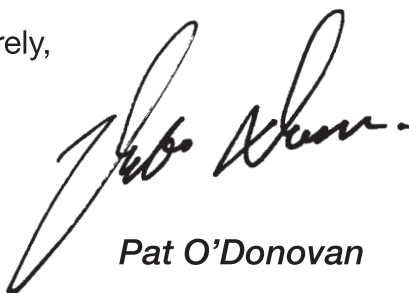
Back in 1985 my father began to develop the now market leading Hydraulic 'Pro-Clean' Ratchet Scraper System. Then in 2010, we extended our scraper range by developing our unique Rope / Cable 'Eco-Rope' Scraper System. This system can clean passages up to 200 metres in length at one time, working in all climates, and by utilising our own Double-Winch system it eliminates the need to run two independent winch units on installation.

The Dairypower Manure Aeration System was introduced into the Irish market in 1998 and since then we have worked with many research farms including the Dairy Campus in the Netherlands. The system is proven to be the safest, most cost effective and environmentally friendly system to keep manure in a homogeneous pumpable state that is always ready to spread.

The business operates out of a manufacturing / distribution site in Ireland and a distribution site in the U.K. with a new business now branching into the North American market based out of Ontario, Canada! Our Goal is to become the Number 1 company in Manure Management. We are committed to providing our customers with a premium level of service all over the Globe.

If you would like more information or you'd like to discuss your new construction or renovation plans, please feel free to contact us!

Sincerely,



Pat O'Donovan





# DAIRYPOWER

## Around the World

Algeria

Austria

Belgium

Canada

Cyprus

Czech Republic

Denmark

France

Germany

Greece

Hungary

Iceland

Ireland

Israel

Italy

Lithuania

Netherlands

New Zealand

Norway

Poland

Portugal

Romania

Russia

Slovakia

Spain

Sweden

Switzerland

Taiwan

Ukraine

United Kingdom

United States



# Aeration System

Increases Nitrogen Values & Reduces Methane and Ammonia Emissions

The Dairypower Smart Manure Aeration System is now established as being the most cost effective and environmentally friendly method of keeping manure in a homogenous pumpable state that is always ready to spread.

The system introduced to the Irish market in 1998 is now established as a market leader with over 1,000 systems in operation throughout Europe.

## Drive Unit Features

The electric drive unit is designed for a long and trouble free life with low noise level. The roots blower pump is protected by a suction filtration system, helping to extend the lifetime of all components. The system operates on a high volume low pressure basis (5 PSI Approx) so the smooth operation does not disturb the animals. Adjustable air pressure makes it possible to optimize each plant to actual conditions.

## Pipework Features

The pipe we use is 50mm class D UPVC which neither corrodes nor degrades. The pipework is fixed to the tank floor by stainless steel brackets and stainless steel bolts. Each supply pipe feeds an outlet-branch which has self-closing neoprene non-return outlet valves which open when the air is supplied from the pump.

## Rotary Valve Features

Dairypower has now developed and patented a very simple trouble free electric rotary valve which operates on 24 Volts. The blower pump supplies air through a manifold to the rotary valve which in turn distributes air through the 50mm uPVC piping to an outlet-branch which aerates a section of the manure tank for a set period of time. The rotary valve then simply rotates to distribute air to the next outlet-branch and continues in sequence until the entire tank is aerated.





# SMART MANURE

## AERATION SYSTEMS

### Main Benefits

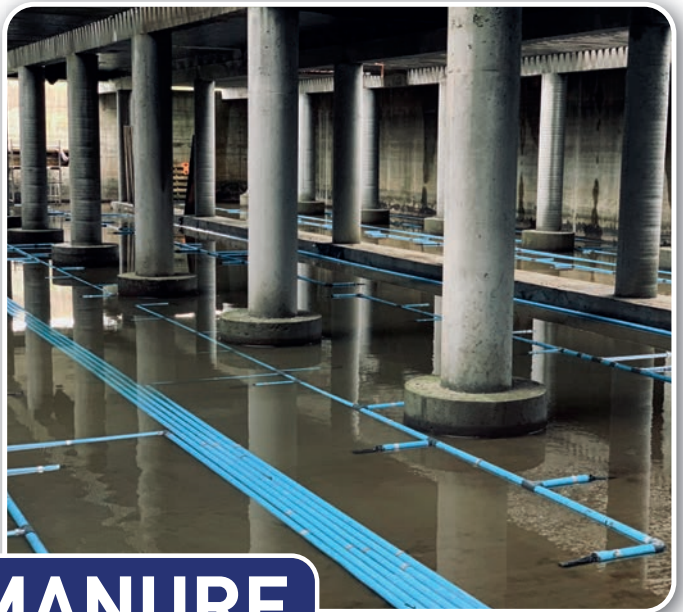
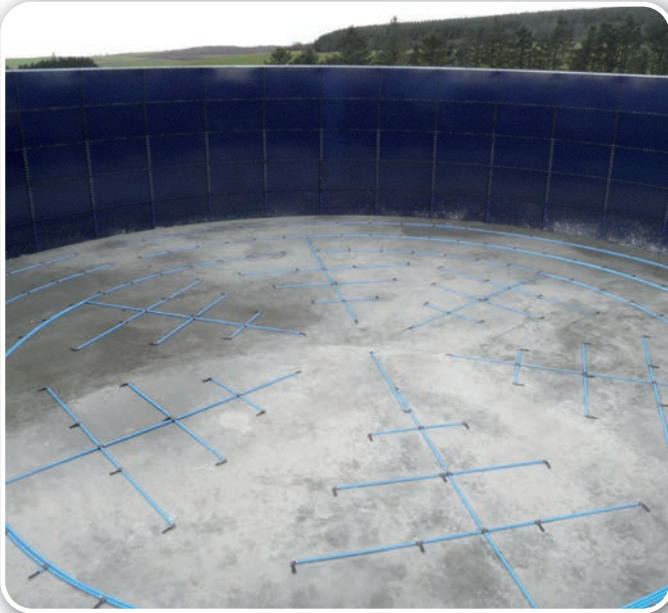
- *Increase in Nitrogen Values (Proven in Trials)*
- *Increase in Ammonia Nitrogen Values (Proven in Trials)*

Summary of Analyzed Nitrogen Values	Non-Aerated	Aerated
Total Nitrogen (% in Dry Matter)	2.7	4.0
Ammonia Nitrogen (% in Dry Matter)	1.4	2.4
Ammonia Nitrogen (% of Total Nitrogen)	51.7	59.4

- Does away with the need for tractor agitation and the dangers and costs accompanying it
- Eliminates the release of dangerous gases, such as hydrogen sulphide (H<sub>2</sub>S), traditionally associated with the mechanical agitation of manure
- Evenly distributes the manure nutrients giving complete consistency
- Reduces fertilizer costs: the introduction of oxygen helps to reduce the loss of nitrogen from the manure, which makes it a more valuable asset, reducing the need for chemical fertilizer
- Leaves manure in an ideal state to be used with low-emission manure-spreading equipment, i.e. dribble bar, shallow injection spreader, trailing shoe
- Homogeneous pumpable state 365 days a year
- No blockages - complete consistency from start to end
- Hassle free usable manure straight from the tank - take whatever you need... whenever!
- Better grass regrowth rate after spreading with improved palatability of grass

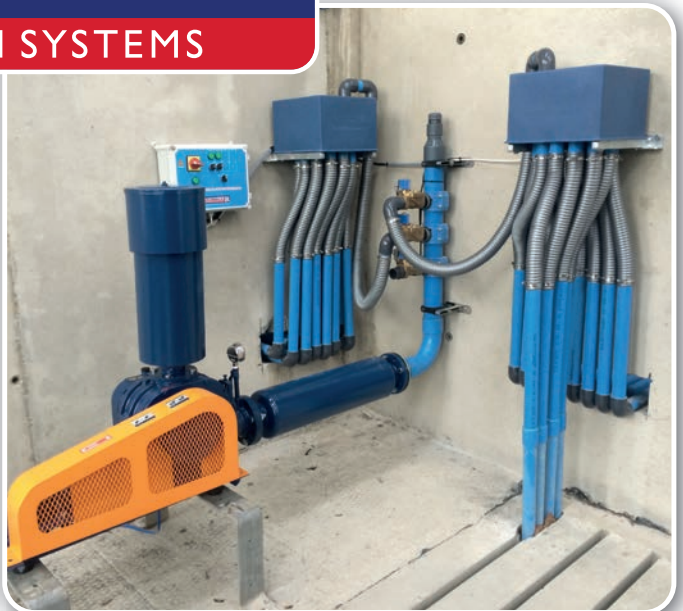




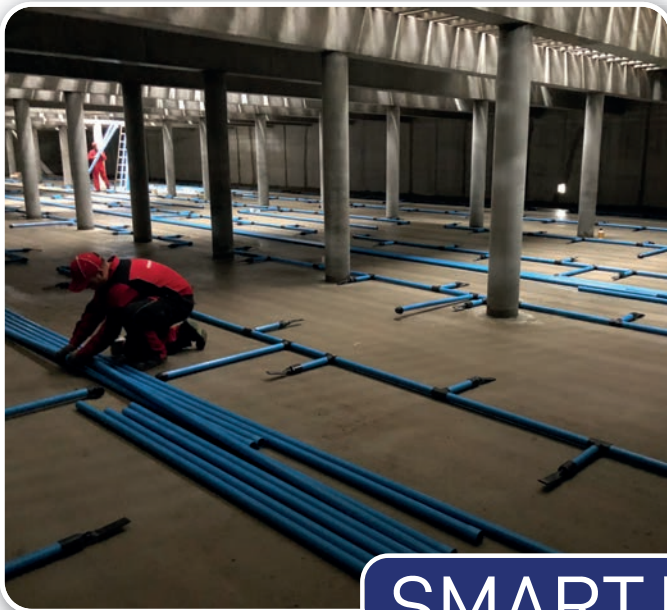


# SMART MANURE

## AERATION SYSTEMS

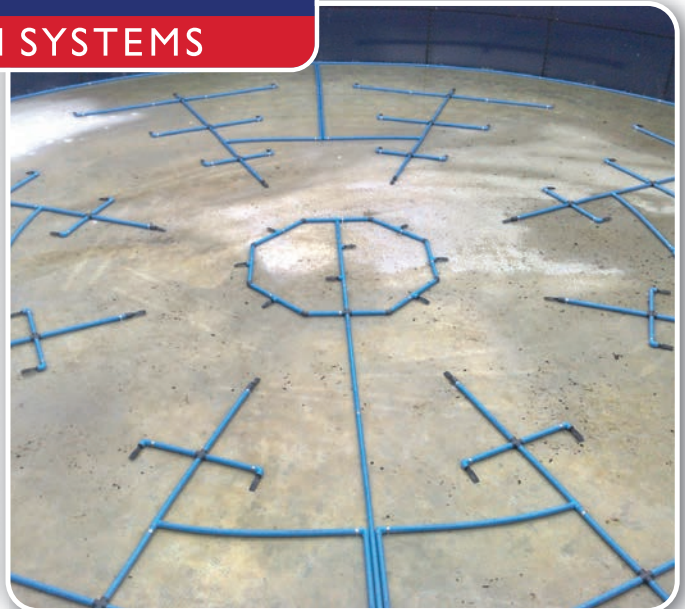






# SMART MANURE

## AERATION SYSTEMS





# Aeration System

Increases Nitrogen Values & Reduces Methane and Ammonia Emissions

## The Davies Family - Wales

*Upon completion of our 4 robot barn, manure was an issue no-one had thought of!*

*With having 6 months manure storage and on a fully slatted robotic system with cows living in 365 days a year, aggitating our manure would almost be impossible.*

*We are now so happy! Having installed a Dairypower Aeration System, we have seen savings in labor and fertilizer cost. The quality of our manure is the same all year round, which means we can pump it any time we wish.*

*Without the Dairypower Aeration System in place we could not run this unit efficiently... I would recommend the Dairypower Smart Manure Aeration to any farmer.*

*Mark & Caroline Davies*



### NEW HOUSE FARM

LOCATION : UK

HECTARES : 95 (60.7 Silage)

HERD SIZE : 250

MILKING SYSTEM :  
4 x Lely Robot

MANURE STORAGE TANK :  
4,546,090 Liters  
(2 x 106ft x 100ft x 8ft)



# SMART MANURE

AERATION SYSTEMS

## Fertilizer Savings...

**60.7**  
Hectares

**5** Silage Cuts  
per Year

A Total Saving of

**18.75 T**

per year @

**£225**

Per Tonne

Fertilizer Saving

**62KG**

Per Hectare

A Saving of

**3.75 T**

per cut

**Total Fertilizer  
Savings**

after installation of a

**SMART MANURE**  
AERATION SYSTEMS

**£4,200**

## Manure Agitation Savings...

Manure Agitation per year

**17 days**

This operation would cost...

**£300 per day**

10 hours per day @ £30.00  
per hour - man and tractor

Fuel Costs

**£1,530**

15 Liters per hour  
over 170 hours  
= 2,250 Liters  
@ 60p per Liter

**Total Agitating  
Savings**

after installation of a

**SMART MANURE**  
AERATION SYSTEMS

**£6,630**

**Total Saving on  
Manure Management**  
after installing a Dairypower...

**SMART MANURE**  
AERATION SYSTEMS

**£10,830**

*"With the above calculations in place,  
my Aeration System will pay for itself  
in less than 4 Years...!"*

# Why Need An Aeration System?

The Ter Weele Family count themselves lucky after a barn explosion!

## Risk of explosions in low-emission floors is still looming!

Fortunately, the Ter Weele family from Markelo, Netherlands survived. Now Joan ter Weele recalls when their barn exploded...

On Friday evening, 22 February, a huge explosion took place under the low-emission floor while mixing the manure in their main barn. Twenty cows did not survive.

It was a huge bang. At the neighbours, more than 200 metres away, the cups were rattling in the cupboard. The other neighbours thought that a wall had fallen over and Joan ter Weele, who was in the house himself, thought that a cupboard had fallen over.

But when the dairy farmer from Markelo looked at the screen showing images of the stable, he saw something else. A huge cloud of smoke in the barn and in the back of the stable flames of 3 metres high.

"I went straight to the stable and called 112. My father was in the stable to mix the manure. He walked back to the trigger through the flames to turn off the mixer.

When the fire brigade arrived they knew where to go. The driver and commander of the local fire department work at the Ter Weele family contracting company. The fire brigade immediately called the contractor to empty the manure cellar.

## Drowned

Ten cows were taken lifeless from the manure cellar. They were drowned almost immediately. Another cow was trapped with a claw and released from her suffering by the vet. The same thing happened the day after with another cow who had been trapped by the thigh. In the following period, the Ter Weele family lost even more cows to pneumonia due to manure in the lungs.

In the end, twenty cows did not survive. Two cows are still in the infirmary. "One will soon be calving and she walks one leg out a bit due to nerve damage. The other cow, my father's favourite cow, will no longer give milk. We kept her and she is now in the records as beef cattle" says Joan.

## Scorched hair

Freek ter Weele himself was lucky. He had scorched hair and shorter eyebrows. But he stood on a concrete slab stuck to the wall. Joan ter Weele does not want to think about what would have happened if he had been somewhere else. Part of the cubicles had collapsed and dozens of concrete plants of more than 1,000 kilos were flown into the air and then ended up in the manure cellar. "The most important thing is that my father is still here."

The dairy farmer tells the story while his father is working outside.

"It was a traumatic experience for us. My father even went to the psychologist for it".

## Deceased cows

On the evening of the explosion, Freek ter Weele single-handedly arranged the deceased cows.

"He wanted to do that. That was the last thing he could do for them. We are true animal lovers, we love our cows".





# SMART MANURE

## AERATION SYSTEMS

Images of the men on which they stand crying appeared in the media. “And then read your responses below with people who wonder if we are crying for the animals or for the money. I tell you: the money doesn’t matter. We are insured for that. But we have a bond with our animals. They are very important. A milker comes to us who finds it striking how much we hug and talk to the animals”.

### Shock

The dairy farmer himself was also in a sort of shock. “I was shaking for two hours after the bang. I cleaned an ear tag. Number 59. That was the cow that I had quoted as the last one before I left the stable. Then it just got too much for me”.

The cause of the inflammation can no longer be determined. Probably due to a spark from the tractor or the manure robot.

“We milk 75 cows. We have permits for 130 cows and we want to grow slowly in that direction. Then we need the old stable again. That was the plan. Everything still worked in the old 2 x 7 herringbone milking parlor. We flushed the milking machine once more every month”.

### Aeration system

On Tuesday, the new barn was put back into use for the first time after repair. “It’s too bizarre for words, but we had to put the same floor back in. But we have now installed an aeration system at the bottom of the manure cellar.

If it was up to Ter Weele, the obligation for low-emission floors will go away as quickly as possible. “We are now taking an extra measure with the aeration system. That system already ensures emission reduction and can therefore be an alternative to the floor. You also have bacterial mixtures and acidification of manure as alternatives. But that is not possible in the Netherlands”.

### New Dairypower Smart Manure Aeration System in the basement

The Ter Weele family never wants to experience an explosion again ‘At all costs’. So the dairy farmers therefore wanted an aeration system in the manure cellar and turned to Dairypower for the solution. This system pumps air through the manure several times a day. Mixing is no longer necessary, because there is always homogeneous manure in the basement. The system also reduces the emission of methane and other harmful gases and reduces odour. According to supplier DSD Stalinrichting, the nitrogen in the manure can be better used by the crop.

It is not though, a new system. In England and Ireland, it is already used by many farmers and has been on the market for at least twenty years. In the Netherlands a few dozen farmers work with it. In the Netherlands, aeration is not permitted as an alternative to a low-emission floor and this type of floor therefore remains mandatory for new stables. The suppliers want to get aeration on the list from the Regulation on ammonia and livestock farming.



# Aeration System Testimonials

*What our clients have to say...*

**SMART MANURE**  
AERATION SYSTEMS

## **Dollard Family - Ireland**

*In 2016 we put up a new building to house 300 cows.*

*It has 5 manure tanks, each one being 140 feet long. We're very happy with the Dairypower Manure Aeration System... you couldn't work without it in these size tanks.*

*I wouldn't go away from it for anything... there's no danger of gases and when you want to spread some manure all you need to do is back in the tanker and take some loads.*

*It makes handling manure very economical and very safe.*

*Nicholas Dollard*

## **Gaute Øvstedal - Voss, Norway**

*We are so pleased with our manure aeration system installed by our local dealer Fjøsssystemer Vest AS. We have a 28 Manifold system operated through 3 Rotary Valves... Best manure ever, as was promised. No need for any kind of propeller before spreading and there's almost no smell at all.*

*As we now say, "Our aerated manure is gold!"*

*Gaute Øvstedal*

## **Mark Drohan - Ireland**

*With the Dairypower Aeration System there's no more work in agitating manure!*

*It's fantastic to have the option to take out two or three loads of manure at any time. It makes looking after our smaller paddocks an ease.*

*My system was installed in 2007 and it has worked faultlessly...*

*...I wouldn't and couldn't be without it!*

*Mark Drohan*





SINCE 1973

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**SMART MANURE**  
AERATION SYSTEMS

**PRO-CLEAN RATCHET**  
SCRAPER SYSTEMS

**ECO-CLEAN ROPE**  
SCRAPER SYSTEMS

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