MESSAGES:

- **What things do you need to know to make autumn plans?**
- **Adhere to autumn grass targets and do the last rotation plan now.**
- **Autumn health is cheap.**
- **Check replacement heifer weights now and act.**
- **Do a Body Condition Score now – the first of the 'new year'.**

By Matt Ryan

THINGS YOU NEED TO KNOW TO MAKE FUTURE PLANS

- Know the "why" and you will want to change from what you are doing. The decisions will also be better.
- Target a 50-hour/week work load for everyone on the farm.
  - To improve on farm labour efficiency
    - Work on yourself first,
    - Learn to work with others,
    - Plan your own, your staffs' or family's daily/weekly work time.
  - Overall labour demand increases as herds get bigger,
  - Labour efficiency improves significantly above 250 cows (19.5 hr/cow/yr)
  - Milking uses up 33 per cent (Av) of a farmer's work year; hence the need for adequate units and an efficient yard system. No one wants, nor should you expect them, to milk more than 10 rows in a parlour.
  - The most labour efficient farms use a lot of contractors – build reputation so as to avail of them.
- Grassland:
  - Every extra ton of grass dry matter (DM) utilised results in increased profit/ha of €180.
  - Every 10 per cent less grass being fed results in a loss of €97/ha in profit. The target is 90 per cent of the cow's diet must come from gras and silage grown on the farm.
  - Every day extra at grass results in increased profit of €1.85/cow/day.
  - Every extra day at grass results in an increase of 11kgs DM/ha and 1.7kgs MS/ha
  - For every 1 per cent of milking platform (MP) grazed by 1st March an additional 14kgsDM/ha will grow by 10th April.
  - For farms where the 1st rotation will end on 7-8th April, at least 30 per cent and 60 per cent of the MP should be grazed by 1st and 17th March respectively.
  - For farms where the 1st rotation will end on 1st April, at least 40 per cent and 75 per cent of the MP should be grazed by 1s t and 17th March respectively.
  - At least 60 per cent (70 per cent on heavily stocked farms) of the MP should be grazed by 1st November.
  - Every 1kgDM/ha of grass left on paddocks in early November will result in 1.6 kg DM/ha available in springtime.
  - Every day autumn closing date is delayed results in spring grass availability being reduced by 8kgsDM/ha.
  - Every extra grazing rotation result in 1300kgs DM/ha being grown.
  - Going from a SR/ha of 2.9 to 3.3 resulted in:
    - Grazing days/ha increasing by 14.2 per cent
    - Grass utilise/ha increasing by 7.2 per cent
    - Extra meal of 140kg DM/ha being fed
    - MS/cow decreasing by 18kgs while MS/ha increase by 113kgs.
  - The following yield increases (tons DM/ha) are got by increasing soil indices for P & K from:
    - Index 1 to 2 = 1.5 tons
    - Index 2 to 3 = 1.0 tons/ha
    - Index 3 to 4 = 0.5tons/ha
  - Clover, based on Clonakilty results, will increase grass yield by 1.5 ton/ha and MS by 58 (34 in Moorepark) kgs/cow.
  - Protected urea should be used instead of CAN or unprotected urea.
  - The following mal-practices decrease silage DMD (% units in brackets);
    - One week delay in cutting (2.5-3)
    - Old pastures (5-6)
    - Lodging (7-9)
    - Dad butt (6-7)
    - Bad preservation (2-3)
    - Heating at feed out (2-3).
- "The perfect cow" as defined by Moorepark:
  - An EBI of €200, as each €1 EBI results in a profit of €1.96.
  - A Jersey Cross will increase this profit by €100-150 per cow per year
  - She will have a fertility rating of €110 (target = €65 for a Jersey X). Stays in the herd for 4.5 (average) lactations
  - Aim to have a herd PD of 0.27 per cent F, 0.17 per cent P to achieve 9 per cent solids and +20kgs MS
  - Produces 450kgs milk solids (MS) from 450kgs meal (1.0kgs per I kg MS) from a 500 kg cow. The target is 1:1:1 (MS/cow: Meal/cow: Cow body weight)
  - Every 1kgMS/cow increase in yield results in increased profit/ha of €3.26.
  - The "perfect cow" will produce more MS, have longer lactations, survive longer in the herd, and reduce carbon footprints.
- Breeding targets:
  - Calving interval 365 days (Every day longer = loss of 0.12c/l)
  - 90 per cent 6-week calving rate (Every 1 per cent less = a loss of €8.22/cow in herd)
  - Replacement rate of 18 per cent (Every 1per cent over = a loss of 0.14c/l)
  - Age of herd; greater than 4.5 lactations (Every 1 less = loss of 1.5c/l)
  - A PD of €20 Maintenance on the ICBF EBI report indicates the cow is approx. 544 kgs weight, but it is best to weigh all cows and record on ICBF site. From this you will be able to identify the best cows based on kg MS per kg Body Wt. – very, very valuable information but you need to be milk recording. The proposed new stocking rate limits will greatly favour the small/light efficient cow. Identify her in your own herd.
  - For €20 per cow, farmers should consider genotyping their cows or at least their replacement heifers if selectively selling some. This is where herd genetics is going: identify, by means of concrete data your best cows and mate to best AI bulls.
  - Use the COW (cow's own worth) to select out your

best cows, so as not to be overstocked with some poor cows.
- The Next Generation Herd (chosen on EBI) are €222/cow and €613/ha respectively more profitable than the national average herd. Emphasises the importance of EBI.

- Body condition (BCS) – why? Cows under 2.5 and over 3.5 will have more uterine infections and will be slower to come on heat after calving.
- The mean calving date should be between 10 and 25th February, depending on location and stocking rate; and be 50-60 days before Magic Day.
- Increasing stocking rate from 3.1 to 4.5 cows/ha on MP gave reduced profit at low and medium milk price, while it marginally increased it at high milk price.
- Building a financial reserve in a good profit year is advised to overcome future unforeseen setbacks.
- Robotic milking results in higher interest and capital repayments, depreciation, maintenance, running costs and lower profitability than conventional milking system but there is a 36 per cent reduction in labour required.
- Our grass based, high EBI driven system has made us one of the best for milk carbon footprint in the world.
- Once a day milking (OAD) reduces yield by 26 per cent and MS by 20 per cent and requires a lead in period of 2-3 years to successfully make the transition.
- Mastitis:
  - A case can be made for not dry cow treating cows with SCC's less than 200K but technique must be perfect.
  - Teat sealed incalf heifers, 4-6 weeks before calving, were 2-4 times more likely not to have bacteria present at 1st milking.
  - The CMT should be incorporated into every farmer's mastitis control programme.
  - Each clinical case of lameness costs you €300.
- As replacement heifers must last 1.63 lactations in the herd to cover their rearing costs, therefore, it is imperative they achieve target weights.
  - As feed conversion is much better at young ages it is important to achieve target weights early in life.
  - On the 1st September weanlings and incalf heifers must be 33 per cent and 73 per cent respectively of the cows' mature weight. Meal the light ones.
  - It is vital to check performances with the contract rearer now.
- Vaccinations pay their way. Salmonella and Neospora are getting worse in the cow herd and salmonella is costing €112/cow at a milk price of 34.5c/l.
- Liver fluke is costing Irish farmers €90 million per year and, unfortunately, it is predicted to increase due to global warming.

AUTUMN GRASS TARGETS

- Why manage this, is answered above.
- To extend the grazing seasons this autumn and have early grass next spring, you must achieve certain levels of grass on your farm this autumn. (Table 1)

Table1: Autumn target covers (kgs DM/ha) for different stocking rates.

Date	Stocking Rate (cows/ha) on Milking Platform			Rotation
	2.5	3.0	3.5	Days
1st September	400	330	280	30
15th September	450	375	320	35
1st October	400	330	280	40
15th October	350	300	240	40

- The rotation length should be 30 days, based on area per day, on 1st September and is calculated as follows:
  - If you have 100 cows grazing 35 ha on milking platform, then to have a 30-day rotation you allow the herd 1.16ha/day (35 divided by 30)
  - If this doesn't provide enough grass, then address the options listed below.
- Over 45 per cent of farmers stocked at 3 cow+/hectare are well under these targets.
- If your stocking rate is 3.0 cows per hectare on MP in mid-September, then your your average farm cover (AFC) requirement is 900kg DM/ha (3.0 X 300).
- You will be aiming for highest farm covers in mid-September.
  - But pre-grazing covers (PGC) should not be greater than 2,300 Kgs DM (unless it is aftergrass); otherwise, quality will be very poor.
  - Rotation length will now be 35 days (approx)
- Use the strip wire to ration grass if covers are greater than 2,000 Kgs DM and/or if cows are remaining in a paddock/field longer than 2½ grazings; and/or if weather is wet. Paddocks must be grazed out tight to 3.5 - 4.0 cms:
  - This encourages winter tillering,
  - Makes it easier to graze out the last rotation.
  - And sets the farm up with less grass on dung-pads for winter.

- If under grass targets your options are:
  - Sell off or move surplus stock off the milking platform. As this is by far the most economical option, you must decide what animals to move on:
    - Obviously, move R1's and R2's to outside land,
    - Do a milk recording immediately to identify:
    - High SCC cows,
    - Low milk yield producers
    - Do scan all the cows and sell empty cows as well as high SCC and low milk producers.
    - Consider drying off lame cows and moving to outside land.
  - Round bales and meals must be introduced, otherwise, grass will run out in late October.
  - Most highly stocked farmers will have to feed 1 - 3 kg. meal/cow/day (citrus or soya hulls)
- Unless grass on the strong paddock is excessively heavy, over 2,300 Kgs DM, no cutting or topping should be done in September. It will have a very big detrimental effect on the quantity of grass in the last rotation.

LAST ROTATION PLAN

- This must be done now as it ensures, with the knowledge that your closing farm cover should be 650 – 900 kgs DM/ha in November, so that you will have adequate grass next spring
- PastureBase (Teagasc) has a very simple to use one:
  - Put in the area (ha) in MP; the start of last rotation date; the date (1st Nov) when you wish to have 60 per cent of MP grazed (70% on wet/late land and high stocked farms); and the date you plan to finish grazing.
  - Many farmers, on wet land and in northern areas will be starting the last rotation between 25th and 30th September. But most will not be doing so until 5 to 10th Oct. This allows you maximise the number of grazings.
- You are now on the 2nd last grazing, make sure that the first of the paddocks being grazed will be the first to be grazed next spring.

LAST NITROGEN

- Know the autumn N facts; every kg N (Cost = €1) grows:
  - 27kgs grass DM in August, worth €2.97.
  - 19 kgs grass DM in September, worth €2.09
  - 10 kgs grass DM in October. Worth €1.10.
  - Autumn grass is worth 11cents/kg DM
  - It is obvious from this that earlier you apply N in the autumn the more money you make.
- All your bag nitrogen must be used, if N budget allows, before 15th September. If you spread after that you are subject to penalty. Protected Urea must be the product of choice.
- Your last day for spreading slurry is 15th October. It would be a good idea to wait till 1st-15th October to spread any left-over slurry because the nitrogen it will make a contribution to grass growth/protection in November – a kind of anti-freeze effect.
- What are the recommended rates of Nitrogen in September? Depends on the stocking rate (See Table 2)
- Soiled water or slurry can be used in early October as a source of Nitrogen.

Table 2: Recommended rates of Nitrogen for different Stocking Rates in September

Cows per hectare	Units per Acre September	Total Units/Acre for year
2.24 or less	None	133-175
2.24-2.35	20	202
2.35-2.47	28	223
2.47-2.94	18	196

ASSESS COW CONDITION IN LATE SEPTEMBER

- Assess BCS of the herd in late September or early October so as to manage thin and fat cows appropriately/cheaply:
  - Cows must calve down in BCS of 3.25.
  - Each BCS is 40-50kgs in liveweight.
  - To gain a kg of BCS requires 4.5kgs of meal. To put on 25kg (0.5BCS) of weight will require 113kgs meal.
  - While dry, on normal quality silage, a cow will only gain 1/4 BCS (12kgs) in 30 days; and she will gain no BCS in last month of pregnancy.
- The target cow condition now is 2.7 or greater.
  - You must identify cows that are thinner than that now and plan some course of action for them.
  - If you wait, they will calve down thin and not milk well next year or go incalf.
- Your options for these thin cows are to:
  - Feed meals now, at 1-2 Kgs per day of a low protein/high energy ration.
  - Or dry off 12-14 weeks before expected calving date.
  - Or put on OAD milking from early September.

AUTUMN ANIMAL HEALTH CARE

- Prevention of animal health problems is essential to staying in business.
- Salmonella abortions at 7-9 months is the one disease that

could put you out of business
- To prevent abortions, vaccinate now, early September, but follow instructions if doing it for the first time.
- The chances are incalf heifers are being done for the first time and need two injections, 3 weeks apart, the second one before mid-September. This is very important because the animal has no protection for 2 weeks after the 2nd injection. So, she could abort.

- Weanling replacement heifers (R2's) should be done for Leptospirosis now – essential.
- Watch out for hoose among weanlings:
  - Yellow/white doses will kill hoose worms and give 2-3 weeks protection and longer with good grassland management.
  - Other products will kill hoose and give protection for 5 weeks or longer but they are 4 times more expensive than the white/yellow drenches.
- If calves have stomach worms (sticky dung around tail head) they must be dosed.
- Lameness is becoming a very costly issue on farms. The following causes need to be assessed:
  - Poor roadway maintenance and design, main cause of autumn lameness,
  - Impatience whilst moving the cows on the roadway or in the yard
  - Long periods of time spent on concrete, or cows twisting and turning on concrete yards.
  - Excessive moisture,
  - Nutritional effects and effect of trace element and minerals.
  - Infectious agents,
  - Genetic factors (record all lame cows on ICBF site)
  - Use FRS to sort out.
- Fluke may or may not be a problem on your farm. If the milk test is negative, then you don't need to dose. It may be worth getting dung samples analysed (cost €50) to confirm presence of fluke (particularly for dry farms).
- Mastitis is next to infertility as the reason for culling cows.
  - Continue teat dipping at 15-20ml/cow/day.
  - Identify chronic cows and cull NOW, otherwise they will continue to infect other cows in the herd.
  - With restrictions coming on antibiotic use it is time to bring herd SCC levels below 100,000 and the number of clinical cases per 100 cows below 30.
- Keep an eye out for redwater, particularly if stock, aged 6-9 months, have been moved onto old pasture.

WEIGH REPLACEMENT HEIFERS AND ACT

- Weanling and Incalf heifers (R1's & R2's) should be 33 per cent & 73 per cent of mature weight now, respectively. See Table 3.
  - Animals less than these target weights should get preferential treatment, possibly 1-2kgs meal/day.
  - Very heavy animals must be restricted – graze after the main mob of calves to clean out paddocks.
- Do not overfeed weanling replacements at this stage of their life. If they gain more than 0.8 Kgs per day from 4-6 months of age, they will put on too much fat, resulting in poor mammary gland development and, consequently, they will milk poorly.
- Don't forget their salmonella and leptosporosis vaccines as advised above.
- Hoose and stomach worms can be a problem in 1½ year olds, so be alert.

Table 3: Liveweight targets (*) for Replacements relative to Mature Cow Weight so as to achieve optimum first-calving weight. (Source:NZ)

Mature cow Weight	450	500	550	600	650
R1 (6months) Wt.	135	150	165	180	195
R1's ADG** (Kgs/day)	0.57	0.63	0.68	0.73	0.78
R2 Target Weight (Kgs) 18 months old	315	350	385	420	455

*Because most R2's are calving down at 1 year and 11 months, these targets must be 5% better.
**Average Weight gain from weaning to 6 months.

OTHER BITS AND PIECES

- It is now too late to reseed – that's for sure!
- As this is likely to be a big tax year, focus NOW on positive investments to reduce your tax bill:
  - Get a soil test done now and spread the required P, K and Lime this autumn,
  - It looks like a good investment to forward buy fertiliser,
  - Farm roadways should be topped up and made compliant for run-off,
  - Tidy up farmyards and entrances to make them more attractive places to visit and work in – too many are "higgledy-piggledy like"! Paint, a few flowers and shrubs work wonders!
  - Maintenance work and painting should be done.
- Go to your local school and put your name down for a transition year student to do his/her work experience on your farm. What have you to offer? He/she will learn:
  - The importance of photosynthesis as 90 per cent of your income comes as a result of it
  - The biology of pregnancy and birth of animals
  - How farmers preserve the environment
  - Why Irish farming is one of the best in the world per unit for carbon emissions
  - Why DNA testing and genetics is the backbone of the Irish dairy herd.
  - The hormones involved in milk let-down and the cleaning agents required to produce milk with a long shelf life.
  - I could fill a page...but with these and more you have enough to impress any teacher and student to come to you for work experience.
- Castrate male weanlings now:
  - Avoid risk of bulling strong weanling heifers.
  - You should get the Vet to vasectomise 2-4 males for using to identify bulling cows next year – a great idea! Need one per 50 cows.
  - To improve bio-security on farms, some farmers are keeping a few of their own bull calves (EBI €200+) to mop up late bulling cows. Not a bad idea.

"Better to seek forgiveness than seek permission"
Brian Wickham