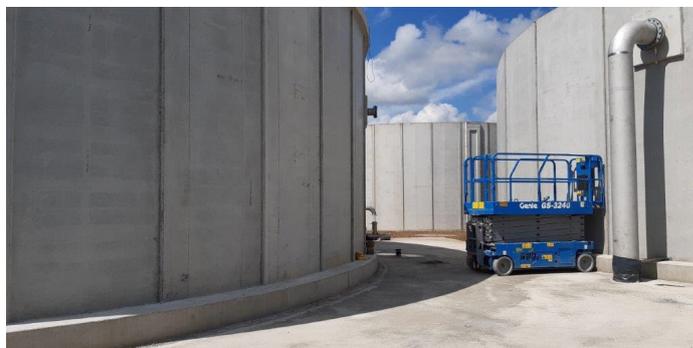




## New Waste Water Treatment Plant

The new Waste Water Treatment Plant (WWTP) at Arrabawn Ingredients in Nenagh will enter the final commissioning phase mid-August and will be online at the end of September. The €4.5 million WWTP expansion project delivers a significant capacity increase in the plant whilst also ensuring compliance with stringent EPA discharge limits. The expansion project was divided into two phases. The first phase ensured that the WWTP could cope with the additional milk volumes predicted for 2020. It included the installation of a DAF 125, conversion of existing tanks, upgraded piping network, along with the addition of diffused bubble aeration grids in the aeration tanks. Phase 1 of the project was completed on time. Covid-19 had a minimal impact on the program due to the essential nature of the business, and works continued following implementation of strict Covid-19 protocols. We acknowledge the swift actions of the main contractor in implementing procedures which ensured works continued on program and in a Covid-safe environment.

Phase 2 includes the construction of a new Aeration tank, Final settlement Tank, Picket fence sludge thickening tank along with Tertiary DAF and dewatering equipment. Once phase 2 is complete the capacity of the plant will have effectively doubled in size ensuring the WWTP's capacity to meet the increasing milk volumes over the coming years. The overall project design incorporates energy efficiency technologies alongside future-proofed control systems. The completion of the project marks another milestone in the current investment program.



## COVID-19 Update

To date, there has been no confirmed case of Covid - 19 within the Co-op. This is testament to the good hygiene protocols which have been demonstrated by our employees, suppliers and customers over the past number of months. Although the various measures introduced have been effective so far, there is no room for complacency as the threat of a second wave looms large.

With this in mind a number of additional measures have been introduced recently such as daily contact tracing procedures for all employees, face masks in areas of the Co-op where 2 metre physical distancing isn't possible and the setting up of Lead Worker Representative roles to help identify any potential risks across all parts of the business. A Covid - 19 infection control course has also been rolled out to all employees.

Farmers are asked to continue to rigorously follow protocols around milk collection and deliveries in order to reduce the risks. If you, or a member of your farm staff have a suspected or confirmed case of Covid - 19 please immediately inform your Farmer Relations Advisor by phone.

## Chlorine / Chlorate Free Milk - 5 months to go!

All farmers are aware of their text messages informing them of the TCM value in their milk. This TCM value is an indication of the **residues** of their chlorine-based teat care and dairy hygiene products in their milk. Over the past few years, there has been a drive to reduce the level of chlorine products being used on the farm. Chlorates are toxic compounds which are formed when residual chlorine reacts with other organic compounds, such as milk. It is imperative that all milk and milk products are free of both chlorine and chlorates.

To this end, Arrabawn Co-op is encouraging suppliers to use 'chlorine free' hygiene products on their farms and since January 1<sup>st</sup> 2020, in particular, on their bulk tanks. It is hoped that once farmers are comfortable with **chlorine free** products being used on their bulk tanks, they will now move on to using chlorine free products on their milking machine.

Work carried out at Teagasc, Moorepark has shown that Chlorine based products can be replaced with highly effective chlorine-free products, some of which will have cleaning, disinfecting and descaling properties, **all in one, such as Divosan OSA-N.**

**A working group comprising Department of Agriculture, Teagasc and Ornua has set a target of removing chlorine from bulk tanks by end 2020 and removing chlorine from all dairy hygiene products by end 2021. Many co-ops have already adopted a chlorine free policy.**

**Caution: - farmers should avoid 'special deals' at this time of year when salesmen are selling off older 'chlorine based' products at a good price! The intention should be to purchase only 'Chlorine Free' tank cleaning products.**

**If you have any queries about 'Chlorine Free' dairy hygiene products please don't hesitate in contacting your Arrabawn Milk Advisor or call to your local Arrabawn Branch.**

**Think Chlorine Free!!**

## Milk Quality Advisor:

### Management Tips for July

- It's time to wrap up the breeding season. Bulls must be taken out.

<b>SERVICE</b>	<b>CALVING DATE</b>
July 6 <sup>th</sup>	15 <sup>th</sup> April
July 12 <sup>th</sup>	21 <sup>st</sup> April
July 18 <sup>th</sup>	27 <sup>th</sup> April
July 24 <sup>th</sup>	3 <sup>rd</sup> May

- Second last round of nitrogen should be spread.
- Calves and breeding heifers need to be weighed and fed accordingly.

Calves = 27% of adult weight (150kgs)

Breeding heifers = 67% of adult weight (370kgs)

- With surging regrowth, weed management should be high on the to do list (docks).
- Manage your grass by knowing your covers as this will help overcome winter feed issues on the farm.
- Scanning cows and replacements is vital to help you to manage the number of stock you will have to feed for the winter. Surplus stock can be sold before the winter to lower labour needs on the farm.
- Plan some reseeding for August.

### Chlorine free Wash Routines

As we edge closer to being fully chlorine free it is vital that we iron out any issues that people are having on farm level. The issues that we have been coming across on farms are mainly on machines with a manual wash routine. This means the wash routine is not being executed correctly every day.

The first rinse after milking is vital when using chlorine free products, if these products come into contact with milk it will reduce the pH of the product and therefore reduce the ability of that product to clean your machine. You must use the recommended 14 litres (3gals) per unit to get a good rinse on the machine which should in turn leave little to no milk residue in the machine.

Other issues seen on the farm are the incorrect amount of product being used per wash and the overuse of wash water in machines. The longer the product is in the trough the less effective it will be.

Hot water is also a problem on farm level, it is either not hot enough or the main wash is being run for too long. Pre-heating the machine with a luke warm water rinse could help to keep the main wash hot throughout the 6-minute advised run time for your main wash. If you run the wash for longer than 6 minutes you will be doing more harm than good to your machine as the hot water will drop below 55°C and the deposits that were moved out of the machine will begin to stick in the pipelines of your machine again.

Below is an advised wash routine for your machine.

#### **After each morning milking -**

##### Remove or replace the milk filter sock

- Wash outside of clusters and jettors. Attach jettors to clusters.
- Rinse plant with 14 litres (3 gals) of warm or cold water per unit.
- Add an approved acid detergent at the recommended use rate in hot water at 70-80°C, allowing about 9 litres (2 gals) of solution per unit.
- Circulate the solution for 6-8 min, having allowed the first five litres to run to waste.
- Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the 6-8 min wash cycle.

#### **After each evening milking -**

##### Remove or replace the milk filter sock

- Wash outside of clusters and jettors. Attach jettors to clusters.
- Rinse plant with 14 litres (3 gals) with warm or cold water per unit.
- Add an approved acid detergent at the recommended use rate in cold water allowing about 9 litres (2 gals) of solution per unit.
- Circulate the solution for 6-8 min, having allowed the first five litres to run to waste.
- Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the 6-8 min wash cycle.

##### Important:

- Hot water used on minimum of four wash occasions per week.
- Hot wash must be 70-80°C going into the plant and mustn't drop below 55°C.
- Option to replace the acid detergent with an alkaline detergent solution on one or two occasions per week to reduce overall cleaning costs and maintain plant cleanliness.

If you are unsure about anything to do with chlorine-free wash routines get in contact with your Milk Quality Advisor or Farm Relations Officer listed below. We will be able to talk you through any issues you are having and it may only be something small that you need to change to improve your results on farm level.

*"cleaning and organising is a practice, not a project"*

**Padraig Brennan**-Milk Quality Advisor: 087 9152835

**Ronan Moran**-Farm Relations Officer: 087 1469651



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## AHI Cell Check Workshops - Online

As you may be aware AHI in conjunction with Arrabawn are running a series of online practical's via video links. Due to Covid-19 and current restrictions we are unable to host the workshop as normal. The past two Wednesdays a text message with a link of practical videos was sent. This will continue for the next 6 weeks. These videos will be available online to watch again at any stage. The videos will cover the **CellCheck 7 Top**

### Tips:

1. Economic benefits of reducing SCC
2. Understanding the basics of mastitis
3. Teat Disinfection
4. Importance of wearing gloves
5. Changing liners
6. Routine Milk Machine Maintenance
7. Milk Recording and its benefits

Please give yourself **2 minutes a day** to watch the videos and learn something new which can be applied to your milking routine. A small change can make all the difference.



## Irish Johnes Control Programme

The IJCP (Irish Johnes Control Programme) is aimed to eradicate Johnes from Irish Herds. Currently this programme is voluntary, but if you are interested in joining the programme please contact Animal Health Ireland (AHI) to arrange testing. Arrabawn is currently supporting farmers in the programme.

Johnes affects the gut and is a very slow progressing disease. Calves generally pick up the disease from Johnes contaminated milk or faeces in the calving pen. Animals will not show any signs of disease until 3-5 years of age. Testing is crucial to identify the carriers within the herd. Testing can be performed through Milk Recording and blood sampling for additional stock over 2 years of age (beef/stock bull/dry cull cows).

Johnes can cause chronic scour, weight loss, poor thrive/FCR, lack of nutrient uptake and impact on milk production.

Visit the AHI website for more information or contact AHI on 071 9671928 or email [admin@animalhealthireland.ie](mailto:admin@animalhealthireland.ie)

## Summer Scour Syndrome



“Summer Scour Syndrome” is the latest disease to hit young calves while grazing. But what is it and how can it be prevented? Here are some simple tips to understand and prevent this disease in your herd. The disease doesn't have a huge prevalence among Irish calves but some deaths have been reported to the Department of Agriculture.

**When:** Usually occurs in calves a month or two at grass after weaning or a sudden change in diet- large volumes of green/lush grass. (flush of grass after drought)

**Signs:** Ill-thrift, scour (watery-brown), losing weight and going backwards.

They may seem very empty, hunched back and dull coats. It doesn't seem to be contagious, but a whole group can suffer from scour. Sometimes ulcers can be seen

in their mouth from acid production and lack of rumination. However, care must be taken to observe for other clinical diseases such as coccidiosis, worms etc, as the calves will be more susceptible to picking up a secondary disease.

**Why:** Diet is the main influencing factor. The rumen takes a couple of months to develop fully and is very sensitive to sudden changes in diet. The bacteria in the rumen take about 2 weeks to adjust to a new diet. Spring grass is high in oils (CLA- conjugated linoleic acid), which can be quite difficult to digest and adapt to. The bacteria are disrupted, dropping the pH and fermentation occurs in the rumen, causing gas and further acidosis. Spring, green grass is often low in fibre which is key in supporting good rumen health.

### **How to Prevent:**

1. If feeding large volumes of concentrates, split the feed in two. If eating large volume of concentrate at once, a calf will feel very full for a couple hours and then eat a large volume of grass later in day. If the grass is leafy this can create acidosis, causing scour. Ideally split large volumes of concentrates in two to encourage an even grass intake throughout the day.
2. Provide roughage- Clean straw, hay/haylage or a field with stemmy/older pastures. Roughage encourages chewing, creating saliva which works as an antacid, also roughage is slowly broken down and will encourage correct rumen function and development.
3. Stemmy older pastures provide good levels of roughage for calves. Avoid low covers of lush grass for 8-10 weeks.
4. High starch feed should be avoided in affected calves.
5. Provide mineral licks to avoid mineral deficiencies, in particular copper.
6. Do a Faecal Egg test for worms to check worm burden.
7. Buffers such as RumBuff can be added to feed to counteract acid production, this can complement fibre in the diet nicely (such as hay/straw).
8. Very badly affected calves should be brought back indoors and fed milk again
9. Avoid abrupt weaning, allow rumen and digestive tract to adjust to new diet gradually.

For further information contact Siobhan Killeen, Herd Health Advisor at Arrabawn.

## CELLCHECK TIP OF THE MONTH

### CellCheck Farm Summary Report - make the most of it!

Don't think of regular milk recording as a cost that you can cut out of your production system. Milk recording is in fact a way of making savings on your farm and increasing your profitability. Milk recording is the best tool you have to establish which cows are the most productive in terms of fat, protein and milk yields and 'paying their way', but even more importantly it identifies cows with high SCC, indicating subclinical mastitis. These cows are costing you money.

Measure to manage - measuring an individual cow's performance means you can make informed decisions. This is critical as herds expand.

Identifying and managing high SCC cows helps stop the spread of infection between cows.

Cows which are likely to benefit from treatment can be identified quickly.

Tracking when outbreaks of mastitis happen can help identify times you should target e.g. at calving, or in mid-lactation?

The CellCheck Farm Summary Report provides a clear overview of how your herd is performing in the area of mastitis control and udder health and if your herd is on, above, or below target. The report uses a star-rating system to highlight areas of excellence, or areas of mastitis control that would benefit from investigation and corrective action. This report also looks specifically at mastitis control during the dry period and at calving, but it can only do this for cows that have a milk recording within 60 days of calving. So to get maximum value from your milk recording, if you haven't started milk recording this season, get started now!

Milk recording is also essential for herds that are considering using selective dry cow therapy; get started now, to have sufficient information to allow you to do this at the end of the year. Regular milk recording will give much better information than ad hoc individual cow testing, and doing it monthly gives you even more bang for your buck! Most performance measures and targets are based on monthly milk recording results. Like any disease entity, mastitis is dynamic and having regular, timely information will allow for earlier and more effective intervention, when required. Much change can happen unbeknownst to us, both positive and negative, when we leave long periods between milk recordings!

## Lime - the key to an effective soil fertility programme

Fertiliser is a major spend on most Irish farms and is often not exploited for the best results. Obviously, the timing of fertiliser applications is crucial. The choice of fertiliser is also an issue as many farmers depend on straight Nitrogen to drive on grass during the summer months when in actual fact, they should be using an NPK combination such as 27 2.5 5 - despite the fact that there may have been P and K applied earlier in the spring.

Of course, one of the main issues why fertiliser may not be working could be Soil pH or soil acidity. It is normal for soil acidity to build up on the soil surface as a result of decaying vegetation and animal waste. These acid conditions will affect how fertiliser reacts with the soil and also how quickly a grass seed will germinate and get established when reseeding. Applying lime should be based on a recent soil sample analysis - this will indicate whether the soil needs lime and how much. Over-liming should be avoided as it can lead to trace element problems in some parts.

How does pH affect nutrient uptake? This table shows how soil pH can affect the availability of the main soil nutrients.

pH	4.5	5.0	5.5	6	7
Nitrogen	30%	43%	77%	89%	100% available
Phosphorus	23%	31%	48%	52%	100% available
Potassium	33%	52%	77%	100%	100% available

Lime will correct the soil pH and improve the performance of your fertilizer:

- Mid summer or autumn are the best times to spread lime.
- Apply slurry or Urea three months after lime spreading or
- Apply lime 10-14 days after slurry or Urea application to avoid nitrogen loss from slurry.
- Allow 4 -7days between slurry and nitrogen application, apply slurry first.
- Do not apply more than 2-2.5 tonnes lime in one application - if more is required, apply the balance after approx. 2 years. Over-liming can lead to trace element imbalances.

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## Second cut Silage - make the best of it - Ecosyl

"Taking good care of grass silage made during the rest of this year could be crucial to avoid excess spending on bought-in feeds, after the dry spring curtailed silage yields in the first half of the season.", says Volac livestock specialist, Ken Stroud.

"If you don't do this, grass digestibility after heading falls by 0.5 D units a day, and **if grass digestibility falls by 3.6 D units, it requires an extra 1.5 kg of concentrate to be fed per day to a dairy cow to make up for the shortfall.**"

He notes "The other risk this year is sudden uptake of nitrogen fertiliser into grass from soil with changes from dry to wetter weather. Excess nitrogen in crops will buffer the silage's fermentation. This increases the argument for using a proven additive to improve fermentation efficiency."

"Indeed, the additive **Ecosyl**, as well as producing a more efficient fermentation, has been shown to halve dry matter (DM) losses compared with an untreated fermentation in grass silage trials. Feeding silage preserved with **Ecosyl** has shown an average of an extra 1.2 litres of milk per cow per day. **Ecosyl** leaves fermentation less open to chance by applying 1 million 'good' bacteria per gram of forage treated", he adds.

"As well as using an additive, it is also important to follow other best practice silage-making techniques. Don't cut grass too low looking for extra bulk. If you do, regrowth will be slower, plus the sward base contains undesirable microbes that interfere with silage preservation, and it is lower in digestibility anyway." When filling the clamp, Mr Stroud says clamps should be filled in horizontal layers no more than six inches deep to aid consolidation, and rolled with sufficient weight.

**Beef:** - "Research undertaken in Teagasc Grange showed an increased dry matter intake (DMI) and increased liveweight gain (LWG) and carcass gain in growing cattle fed 75%DMD silage over cattle fed 65% DMD, which is the national average," says Rebecca O'Sullivan, Business Manager for Volac Ireland. "**Ecosyl** is proven to increase the D-value of grass silage by 3 units (3.5% DMD). And in nine independent finishing trials, **Ecosyl-treated** grass silage showed on average a 9.1% improvement in carcass gain."

"**Ecosyl-treated** grass silage also showed on average a 15.2% improvement in liveweight gain in growing cattle when compared with untreated silage," she adds.

**Silage costs money, make the best of it!**  
**For more information talk to your Arrabawn Area Representative or call to your local Arrabawn Branch.**

## Improving Farm Sustainability

Climate change continues to be a key challenge across the globe and the accelerating impact of greenhouse gas emissions on climate disruption must be addressed. The recent publication of the Government's "Climate Action Plan" outlines the challenges for Ireland and particularly the challenges and targets for the agricultural sector. Sustainability across the industry is crucial and there are a range of practices that dairy farmers can implement on-farm which can provide profitability gains while contributing to meeting some of these sustainability challenges.

This article outlines seven steps aimed at improving farm sustainability and sets out clearly the most important measures every farmer can undertake to farm in a more sustainable manner. These measures also have cross cutting benefits for greenhouse gas emissions, water quality, biodiversity and ammonia emissions. Improving the sustainability of dairy farms requires focus in two main areas. Firstly, implementing technologies and practices on farms which reduce losses to the environment and secondly, improving the efficiency of the dairy system.

Practical technology adoption and efficiency measures include:

### 1. Improved EBI and Extending the Grazing Season

Improving genetics through increased EBI has multiple benefits:

- Improving fertility & survival - lower replacements and higher pregnancy rates
- Allowing earlier calving - typically increases grazed grass in the diet
- Delivering higher milk solids yield from grazed grass
- Improved health - reduces deaths and diseases

A €20 EBI increase can lead to a 3% reduction in carbon footprint. Extending the grazing season reduces emissions by:

- Lowering ruminant digestion emissions due to a higher quality grass diet
- Lower quantity of slurry stored
- Lower energy usage
- Higher milk solids - Improved protein content

A 10-day increase in grazing season can lead to a 1.7% reduction in carbon footprint and a €27 increase in profit per cow.

### 2. Substituting Clover for Chemical Fertiliser

Incorporating white clover into perennial ryegrass pastures:

- Higher quality pasture - increased milk yield
- Lower chemical nitrogen requirement - 100 kg/ha (250 kg/ha V's. 150kg/ha)

A well-established white clover pasture will deliver a 10% reduction in carbon footprint (3% due to increased milk yield; 7% due to reduction in chemical N fertilisation).

### 3. Changing to Protected Urea

Protected urea can replace both Urea and CAN to economically produce top grass yields on your farm at no net cost. It has the capacity to substantially reduce both GHG and Ammonia emissions and thereby safeguard Ireland's



environmentally sustainable food production reputation. A 71% reduction in Greenhouse Gas nitrous oxide using Protected Urea. Protected Urea makes urea safe from Ammonia N loss. Protecting 50kg/ha of urea-N will save 6kg N/ha. In late spring 6kg N will grow grass worth €40/ha.



### 4. Reducing Losses from Slurry

Best practice in slurry spreading can reduce GHG and ammonia emissions and increase N retention. GHG and Ammonia emissions from cattle slurry can be reduced significantly by:

- Increasing the amount of slurry applied in the spring time
- Using Low Emission Slurry Spreading (LESS) equipment such as trailing shoe, dribble bar & umbilical system.

It is vital to factor in the increased utilisation of slurry N and reduce chemical N accordingly.

### 5. Improved Energy Efficiency and Renewable Energy

Average electricity costs on Irish dairy farms are €5 (range €2.60 to €8.70) per 1,000 litres of milk produced. A combination of energy efficiency technology such as an effective plate cooler, heat recovery system or variable speed drives on vacuum and milk pumps coupled with renewable energy such as solar panels can reduce on-farm electricity consumption, and related CO<sub>2</sub> emissions, by up to 60% and save over €2,500 for a herd of 100 cows.

### 6. Incorporating Hedgerows and Forestry on Farm

At 12% of its land area, Ireland has one of the lowest levels of forest cover in Europe. This is somewhat compensated by a high cover of hedgerows (4%) throughout the country. Because of their capacity to sequester carbon, increased forest planting is essential to Ireland in meeting its greenhouse gas emissions targets.

Hedgerows are the dominant habitat feature on Irish farms, with the average dairy farm (56ha) having over 6km of hedges. Benefits include:

- Providing shelter for stock and improving biosecurity
- Forest plantations sequester 4 - 8 tonnes of C/ha/yr (with coniferous sequestering more than deciduous plantations). Hedgerows and non- forest woodland can sequester up to 1 ton of C/ha/yr.
- Hedgerows and woodland act as buffers, intercepting overland flow, retaining sediment and phosphorus, thereby improving water quality, and reducing flood risk
- Hedgerows act as a refuge for biodiversity and improve connectivity throughout the landscape

The environmental benefits of forests, woodland features and hedgerows are dependent on the quantity of these features, but also on their quality. Improving hedgerow management should be focused on achieving the correct height and shape of hedges and laying or coppicing as appropriate to improve hedgerow quality. Routinely trimmed hedgerows should be cut to a minimum of 1.5m from ground level, retaining individual thorn trees to flower and fruit, in every hedgerow.

### 7. Using the Sustainability Advisors to Help Improve Water Quality

Sustainability advisors are available in Arrabawn to provide farmers with a free and confidential advisory service that farmers can avail of on a voluntary basis to achieve a shared objective of improving water quality.

## Correcting Soil Potassium (K)

**Potassium (K)** is an essential nutrient for plants and is required in large amounts during the growing season. It is a pivotal nutrient in plant structure development and improves root growth. It plays a key role in the uptake and efficient use of nutrients including Nitrogen. Potassium plays an important role in water movement in the plant and as such has been shown to be essential in times of drought or cold stress.

- A low K index soil stocked at 2 cows/ha needs 50-70 units of K/ac
- For each bale of silage cut per acre another 10 units of K is required.
- 46% of soils in the Arrabawn catchment are at sub-optimal soil K levels.

The main visual effects of a K deficiency in grassland is associated with a change in the botanical composition of grasslands - reduced number of ryegrass plants and more unproductive species such as bent-grass. Deficiency symptoms that can be observed in the field include a pale grass colour outside of urine patches.

Suitable products to fit into your fertiliser program currently include 29-0-14 and 19-0-15. Muriate of potash 0-0-50 is more suitable to the back end of the year.

### Stay connected with us!!

Check out our **website** for weekly farming updates. Find us at **www.arrabawn.ie**

Connect with us on social media on Twitter **@arrabawncoop** and **@milk4profit** for regular farming updates and promotional offers.

We are also on Facebook at **Arrabawn Co Op**