

Messages:

- ▶ **Be active in preventing coronavirus on your farm.**
- ▶ **Breeding season: know the targets and the loss of profits.**
- ▶ **Before you start, make a breeding season plan.**
- ▶ **Choose your AI bulls carefully and use Sire Advice to match to cows.**
- ▶ **Synchronise the heifers and late calvers.**
- ▶ **I advise contract mating for 40 per cent of dairy farmers.**
- ▶ **If 'tight' on grass in April, assess your options, early.**
- ▶ **Use protected urea for full year and 110 units by mid-April.**
- ▶ **Graze silage ground twice before closing to save meal costs.**
- ▶ **Graze out paddocks to 3.5-4.0cm to maximise utilisation.**

By Matt Ryan

Brief note on coronavirus prevention

Imagine! This is not a problem in cattle (farmers know all about that), but in humans. Do everything in your power to protect your family and staff from the virus because it is obvious that opportunities for food availability will arise. The consequences of being short of staff should alert you to the great need for preventative management.

- ▶ Follow the HSE advice – it is extremely easy to take it for granted, because it seems so simple, and to think it is for someone else.
- ▶ Provide hand-washing facilities around the farm.
- ▶ Get people to clean commonly used surfaces before/after use.
- ▶ Order and pay for farm input over the phone or online.
- ▶ Stay in touch with your discussion group by phone, WhatsApp, Internet, etc.
- ▶ April is a very, very big month for the profitability of your farm in 2020 and 2021. Therefore, don't lose sight of core work/planning.
- ▶ Have you adequate stocks of fertiliser, meal, diesel and veterinary materials on hand? It is not like last year; they won't be available instantly if you run short.
- ▶ Communicate biosecurity protocols to farm staff and visitors.
- ▶ Place a biosecurity sign at the farm gate.
- ▶ Stay on top of statutory office requirements – you can't afford penalty or financial loss due to not doing the paperwork.

Breeding season targets

Cows:

- ▶ Three-week submission rate – 90 per cent of the herd.
- ▶ Repeats 1-7 days – 5 per cent or less (a serious issue on some farms).
- ▶ Repeats 8-17 days – 5 per cent or less.
- ▶ Non-return rate (NRR) to first service – 70 per cent.
- ▶ Calving to service interval – 60 days or less.
- ▶ Normal (18-24 day) heat returns – 70 per cent.

Heifers:

- ▶ Two-week submission rate – 100 per cent of heifers.
- ▶ NRR – 75-80 per cent.
- ▶ Artificially inseminate (AI) one week before main herd.

Nationally and individually among 'very good farmers' we are a long way off these targets. What are your fertility figures for 2019 and calvings in 2020?

How can we make these targets happen? See below.

Why is achieving breeding season target important?

The following losses accrue:

- ▶ Six-week calving rate: for every 1 per cent below target you lose €8.22/cow.
- ▶ Calving interval: for every 1 day lost you lose 0.12c/litre (L).
- ▶ Replacement rate: for every 1 per cent over 18 per cent you lose 0.14c/L.
- ▶ Days in milk: for every 30 days short of target you lose 0.6c/L.
- ▶ Herd age (lactations): every one lactation below target 4.5 you lose 1.5c/L.

The six-week target and herd age more or less embrace all other losses listed. One-hundred-cow farmers, on average, are losing over €28,000 by not achieving these targets.

This is a serious loss, mainly due to:

- ▶ National six-week calving rate being 65 per cent.
- ▶ National age of herd being 3.5 lactations.

Farmers are now appreciating the convenience of compact calving from a labour and time management point of view.

Breeding season plan

Decide on your mating start date (MSD) based on your targeted median calving date for 2021 and the number of days from start of calving to median calving date in 2020. Based on research, the following mean calving dates are advised:

- ▶ South (dry land) – February 14 (50 per cent of herd in-calf by May 7).
- ▶ North (or wet land) – February 24 (50 per cent of herd in-calf by May 18).

The target number of days from start of calving to median calving date is 15-20 days:

- ▶ The median calving date is that day when 50 per cent (half) of the cows have calved.
- ▶ Look up yours on the Irish Cattle Breeding Federation (ICBF) site for your herd for 2020.
- ▶ Then, subtract your days from the target median calving date in 2021, to help you decide on the start of mating date.

A farmer targeting a median calving date of February 20, 2020, should follow this plan:

- ▶ April 20 (-10 days) – tail paint all cows red and record heats as they occur.
- ▶ April 23 (-7 days) – MSD for heifers. Put on scratch card and serve for next six days.
- ▶ April 29 (-2 days) – prostaglandin (PG) all heifers not served. AI as they show heat.
- ▶ April 30 (-1 day) – paint all cows that have shown heat, blue.
- ▶ May 1 (0 day) – MSD for cows.
- ▶ May 11 (+11 days) – vet examines all non-cycling cows (red paint).

This plan will help you achieve the three-week 90 per cent submission target.

Due to their biological position, heifers take 6-7 days longer to go back in calf the second year; hence the need to calve the heifers 6-7 days before the cows.

Where the six-week calving rate is poor I recommend farmers fill the heat expectancy chart.

Submission rate is key

A high submission rate, target 90 per cent in three weeks, is the key to deliver the 90 per cent six-week calving rate.

Heat detection is difficult, as the following facts show:

- ▶ Each standing mount lasts only 2-3 seconds.
- ▶ The average number of mounts by Holstein Friesians and heifers is 11.
- ▶ Bulling lasts 3-30 hours, averaging 11 hours.
- ▶ So, you only have a window of 25-40 seconds to see some cows in standing heat.
- ▶ If you miss the opportunity, you have lost €140-180.

What heat detection aids are available?

- ▶ Tail paint with non-drip household emulsion at a cost of 20-25c per cow for the season. But be careful to keep strip only two inches wide.
- ▶ Specialised tail paints with brush on bottle costing €1 per cow for the season.
- ▶ Aerosol sprays, costing 30-80c per cow.
- ▶ Kamars, costing €1.50-1.80 each.
- ▶ Paint sticks, costing 15c per cow or so every time it is put on.
- ▶ ‘Scratch cards’ – recommended for heifers.
- ▶ Vasectomise bull, but do not use him until 5-6 weeks into the breeding season. You still have time to get the vet to ‘fix up’ an uncastrated yearling. You need one for every 30 expected bulling cows.

- ▶ Computerised systems, but they made need back-up with tail paint.
- ▶ Five observations per day, but this is very demanding.

To convince you to use paint, the following research data is worth remembering:

- ▶ If 90-100 per cent of the paint is removed, then there is a 95 per cent chance the cow is bulling.
- ▶ Even if 50 per cent of the paint is removed there is a 70 per cent chance she is bulling.
- ▶ So, you should bull cows when the paint is gone.

To avoid confusion, it is essential to put on the paint correctly:

- ▶ A nine-inch-long and only two-inch-wide strip from the top of the tail head forward to the highest point. Simple, but this is key!
- ▶ If it is wider or longer than this you will be confused if some paint is removed.
- ▶ Use scratch cards for heifers – don’t use paint.

When is the best time to AI?

- ▶ The optimum time is 12-24 hours after heat onset.
- ▶ Poorer results arise if served earlier than eight hours or later than 28 hours because one is too early and the other is too late.

To maximise NRR/pregnancy to the early services address the following:

- ▶ Your heat detection protocols.
- ▶ Have cows/heifers on a rising plane on nutrition for two weeks before and after mating.
- ▶ Avoid a 0.5 unit body condition score (BCS) loss from calving to MSD. Thin cows may need to go on once a day (OAD) milking, while on full feed, from April 1.
- ▶ If DIY, be ready and have had some refresher practice.
- ▶ Ensure straws are correctly stored and used on the day.
- ▶ Address any mineral issues – take grass samples in early April from 10 paddocks and analyse.
- ▶ Be certain that health and lameness are not a problem – don’t inject cows in April. Use Metrichick on problem cows – it’s simple to use.
- ▶ Stressed cows will not go in-calf – they need water, food and not to be bullied by other cows.
- ▶ The AI technician needs a suitable crush to be accurate. The ideal service crush is freestanding and 1.75m x 0.71m with a 1.37m chain at the back to hold the cow in – no steps.
- ▶ As the technician will be working on his/her own this year, have a good communication system on the day. With Sire Advice the technician will know in advance which AI bull goes on which cow.

Use Sire Advice to select bulls

I am amazed how few farmers use this wonderful facility. It is more important than ever this year so that the AI technician

has a clear message without you being there looking over their shoulder.

Use ICBF Sire Advice to match your AI chosen bulls with your cows. Follow these steps:

- ▶ Click on 'Menu', then 'Applications', then 'Sire Advice', then 'Manually Enter Bulls', then 'Add' (green on right-hand side), then add the AI bull that you have previously identified, then straw allocation, then 'Run Sire Advice', then 'Save' and send to AI.
- ▶ Or you could go to Sire Advice Plus where, effectively, you identify your best cows for mating to the best AI bull; your cows for culling; your cows for beef AI/bull; and cows for cross breeding. Farmers with very high cow genetics must use this option. Even if it's time consuming, it will be worth it.

Teagasc has set the following AI bull team targets:

- ▶ Economic Breeding Index (EBI) €270.
- ▶ Fertility €120.
- ▶ Milk €80.
- ▶ Calving €40.
- ▶ Beef €15+.
- ▶ Health €5+.

It recommends the following number of bulls/herd:

- ▶ 50-100 cows = 7 bulls.
- ▶ 100-150 = 8.
- ▶ 150-200 = 9.
- ▶ 200-250 = 11.
- ▶ 250-300 = 12.
- ▶ 300-350 = 13.
- ▶ 350-400 = 14.

As well as the above Teagasc targets I like to focus on percentage fat (F) and protein (P) with the result my recommended bulls (heifers in brackets) are:

- ▶ Friesian: FR5515; FR4547 (Hf); FR5130; FR 4788; FR4439 (Hf); OTS (Hf); FR5851(Hf); FR4439 (Hf); FR4724 (Hf); FR4726; FR5905; FR4828 (Hf); FR4530 (Hf); FR4414 (Hf); FR4490; FR5124; FR4510; FR2424 (Hf); FR4553 (Hf); FR2425 (Hf); FR4553(Hf); FR4482; FR4671(Hf); FR4510(Hf) – more or less in that order.
- ▶ These FR bulls, many pedigree, will have €140+ fertility and be plus for percentage F and P of 0.25 and 0.20, respectively.
- ▶ Jersey (preferably sexed): Je 4289 (Hf); Je 4497 (Hf).

Use a stock bull if you wish to reduce profit by €100 per year for every cow in your herd.

You must synchronise heifers

Anyone who tells you they don't do this is telling you they don't believe in research as this is essential if you want compact calving next year.

- ▶ Because the herd's calving date slips by 4-6 days each year, you must calve all the heifers in the first four weeks of

calving, starting 5-7 days before the cows.

This can be organised by synchronising heifers as follows:

- ▶ Day 1 – apply the heat detection aid – scratch cards or crayons.
- ▶ Day 1-6 – bull heifers seen on heat.
- ▶ Day 6 – inject non-bullied heifers with 2cc PG.
- ▶ Day 7-11 – most heifers will come bulling and should be served.
- ▶ Day 12-18 – put on scratch card on all heifers.
- ▶ Day 19-24 – heifers (some) will repeat, so AI on standing heat.
- ▶ This reduces heat detection time from 21 to 9 days.
- ▶ If 30 per cent of the heifers have not been mated on day 6 do not proceed with this synchronisation programme as something is wrong.

There are other options – talk to your vet or adviser.

It is almost certain in most parts of the country that iodine is deficient or marginal, therefore, put 1cc/hd/day of iodine in the water trough for heifers from April 1 to June 1.

Synchronisation of cows

Farmers with scattered calving patterns should consider synchronising all cows. Doreen Corridan, vet consultant, recommends the following as a “superb programme to improve compact calving”:

- ▶ You must have an excellent AI technician.
- ▶ Use good semen.
- ▶ Note accurately the am, pm times for doing tasks.

Procedure for set time AI service on May 1:

- ▶ Tuesday, April 21 (day 0) am – PRID or CIDR + GnRH (2.5ml Receptal).
- ▶ Tuesday, April 28 (day 7) am – PG and remove PRID or CIDR.
- ▶ Thursday, April 30 (day 9) am – inject GnRH (56 hours post-PG).
- ▶ Friday, May 1 (day 10) pm – AI all cows, 16-20 hours post-GnRH.
- ▶ Saturday, May 2/Sunday, May 3/Monday, May 4 – watch carefully for late heats.
- ▶ Please note that PRID, CIDR, GnRH (Receptal, Ovarelin), PG (Lutalyse, Estrumate, Enzaprost, Cyclix) are all prescription-only medicines (POM). The programme costs €20-25 through your vet.

This programme will help you to tighten up and advance calving date and maximise pregnancy rates as 100 per cent submission rate is achieved.

It is excellent for late calvers but ensure they are 35 days calved with a BCS of 2.75+ and achieving good intakes. These should be Metrichecked (as should all cows with suspected infection).

Contract mate for replacements

Do you have cows with an EBI of €160+ and able to produce milk averaging 5 per cent F and 3.9 per cent P? I suspect not;

but how can you get there fast? There are farmers in Ireland nearly achieving these figures. It would take 15-20 years for the average farmer to achieve these targets.

Why get there fast?

- ▶ Milk price volatility is here to stay, and improving your percentages of F and P are the only way you can risk manage that.
- ▶ For a 5,500L cow with 4.09 per cent F and 3.45 per cent P, her profit would be increased by €220 (per cow) if she had 5.0 per cent F and 3.9 per cent P from the national average constituents. A no-brainer decision!

Because these top farmers with excellent-quality cows don't get paid adequately for this type of stock when selling as in-calf heifers/calves, they are now breeding dairy AI for only 4-6 weeks and then using beef AI/stock bulls to 'clean-up'. Who could blame them when beef calves are easier to sell?

Therefore, what I am suggesting is that farmers with 'low-quality' cows, as defined above, should enter a contract with farmers with 'high-quality' cows to buy their AI-bred dairy calves in 2021 at an agreed price now, say €300-450 each.

- ▶ This will encourage the farmer with high-quality stock to AI more of his cows with dairy AI (maybe total synch programme and sexed semen) and less beef AI. And you can AI all your cows to beef AI, getting very high prices for your calves.
- ▶ This really, really is worth thinking about by farmers on both sides of the possible contract!
- ▶ Over 40 per cent of Irish farmers should embark on this practice.
- ▶ Advisers and co-op personnel must encourage this practice. It has been in operation for a few years.
- ▶ Contact me as I have many high-EBI farmers interested in this.

Target grazing stocking rates

Aim for the following grazing stocking rates which will free up the remainder of the farm for silage and you can calculate if those acres deliver enough silage for next winter:

Animals/hectare	April-May	June-July
Cows	4.7	3.6
Cattle (wt/ha)	2,500kg	2,200kg
Calves/ha	22	14

If these high stocking rates result in grass being tight you can graze some of the silage ground. But you must make this plan because silage ground will get 100 units of nitrogen (N)/acre whereas if you depend on taking out surpluses off grazing paddocks they will only have gotten less than 40 units/acre. This plan ensures a large first cut, which is the cheapest silage.

If short of grass...

All the signs are there that we will be short of grass in April:

- ▶ Mainly because the rotation length from first grazing will have been too short.
- ▶ N was applied too late and too little used to date.

The first step in overcoming the problem is:

- ▶ Estimate the average farm cover (AFC) by walking the whole farm.
- ▶ Knowing grass covers and how to define them is now fundamental information that all farmers must know.

The target grass covers are:

- ▶ Moorepark type soil: 180-200kg dry matter (DM) per livestock unit.
- ▶ Solohead type (wettish) soil: 210kg DM per livestock unit.

Therefore, for example, if you are stocked at 2.5 cows per hectare you need the following AFCs on the grazing area in early April:

- ▶ Dry land – 500kg DM per hectare.
- ▶ Wettish/heavy land – 525kg DM per hectare.
- ▶ Calculate your own required cover for your stocking rate.

The cheapest way to overcome grass shortage on the grazing area is to graze the silage ground a second time.

- ▶ This is a challenge unless you have planned same, but do it.

Because of the ground conditions in February/March the objective must be not to complete the first round before:

- ▶ Dry land – April 10-15.
- ▶ Heavy land – April 15-20.
- ▶ More precisely, when you have 1,200-1,300kg DM cover on the first paddock on the second rotation.
- ▶ The principle is grass grows grass!

The second rotation must not end before May 1 or, more precisely, until there is at least 1,550 on it.

Farmers who are into budgeting could push these dates back by 3-5 days:

- ▶ Your adviser can make a huge difference to you this year in budgeting; he can do it over the phone once you have grass measurement details.
- ▶ It would be essential to delay closing for first cut silage until between April 20 and May 1.
- ▶ This will give an average closing date of April 25 and a cutting date of June 10-14.

Meals may have to be fed on most, if not all, farms.

- ▶ 2-4kg can be justified where a grass budget shows that need.

To sustain 26L/day with:

- ▶ 12kg grass, you need: 6kg meal.
- ▶ 13kg grass, you need: 4.9kg meal.
- ▶ 14kg grass, you need: 3.4kg meal.
- ▶ 15kg grass, you need: 2.3kg meal.
- ▶ 16kg grass, you need: 1.2kg meal.

Citrus pulp/barley will suffice, because high-protein rations would be detrimental.

Feeding pit silage should be seen as a last resort at this time of year.

Poached or damaged paddocks need TLC; on the second grazing, graze on dry days only. A lot of paddocks were under grazed on the first rotation, now they must be ‘cleaned out’ well and if not they must be topped/baled next time.

- Most farmers are not grazing out paddocks well enough:
- ▶ It is a fundamental requirement of good grassland management, particularly in April.
 - ▶ Every 1cm post-grazing height remaining represents 250kg DM.
 - ▶ It won't be there (rotted) for the next grazing and more stem will have developed on the plant.

What does 3.5-4.0cm post-grazing look like? Learn!

- ▶ Buy a plate meter for the discussion group to teach yourselves this most important skill.

A big advantage of tight (3.5-4.5cm) grazing in April-May is you will have:

- ▶ Thicker grazing pastures for the remainder of the year.
- ▶ This is due to the fact that sunlight can get down to the base of the plant so that it provokes ‘new tillers’ to grow.
- ▶ The growing point of the plant will be kept low, near the ground, so that less stem will develop and so reduce the need for topping later in the year.

Use protected urea to save money!

Protected urea is 90 per cent the cost of calcium ammonium nitrate (CAN) and about 10 per cent more expensive than urea.

- ▶ Trials have shown that it grows as much grass as CAN.
- ▶ It can be spread throughout the year, being more efficient on volatilisation losses, nitrous oxide losses and will reduce greenhouse gas and ammonia emissions.
- ▶ Many farmers have not put on enough N this year. By mid-April the whole farm should have got 100-110 units of N per acre.
- ▶ Use N now to match your stocking rate during the following months, May and June, as follows:

Stocking rate May/June (LU/ha)	N (urea) units/acre (whole farm)		
	April	May	N by April 15
3.74 or less	23	23	69
3.75-4.0	30	28	123
4.0+	40	40	123

If you haven't adequate P and K on by now apply 2.25 bags of 18:6:12 per acre on grazing area.

Sulphur (S) with the N should be used on all soils from early April:

- ▶ Use 5-20 units per acre.
- ▶ Graze silage ground a second time.

This option must be very seriously considered this year because it will save on:

- ▶ Meal feeding during April.
- ▶ Feeding pit silage or maize silage during April (no one should feed pit silage in April unless desperately short of grazed grass).

With this advice, the closing date will start on April 15 and finish on April 25 and so will average around April 20.

With good growth rates, the cutting date will be somewhere near June 6-10.

- ▶ This is early enough for silage cutting, to deliver quality.
- ▶ A split cutting date is advantageous to facilitate the early availability of aftergrass.
- ▶ The nutrient requirement per acre for silage fields with a Soil Index of 3, having been grazed, is huge, as follows:
- ▶ 1 cut: N = 100 units; phosphorus (P) = 16 units; potash = 100.
- ▶ For every Soil Index lower increase P by 8 units and potassium (K) by 20 units.
- ▶ 1,000 gallons of slurry contains (but don't over-estimate its value) 6 units N, 5 units P and 30 units K.
- ▶ Most fields will have received 70-100 units of N per acre and about 20 units (20-30 per cent of applied N) of this will be available for the silage crop.

The P and K requirements are on top of the grazing P and K applied.

Therefore, calculate the amount of N, P and K you now need to apply.

Also apply 18-20 units/acre of S per silage cut.

Short reminders

- ▶ As there is big demand over supply for bulling heifers now, you should plan to be bulling heifers that are only 250kg now and bull on May 15 - June 1.
- ▶ Feed these 2kg meal (barley/pulp) with very good quality grass and delay service to mid/late May.

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