

Messages:

- ▶ Act now the facts from 2019 to plan for 2020 breeding season rewards.
- ▶ Act now to achieve the 2021, 6-week calving rate.
- ▶ Understand the signs of heat to make good decisions on mating.
- ▶ Cows must be stocked at 4.5 -4.7 cows. And cattle at 2500kgs/ha.
- ▶ Manage grass as per the grass wedge.
- ▶ Stock cows at 4.5 to 4.9 per hectare on grazing area in May
- ▶ Use grass measurement and the wedge to
- ▶ Be careful not to overspend on capital investment, except reseeding.

By Matt Ryan

FACTS FROM 2019

- ▶ The average milk solids (MS) sold was 410 kgs/cows, compared with Top 10 per cent of farmers who sold 513.
- ▶ The difference between the two in % F & P was 0.26 and 0.15 respectively or 1.9c/l more profit,
- ▶ Why did these difference occur, aside from management ability?
 - ▶ The calving interval was 391 v 365 days; while the 6-week calving rate (a key KPI for dairy farming) was 66 per cent v 87 per cent - this gives more days in milk to a herd and hence more MS/cow.
 - ▶ The replacement heifers entering the herd for the average farmer was 55 per cent (=45% were from stock bulls) while the Top 10% of farmers all their heifers were AI bred.
 - ▶ The EBI for the average farmer was €101 v €142 for the top 10%.
- ▶ We are now in May 2020 and we have what we have by way of cow type and calving pattern for the year, therefore, individually we must act now, by way of good reproductive management practices, to have a good 6-week calving pattern in 2021.

NOW: ADDRESS THE FACTORS THAT DRIVE 6 WEEK CALVING

- ▶ The key factors, at this time, driving the 6 week in calf rate are:
 - i. Herds calving pattern- late calving cows have a negative effect on submission rate – see programme below to change.

- ii. The % cows with low body condition at calving (far too high),
 - iii. The % cows losing more than 0.5 BCS from calving to mating (high)
 - iv. The ability of the AI technician and his care of handling the semen,
 - v. Heat detection efficiency which drives submission rate during the first 3 weeks of breeding and subsequent pregnancy.
 - vi. Bull management post AI, with too few bulls or the bull becoming sick/injured,
 - vii. The individual cow's fertility genetics,
 - viii. Individual cow's % protein relative to the herd, because high protein cows have better conception rates,
 - ix. A cow with mastitis, lame or sickness will not go it calf, therefore, don't waste a straw – keep an eye on SCC levels as a measure of stress.
- ▶ Heat detection aids are essential and any dairy farmer who is using AI has no chance of identifying all bulling cows without them. Use any of the following, making sure to remove loose hair off the area:
 - ▶ Tail paint, 9 inches by 2 inches wide and not any more,
 - ▶ Check Mate or Kaymar
 - ▶ "Scratch cards"
 - ▶ Crayons.
 - ▶ Computerised systems but they must be supplemented with other aids.
 - ▶ Paint works perfectly without doing anything else if you do the following:
 - ▶ If all paint is removed, then there is a 93% chance the cow is bulling.
 - ▶ Even if as little as 25 per cent of the paint is removed there is a 76 per cent chance she is bulling.
 - ▶ Quickly check the other signs to confirm.
 - ▶ You must put thin or late calvers on once a day milking (OAD):
 - ▶ The breeding protocol I recommend is paint cows 10 days before mating start date (MSD) and get the vet to examine non cyclers on day 11 of breeding, having recorded accurate the day each cow come bulling.
 - ▶ Vasectomised Bulls:
 - ▶ They are invaluable if managed correctly with one per 25-30 projected bulling cows and of course a chinball – very important for older bulls as the will mate a cow and move away from her then.
 - ▶ Train the bull with the heifers but take him away when the flush of synchronised heifers come on heat.
 - ▶ Be aware that young bulls 'courting cows' which results in the cows being marked on the side 24 hrs before she actually comes on heat. The standing heat mark is on the top of back.

- ▶ Bull Power required:
 - ▶ One young bull per 10 empty cow and one older per 20-25 empty. They must be rotated every 24 hrs.
 - ▶ Have him vaccinated with whatever your herd is vaccinated for, and footbathe him on arrival and deal with lameness.
 - ▶ Test him for fertility or hand mate him with 2-3 early on heat cows you want to AI – you will know in 3 weeks if he is fertile.
 - ▶ With good recording of heats and PG you could get by without any bull as bulls cost €800-1000/yr to serve 25-30 cows which is pretty expensive. Remember one in 10 bulls are infertile while one in three becomes infertile for periods during the year.
- ▶ Late or non-Cycling calvers: Stephen Butler, Moorepark, suggests the following for cows that are at least 30 days in milk:

Day 0: Inject with Receptol after morning's milking and insert CIDR or PRID

Day 7: Inject with prostaglandin after mornings milking, removing the CIDR or PRID

Day 9: Inject with Receptol after evenings milking. It must be 56hours after. Day 7 actions (needs to be very precise time-wise)

Day 10: Fixed time AI after mornings milking, that is, 16 hrs after Day 9 actions.

- ▶ Some farmers are reusing the CIDR after washing, drying and storing in a container with tight lid. Cow CIDR's could already have been used on heifers if the exercise is co-ordinated.
- ▶ If you are DIY or if you use a technician look back on last year's performance on the ICBF fertility page to confirm if you are 'up to scratch'.
 - ▶ Complain if the technician did poorly and get rid of yourself or go for a refresher course if you to blame.
 - ▶ On the day of service make sure cows aren't stressed and that the service crate is 'fit for purpose'.
- ▶ The best time to AI is 12 -24 hours after the onset of heat. There is generally no benefit in serving cows two day in a row as the semen survives. In fact it might discontinue the

first if egg fertilised.

- ▶ What is the pay for all this planning and work? Every missed heat is a loss of €250 and every delay of 21 days in starting is the same financial loss.
- ▶ "Why wait programme"
 - ▶ This involves moving cows being served in week 3 to week 2 and from week 2 to week 1, but you need very good record.
 - ▶ At this stage, if you interested, we will concentrate on serving week 3 cows in week 2.
 - ▶ You must accurately identify and record cows coming on heat the last 7 days before MSD – mark them with a special colour or marking. If MSD were the 1st May then these cows would not normally be served until the 14-21th May.
 - ▶ On the 7th May (or 7 days after the last of that week's cows were recorded on heat), you should give 2cc PG to those cows. They will come bulling 2-4 days after (rarely do cows come on heat the day after PG). Eleven days of extra mil picked up for 30 per cent of the herd - worth trying!

READING THE SIGNS FOR HEAT

- ▶ Because every heat missed is €150 lost, it is important that everyone on the farm team are trained to 'read the signs' of heat as follows:
- ▶ Cow coming into heat (duration 6-10 hrs):
 - ▶ Will not stand to be mounted,
 - ▶ Will be smelling other cows,
 - ▶ Attempts to ride other cows,
 - ▶ Displays a moist, red and slightly swollen vulva,
 - ▶ She is restless and bellows.
- ▶ Cow is in standing heat (for 2-30 hrs, averaging 15 hrs):
 - ▶ Hair and skin rubbed off the crest of the tail head,
 - ▶ Dirt marks on flank or back,
 - ▶ Nervous, excitable and restless,
 - ▶ May ride other cows,
 - ▶ May stand with back arched and tail in the air,
 - ▶ Spends time than usual grazing,
 - ▶ Displays moist red vulva,



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- ▶ There will be a clear mucus discharge from vulva,
- ▶ May hold the milk,
- ▶ Frequently changes from their usual order in the milking parlour – often leads the way from the paddock or lags behind.
- ▶ Cow after heat signs:
 - ▶ Will not stand to be mounted,
 - ▶ Smells other cows,
 - ▶ Clear mucus discharge from vulva.
- ▶ You, as manager, should train your staff/family by sending them to the cows' paddock the week before MSD to identify cows in all three categories; get them to write them down.
 - ▶ Involve yourself with them; and after 2-3 days you and they will be much better and comfortable with the task.
 - ▶ They must also use that info in the parlour, having made note as he/she brings the cows from the paddock, because, once milking starts there is very little time (10-15 secs or 8 in a rotary) to identify heats.

CHECK SUBMISSION RATE!

- ▶ The target is to submit over 90 per cent of your cows for AI service during the first 3 weeks of the breeding season. Check progress by means of the following chart – many farmers now do a daily check against their expectation.

	Target	Target	Your Herd	
	% Herd Served	100 Cow Herd	Target Numbers	Actual Numbers
End 1st week	30%	30		
End 2nd week	60%	60		
End 3rd week	90%	90		
End 4th week	100%	12 or less Repeats		

- ▶ If you are not meeting weekly the targets and you are practicing good heat detection, then there is something wrong. Spend some time with your advisor and Vet trying to identify the problem.
 - ▶ If you have more than 15 repeats/100 cow in week 4 you must act.
 - ▶ It may be due to:
 - (a) Under feeding (b) Disease (c) Minerals (Iodine, copper or cobalt) (d) Stress. (e) Technician or AI straw management.
 - ▶ After AI put all these cows into a paddock of their own with good grass; don't mix with herd as they will stress them out by mounting.
- ▶ Meal feeding does not improve fertility where cows have adequate quantities of good quality grass and milking less than 27 litres per cow per day.
 - ▶ Where grass intakes are reduced due to wet weather, shortage of grass, poor quality (far too common)

and with high yielders, of course, supplementation is necessary.

- ▶ Cows must be kept on the same plane of nutrition for 2 weeks before and two weeks after service.

11 DAY SYNCHRONIZATION PROGRAMME:

- ▶ We outlined the 6 day programme last month and some people are interested in the 11 day one which may also suit later calving cows.
- ▶ Procedure:
 - ▶ Day 1: Inject with prostaglandin
 - ▶ Day 11: Re-inject with prostaglandin
- ▶ AI: At detected heat or set time at 72 & 96 hours post 2nd injection
- ▶ This reduces heat detection to 2-4 days or eliminates totally.
- ▶ If you don't synchronise heifers you will never ever have compact calving.

COWS MUST BE STOCKED AT 4.5 TO 4.7 COWS/HA:

- ▶ To make enough 1st cut silage – cheapest by 30-40 per cent - you must have grazing cows at a stocking rate of 4.5 to 4.7 cows per ha during May – early June. Stock cattle at 2500kgs per hectare. Otherwise, you won't have 70 per cent (target) of your silage by 10-15 June.
- ▶ Match your N applications to your farm stocking rate but heavily stocked farm should apply 40-50 units/ acre on the grazing area in May.
 - ▶ By the end of May over 64 per cent of the annual N should have been spread on the whole farm..
 - ▶ Urea should be used – best results are when rain expected.
- ▶ On soils deficient in sulphur (all soils?), you will grow 10-50 per cent more grass by applying 20 units/year of sulphur. Each silage cut needs 20 units /acre of sulphur.
- ▶ Silage must be cut for a 70 per cent + DMD target, be well preserved – wilted if Nitrogen high. It is also advisable to take a proportion of your 1st cut early so as to have aftergrass coming into grazing area from 20 June onwards,
 - ▶ Post cutting silage fields should get 50 units of N for grazing and 75-80 units/acre for 2nd cut with approx. 2 bags 0:7:30
 - ▶ Slurry should be applied immediately silage is cut and the N 67 days later.

GRASS WEDGE DRIVES DECISIONS:

- ▶ The key to managing grass from April – October is to measure grass weekly (twice if growth very high) and record on PastureBase.
- ▶ A grass plant has 3 leaves and one grows every 7 days, therefore, the maximum yield of grass occurs when the 3rd leaf is fully grown. Hence the need for a 21 day rotation

- ▶ The following specific advice is given. You must establish your Stocking Rate (S.R.) in cows per hectare. Table 1 gives the pre-grazing covers (PGC) and the average farm covers (AFC) for farmers of different stocking rates.

Stocking Rate (Cows/ha)	PGC (SR x 18 x 21 + 50)*	AFC (S.R. x 180)**
3.0	1190	540
3.5	1380	640
4.0	1565	730
4.5	1750	800
4.7	1830	850

TABLE 1: Recommended Pre-grazing (PGC) and Average Farm Covers (AFC) for farms of Different stocking rates on the grazing area

*Stocking rate X allowance (Kgs DM/cow) X rotation length + residual = Kg DM/ha

** Stocking rate X recommended cover per LU = Kg DM/ha

- ▶ Interpret the table as follows:
 - ▶ If your pre-grazing covers (PGC) and average farm covers (AFC) are greater than specified above, then cut the heavy paddock.
 - ▶ If PGC are greater than specified above but AFC is below target (some dry farms at present), be careful

before you take out the strong paddocks, as you may run short in a week or so.

- ▶ If both PGC and AFC are below that specified and growth rates are poor, then you will have to introduce supplement by way of meal, baled silage or extra grazing area to slow down the rotation.
- ▶ These PGC look high but are required for these SR's but paddocks must and can be grazed out to 3.5-4.0 cms. The 180 multiplier for AFC may look conservative and there are farmers who have been able to manage on 160kgs DM.
- ▶ PastureBase have an excellent computerised programme that shows the Grass Wedge, which, when the cover for each paddock is entered will show if there is adequate grass or surplus grass arising in the next week or so. An essential tool! But many farmers who are using it are playing safe and going into too high covers.
- ▶ Surplus grass or strong paddocks should be taken out in the form of round baled silage and fertilised with 15units/ac of N above normal applications. Apply 1000 gallons of slurry for every 4 bales of silage removed from a paddock.

RESEED IF CASH AVAILABLE

- ▶ There is still time to reseed – best time early in month if you can afford.

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- ▶ Far too many reseeds are poorly done with the result the perennial grass content is reduced to 70-80 per cent at the end of the 1st year, the remainder being weed grass (not noticed because they are green)
 - ▶ Any field with scutch or docks must be sprayed with roundup, even if ploughing up,
 - ▶ If spraying and not ploughing, the decayed grass must be eaten or baled and the field must get lime to neutralise the acidic effect of the trash.
- ▶ Sow late heading varieties, nearly half-half diploid/tetraploid mixes, that have high PPI's, such as Abergain, Aberclyde and Abermagic with clover
 - ▶ Apply 3 bags 10:10:20 and 1 bag CAN at sowing
 - ▶ Use a ring roller to give a firm seedbed when complete.
- ▶ Most low stocked farms should be using no Nitrogen, except for silage, but rely on clover.
- ▶ And others, based on Clonakilty work should move towards, as follows:
 - ▶ The inclusion of clover in a grass sward can lead to savings in N and 48 kgs MS/cow
 - ▶ May is an ideal month to stitch-in clover to existing swards but they must be open or after a heavy cut of silage – sow seed less than 1cm deep.
- ▶ The seeding rate is 5 Kgs per hectare or 2 kgs per acre of pelleted clover.
- ▶ This is spread with 2.5 bags per hectare or 1 bag per acre of 0:7:30.
- ▶ The following is a simple and effective way of introducing clover into a grass sward.
- ▶ Put half the fertiliser and half the seed into the spreader in the field.
- ▶ Spread the fertiliser and seed up and down the field.
- ▶ When finished the first run, put the remainder of the fertiliser and seed in the spreader as before.
- ▶ Start the second run at the opposite end of the field to where you previously started the first run.
- ▶ Spread the fertiliser and seed back and forth across the field. Ideally ending the second run where you had started the first run.
- ▶ It might be better to attempt no more than around 2.5 hectares at a time because of the risk of seed sorting out of the fertiliser in the hopper.
- ▶ Watery slurry can be applied after sowing.
- ▶ Apply no fertiliser N for the remainder of the year.
- ▶ Graze in July and August – at pasture covers of around 1,000 to 1100 Kg DM per hectare.

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REMINDERS:

- ▶ Tetany is still a big risk - keep using Magnesium.
- ▶ Use iodine in the water if iodine problem confirmed in region:
 - ▶ Put 1.2mls tincture iodine(5%) per cow per day in the water trough,
 - ▶ Or, 80 mg potassium iodide/cow/day.
- ▶ Keep a check on your May peak milk as an indicator of what the cows will yield for the year. Peak yield in kgs MS (milk solids) per cow per day multiplied by 230 (the target is 250) gives us the annual yield.
 - ▶ If your SCC level (Bulk Tank) is over 150,000 you have a problem.
 - ▶ Use all the information available to analyse the problem and arrive at a solution.
 - ▶ We are less than 2 years away from not having any antibiotics available to cure mastitis.
 - ▶ It is worth noting that the average SCC among Co-ops in 2019 was 176,000 – a serious concern as we prepare for an era with reduced antibiotics.
- ▶ Treat lame cows promptly so that it does not cause reduced fertility, increased SCC levels and loss of milk.

Poor knowledge skills, poor planning, poor time management and poor farm profit tend to go hand in hand