



Carbery Milk Quality Winner 2016

FARM WALK



on the farm of

Michael & Marguerite Crowley

Bauravilla Upper, Skibbereen

(By kind permission)

Friday, 12th August, 2016



CARBERY

Front Cover Picture – The Crowley Family

Back Row – Michelle, Marguerite, Michael, Brendan, Colm

Front Row - Aisling, Gavin

WELCOME FROM THE CROWLEY FAMILY

Michael, Marguerite, Brendan, Aisling, Michelle, Gavin and Colm sincerely welcome you to our farm walk today.

We are very proud to have won the Carbery Milk Quality Award. To win a West Cork, be it in sport or any other competition is a great achievement. This Award was won on the backs of previous winners, attending their farm walks and learning from them.

We would like to thank Teagasc, Billy Kelleher and his staff for their help in preparing for today. Special thanks to John McNamara who we're lucky to have had as an advisor, and to Pauline ODriscoll, our local advisor. We are fortunate to have had many great advisors over the years. Thanks also to the members of our two Discussion Groups.

We would like to thank our own Drinagh Co-op and CEO Joe O'Sullivan and all his team for their dedication in achieving better milk quality from their suppliers, and thanks to their dedicated staff who are always on hand with advice when needed.

We would especially like to thank Dan McSweeney and Paddy Barrett of Carbery Group. We are very proud of our Milk processor. We've been fortunate to have visited the Carbery plant and have seen first-hand the pure dedication to their work, and it gives us great confidence in our Dairy Industry going forward.

We would like to remember our father/granddad Paddy, who played a huge role in our farming life, and who would have been so proud of us today, he is sadly missed.

We thank our extended family for their help in preparing for today.

Finally, we hope you enjoy our farm walk.

Michael, Marguerite, Brendan, Aisling, Michelle, Gavin and Colm



Drinagh would like to congratulate Michael, Marguerite and the Crowley family on their wonderful achievement. Drinagh also wish to thank Michael and Marguerite for hosting today's farm walk.

Quality milk is the foundation of sustainable milk production in West Cork. Farms like the Crowleys' are setting an example for others to follow, irrespective of scale.

Progressing sustainability of farming through the Milk Quality Awards, Carbery, Teagasc and all stakeholders in the dairy industry, has always been our priority. We must continue to work together to ensure a long term enterprise for all involved.

Drinagh see the continuous improvement of milk quality, improved farm performance and the implementation of Herd Health programmes as the key drivers of our industry. By focusing on our strengths such as our grass based and environmentally friendly production systems, there is a more secure future.

We endeavour to continue to promote profitable and environmentally sustainable dairy farming to take advantage of all opportunities.

Management & Staff Drinagh Co-operative



The Crowley family deserve this award for their dedication to milk quality and developing a sustainable and viable dairy farm in the heart of West Cork. Teagasc congratulates them on winning this prestigious milk quality award. We are delighted to be associated with the success of one of our dedicated clients and hope that the long association, between Teagasc and the Crowley family has contributed to their success. Congratulations also to our local Advisor Pauline O'Driscoll who has, along with her predecessors worked with the family for a number of years.

We are especially thankful to Michael and Marguerite for sharing their grass growth and milk production data with west Cork farmers on a weekly basis.

This family dairy farm is managed to an exceptionally high standard, the farm is a great example of how a developing, family run dairy farm, can deliver a good living for the family and contribute to the local economy.

Producing quality milk, that is quality assured, to high standards of animal health and hygiene will ensure the best raw material is available for Carbery dairy products. Dairy farmers achieve higher standards by learning new methods and changing their practices and systems. Michael has availed of the many opportunities for learning that have come his way during his farming career. Today Michael and his family are making that knowledge and experience available as a learning opportunity for other farmers. Discussion Groups and the new KT (Knowledge Transfer) discussion group scheme will enhance this knowledge sharing experience among farmers.

The milk production system and quality on this farm, is a great example for all attending this event. The principal take home messages can contribute handsomely to the sustainability of farming and food production in rural Ireland, which is of the utmost importance to the economy.

Billy Kelleher, Regional Manager, Cork West

FARM DETAILS

The Crowley Family are farming 74 Ha in total. 44 Ha can be grazed by the milking herd (grazing platform). The longest distance cows travel to a grazing paddock is 1.6 km. Approximately half the land farmed is rented and there is a distance of 3.7km to the furthest of these outside blocks.

Farm Enterprises

This is a total dairy farm now with just dairy cows and replacements on the farm. It is a compact spring calving herd with 130 cows milked in 2015. All the heifer calves are reared as replacement heifers and the male calves sold off. This year there are 72 heifer calves, 41 in calf heifers and 8 bulls on the farm. The overall stocking rate on the farm was 2.46 LU per hectare in 2015.

Dairy Herd Details 2015/2016

The herd is a spring calving herd. The current EBI of herd is €184. There are 147 cows in the herd, of which there are 35 first lactation cows. This equates to 24% of herd in their first lactation and an additional 20 animals in their second lactation, combined gives 37% of herd.

In 2015 the stocking rate on the milking platform was 2.95 Cows / Ha, this has increased to 3.36 Cows/Ha in 2016.

DAIRY HERD PERFORMANCE 2015 (PROFIT MONITOR)

Total Area Farmed	74 Hectares (183 acres)
Average Number of Cows	130
Heifers in Herd	16%
Stocking Rate	2.64 LU/Ha (overall farm)
Stocking Rate	2.95 cows/Ha (milking area)
Milk Yield / Cow	5589 litres
Co-op Butterfat	4.41 % 254Kg / cow
Co-op Protein	3.70 % 213Kg / cow
Total Solids / Cow	467Kg / cow
Kg of Milk Solids	1217Kg/hectare
Milk Price (Net)	34.90 cents / litre
Meals Fed	761Kg / cow + 100 kg / cow (to dry cows)
Days in Milk	293 days on average

FARM PROFIT

Striking a balance between family life and achieving a sustainable farm profit is the most important objective. Having good composition or high yields and a nice farmyard is of little use unless you are making sustainable profits. Farm performance should be assessed on the basis of comparison with other farmers. The Teagasc Dairy Profit Monitor (DPM) is a very good system to do this. The table below gives the Crowley's profit monitor results for 2015.

TEAGASC DAIRY PROFIT MONITOR RESULTS FOR CROWLEYS IN 2015		
	2015 (c/l)	2015 per cow (€)
Milk Sales	33.19	1855
+ Calves & cull cows	5.16	288
- Replacement heifers	4.95	-277
+ Increase in cows	0.47	26
Total Dairy Output	33.86	1893
Feed Costs (meal & Forage)	4.62	258
Fertiliser & Lime	3.85	215
Veterinary	0.61	68
A.I. / Breeding	0.71	40
Contractor	2.22	124
Other variable Cost	2.25	126
Total Variable Costs	14.27	797
Machinery Costs	0.75	42
Car, ESB and phone	1.51	84
Depreciation	1.67	93
Other Fixed Costs	1.12	63
Total Costs	23.15	1294
Return for family labour	6.0	335
Total Costs incl own labour	29.15	1629
Profit remaining	4.71	264
This remaining profit is to cover capital farm investments, tax & returns on capital		

HIGH MILK QUALITY INCREASES PROFIT

The Crowley's had a milk price of 2.5 cents a litre higher than the Co-op average in 2015 based on their higher fat and protein. This comes to €16,922 or €130 per cow extra. The SCC and SDAS bonus amounted to another €4,584 or €35 per cow. A combined total of €21,506 increased income on this farm due to high quality milk.

MILK QUALITY 2015

Average TBC was 9,000

Average SCC was 94,000

Table gives the quality results for all of 2015

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
TBC		9	16	10	8	6	9	7	5	12	7	16
SCC		135	77	65	74	82	85	102	109	109	85	109

Multiply all figures by 1,000 to get actual figures

MILK COMPOSITION 2015 – 2016

2015 Average Butterfat 4.41%

Protein 3.70%

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
15 BF %	4.51	4.39	4.21	4.09	4.16	4.45	4.54	4.60	4.86	4.92	5.03
15 Pr %	3.40	3.21	3.38	3.59	3.73	3.75	3.91	4.04	4.15	3.92	4.01
16 BF %	4.82	4.63	4.37	4.16	4.18	4.42					
16 Pr %	3.72	3.40	3.48	3.68	3.69	3.76					

MILK QUALITY ON THE FARM

Drying Off Routine

Before drying off sensitivity testing is done on a number of cows. This is usually as early as Sept to be ready for the first of the heifers drying off. Any cow that has got mastitis during the year would be included in these sensitivity tests along with a random number of other cows. These milk samples are brought to our vet who does the sensitivity testing and informs us what bacteria is in the samples and what antibiotic tubes will work best on these.

Drying off is done in batches of at most 30 cows. This is enough cows to keep your concentration for and to do the job right. The cows for drying off are milked as normal that morning and put back in the collecting yard after milking to stand. We finish off the other jobs and have the breakfast so we are relaxed and not rushing the drying off job.

Six cows at a time are brought in to the parlour. Their teats are washed with teat spray and dried with a paper towel. The teat ends are then wiped with a “teat wipe”.

When applying the dry cow tube, one hand stays on the udder to hold each teat. The assistant (Marguerite) holds the four tubes in one hand and removes the caps and hands the tube to Michael. The tube is inserted and he works around to all four teats, ideally starting with near teats to avoid any dirt getting onto teat ends before the tubes are inserted. The same hand stays on the udder all the time, the other hand inserting the tubes. After this the dry cow tubes contents are massaged up into the udder.

The assistant now has the sealant tubes ready and hands them in turn to Michael. Michael holds the teat tightly where it enters the udder and fills the teat canal with sealant until its coming out the teat end, but no more. Holding the top of the teat near the udder helps prevent teat sealant getting into the udder and coming out in the milk of the fresh calved cow for weeks after calving. The remaining sealant not needed to fully fill the teat canal is discarded. Using this tube in another teat could spread infection.

After the sealant teat dip is applied. Deosan Masticide is a preferred product for this as it coats the teat well.

Each batch of cows being dried off are left standing in the yard and not allowed access to the cubicles (in case they lie down) until all cows are dried off and then they go out to bare grass for about 10 days. Ideally a dry day is picked for drying off so the ground the cows are going to will be dry and clean initially.

Pre-calving Routine

Pre calver minerals are fed to all cows and in calf heifers one month before the first of the cows are due to calve.

2-3 weeks before the first cows are due to calve, the first 50 cows are batched in the lower cubicle house. There is sufficient head space here that all 50 can eat together.

2kg of a coarse ration is then fed to these every day on top of their daily mineral allocation. The coarse ration makes sure they are eating it for a while and licking the concrete for it and the minerals. This ensures that all cows get their right amount of minerals coming up to calving.

While they are eating the ration, Michael goes behind the line of cows and heifers with a 5litre hand sprayer and teat sprays each udder. The opportunity is also used while the cubicles are free to clean down the cubicles and apply a mix of sawdust and lime to them.

When the silage is pushed in later in the day, this usually gets all the cows out to the feed barrier. This time is used to clean off the cubicles and apply the sawdust and lime mix.

Since we have been doing this precalving practise, we have lost no quarter in a heifer. Before that we were losing about 3 quarters every year in fresh calved heifers from mastitis.

The sawdust and lime is mixed up once a week in an old bath and is ready for applying whenever it's needed.

Calving Routine

Currently there is space for 8 cows in the calving area. This is not enough for 150 cows and we intend to increase this to enough space for 20 cows in the future.

The fresh calved cow will be milked in the parlour within 2 hours of calving. As much of this colostrum as the calf will drink will be given to her calf within this first 2 hours. It will usually be at least 4 litres and some calves have drank as much as 9 litres in this first feed. This colostrum will be given to the calf in a bucket getting the calf to start drinking with the help of a finger.

The calf will be left with the cow to be licked, dry off and suck if it can until the calving pen is needed for the next cow.

Then the calf will be put into a group of 5 calves which eventually gets doubled up to 10 as the calf house fills.

The fresh calved cow stays with the calving group for 5 days and her milk is kept out of the tank. After 5 days she joins the milking group and goes to grass by day and her milk goes into the tank.

Milk Routine

Latex gloves are worn by all milkers at every milking. Good milking aprons are worn.

All cows are pre sprayed with teat dip, which is wiped off with a clean paper towel. Clusters are then put on. After milking all cows are teat sprayed all year.

If there is any blip in the SCC figure, in the Co-op text or if there is any clot in the milk filter, all cows will be stripped at the next milking. The cows with the problem will be identified and treated.

If a cow gets mastitis a second time her milk will be sent for a sensitivity test to ensure the right type of milking cow tube is being used.

Milk Recording

Milk recording is essential for herd management and is looked at every time a recording is done on the farm. If any cow shows high in SCC on the recording she is investigated and the offending quarter found using the CMT test and treated. This year the farm is doing A4 recording.

Wash Routine

Clusters and rump rail get a rub down using an abrasive hand glove. Then the wash jettors are inserted. The airblast removes the last of the milk which amounts to 6 gals per day of milk.

The milk pipe into the bulk tank is disconnected (bottom fill). 180 litres of cold water is used to rinse the plant (11litres per unit)

Morning

Hot Wash solution of Circodine P is then circulated for 10mins and then let run to waste (into barrel for washing parlour). The detergent should be rinsed out directly after the wash as it contains chlorine. This is important to keep TCM low.

The detergent is rinsed out first with water only, before the final rinse with the addition of serpent. Safety when handling chemicals is always a priority.

The final rinse of 180 litres (40 Gallons) with the addition of Serpent (peracetic acid) in the second half of this rinse.

Evening

Same routine, except it's a cold wash using Multisan.

Bulk Tank

Autowash using Multisan, its uses 400 ml of chemical and this is checked occasionally by measuring this amount out. The tank is descaled regularly as required.

Since using Serpent in the rinse water the milking machine has not had to be descaled. Michael checks the milking machine on a regular basis for milkstone and any problem areas.

ECONOMIC BREEDING INDEX (EBI)

Herd Summary Report – 16-5-2016

The EBI of this herd is made up of:

Milk Solids	€59	27 % of the herd EBI
Fertility	€89	40 % of the herd EBI
Calving	€31	
Beef	-€18	
Maintenance	€20	
Management	€3	
Health	-€1	
Overall EBI	€ 184	

The EBI of the breeding heifers is €221

The EBI of the heifer calves is € 251

Research and information collected from farms show that a cow with an EBI of €180 is leaving €180 more per cow per lactation than a cow with an EBI of €0. You should use EBI for selecting both AI bulls and dairy stock bulls. Use bulls from the “Active Bull List” that will increase the particular areas of your herd EBI you want to improve. Increasing your herd EBI will increase your farm profit.

You can get an EBI for your herd by joining HerdPlus. Contact ICBF at 1850 600 900 for more details.

BREEDING

Breeding has been based on selection on EBI since it came in. At the start a big emphasis was placed on selecting AI bulls based on their fertility index. As the herd fertility improved and calving got more compact more emphasis was placed on milk production and specifically on kg of fat and protein.

This year AI bulls were selected with over €150 for fertility and over 35 kg for milk solids with greater than 0.23% fat and greater than 0.15% protein.

CALVING AND FERTILITY

	Spring 2016
Planned Start Date	7-Feb
Days to calve half the herd	16
Calving Interval	366
Calved in 3 weeks	68%
Calved in 6 weeks	94%
Median Calving Date	19- Feb
3 week submission rate	90%
Not in calf (after 12 weeks breeding) 2015	6%

AUTUMN GRAZING TARGETS

Date	Cover/Cow (Kg DM)	Average Farm Cover (Kg DM/Ha)	Rotation Length
STOCKING RATE OF 2.5 LU/HA			
1 st August	180	450	20 Days
Mid - August	200	500	25 Days
1 st September	300	750	30 Days
Mid-September	400-450	1,000-1,100	35 Days
1 st October	400	1,000	40 Days
1 st November	60% of your grazing platform should be closed for Spring at this stage		
Fully Housed		550-600	
STOCKING RATE OF 3.0 LU/HA			
Mid - August	250	750	25 Days
1 st September	330	990	30 Days
Mid-September	370	1100	35 Days
1 st October	380	1150	40 Days
1 st November	60% of your grazing platform should be closed for Spring at this stage		
Fully Housed		600-650	
STOCKING RATE OF 3.5 LU/HA			
Mid - August	220	770	25 Days
1 st September	280	980	30 Days
Mid-September	340	1200	35 Days
1 st October	335	1175	40 Days
1 st November	70% of your grazing platform should be closed for Spring at this stage		
Fully Housed		700-750	

AUTUMN GRAZING PLANNER

Targets for the end of September

- 2.5 cows/ha – 1000kg DM/ha
- 2.7 cows/ha – 1100kg DM/ha
- 3.0 cows/ha – 1200kg DM/ha

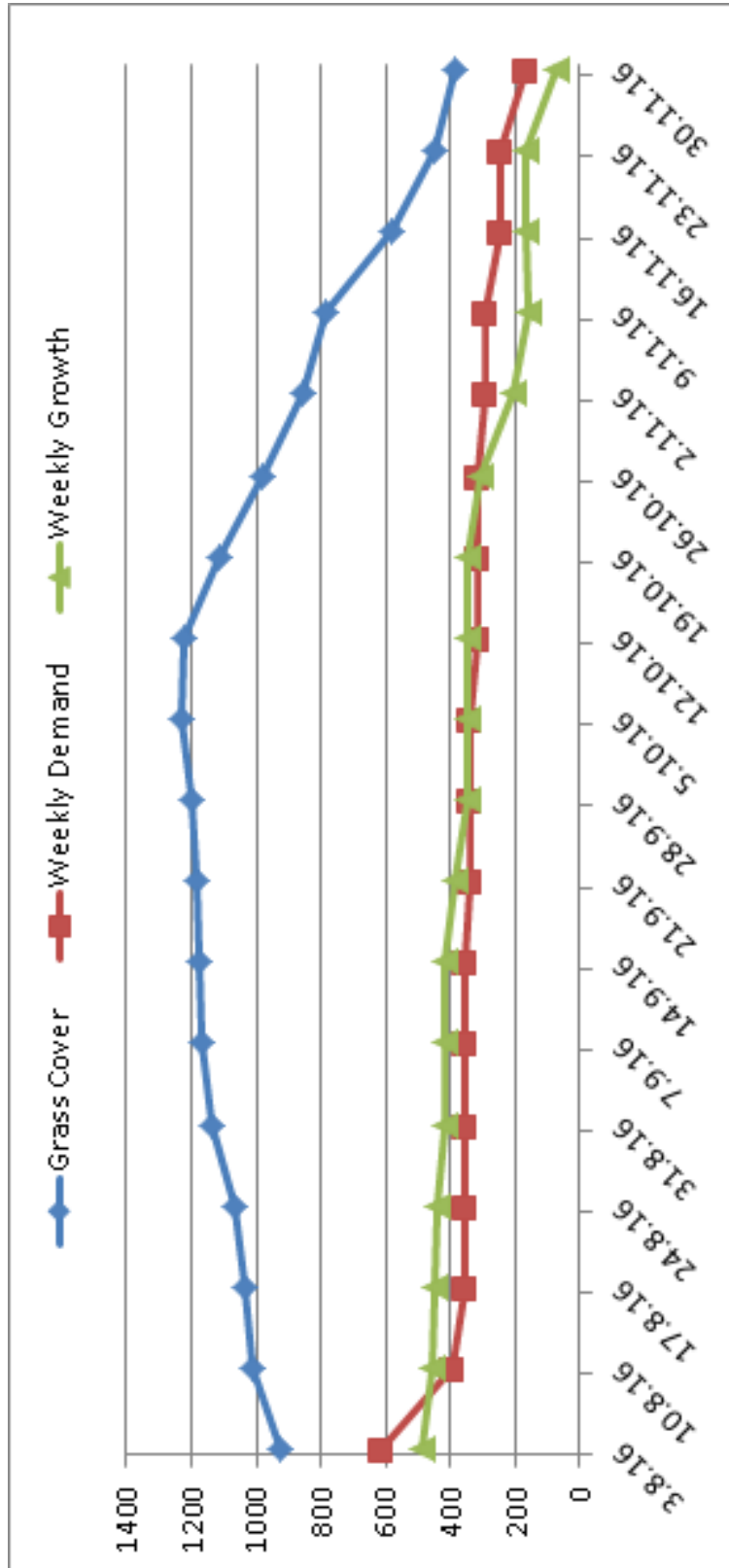
Carrying more than 3.0 cows/ha, it is not advisable to allow the peak farm cover to build higher than 1200kg DM/ha. Otherwise cows will be grazing covers in excess of 2000kg/ha which will have a negative effect on graze out of paddocks with a lot of dead material remaining in the sward

Aim: To build rotation length to 35 days by mid –September

- Be flexible – an autumn budget is a target for grass supply relative to growth and demand.
- Demand is in your control, however growth is mostly dependant on the weather conditions
- If farm cover is below target at any stage, take quick action to bring it back on course, for example introduce a higher level of concentrate or remove surplus stock
- During August/September and early October period it is important to measure grass supply weekly so that you know how much grass you have and how much you need to have.
- Once you know this, informed decisions can be made
- Closing farm cover of 550-600kg DM/ha with covers ranging from 900kg DM/ha - first paddock closed to 200kg DM/ha - last paddock closed
- It is important to graze down to a residual of 4 – 4.5 cm in the autumn to stimulate growth throughout the winter and avoid the carryover of dead material over the Winter and into the following Spring.

- The use of strip wires can become essential to allocate milking cows the correct amount of grass and also minimising damage to paddocks in unfavourable ground conditions.
- Start closing paddocks from the 10th October onwards (1-2 weeks earlier in wet areas).
- Aim to have 60% farm closed by the end of the first week of November (1-2 weeks earlier in wet areas). The paddocks grazed by this date will have an opportunity to grow grass before growth rates decline in November.
- Leave the grazing platform with an “adequate grass cover” when the cows are housed (farm cover of 550-600kg DM/ha).
- Do not re-graze fields that have been closed as Spring grass availability will be reduced. 1 kg DM of Spring grass is worth in the region of €0.16/kg DM while in the Summer 1 kg DM of grass is worth €0.04/kg DM.
- Feed supplements if there is insufficient grass in the daily allocation.
- Skip heavier paddocks if necessary – and graze paddocks with ideal covers - to meet 60% target if necessary.
- Use wet weather grazing techniques if ground conditions deteriorate (on-off grazing, strip wires)
- During the last rotation, you must focus on grazing residuals if you want to have top quality swards for your milking herd next spring.

CROWLEY'S GRASS BUDGET FOR AUTUMN 2016



PRODUCING MORE GRASS

Why reseed?

Productive grassland farms must have perennial ryegrass dominated swards. Recent Moorepark research shows that old permanent pasture produces, on average, 3 tonne DM/ha/year less than perennial ryegrass dominated swards. Old permanent pasture is up to 25 per cent less responsive to available nutrients such as nitrogen than perennial ryegrass dominated swards. Reseeding is a highly cost effective investment. With regular reseeding the grass growth capacity of the farm can be increased substantially; and the annual return on investment is large.

Many farmers do not recognise the economic loss of underperforming paddocks. Low producing paddocks are grazing paddocks which are grazed on average 4 - 6 occasions/year. PastureBaseIreland shows that there is large variation in the grass growing capacity both within and between farms in Ireland. To improve overall farm grass production this variation needs to be reduced. Economically a low proportion of perennial ryegrass in the sward is costing dairy farmers up to €300/ha in lost grass production during the growing season.

Objectives of reseeding are to create swards that:

- (1) Increase the overall productivity of the farm**
 - **Increase the carrying capacity (stocking rate)**
 - **Allow higher animal output – 8% higher milk output per hectare relative to permanent pasture**
 - **Increase grass quality**
- (2) Are more responsive to fertiliser.**
- (3) Increase grass utilisation.**
- (4) Allow white clover/perennial ryegrass pastures to establish.**

Reseeded swards are more productive

Perennial ryegrass is a high quality feed. Figure 1 shows the grass production across the grazing season of a sward containing 15% perennial ryegrass compared to a sward containing 100 per cent perennial ryegrass. The swards with 100 per cent perennial ryegrass grew 2.7 t DM/ha more than the 15 per cent perennial ryegrass sward.

Most of the difference in grass production between the two swards occurs in the spring period, up to mid-May. Swards that have poor grass production in spring will not support early spring grazing. It is recommended that pastures with less than 40 per cent perennial ryegrass should be reseeded.

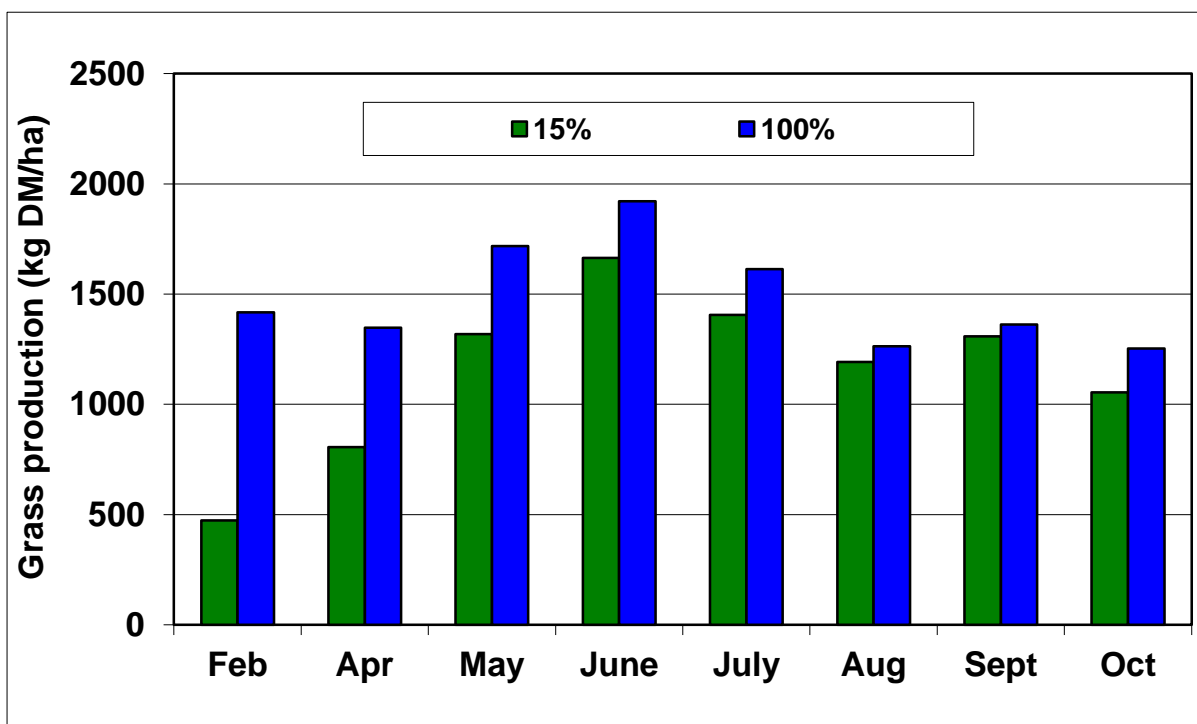


Figure 1. Grass production per month (February to October) in a sward containing 15% perennial ryegrass and 100% perennial ryegrass.

Figure 2 shows the grass production distribution of paddock growth across a farm which grew an average of 13.8 tonne DM/ha last year. The red paddocks are those which were reseeded the previous year. The highest producing paddock produced 16.5 tonne DM/ha while the lowest produced 8.1 tonne DM/ha. Reseeded paddocks were the highest producing paddocks.

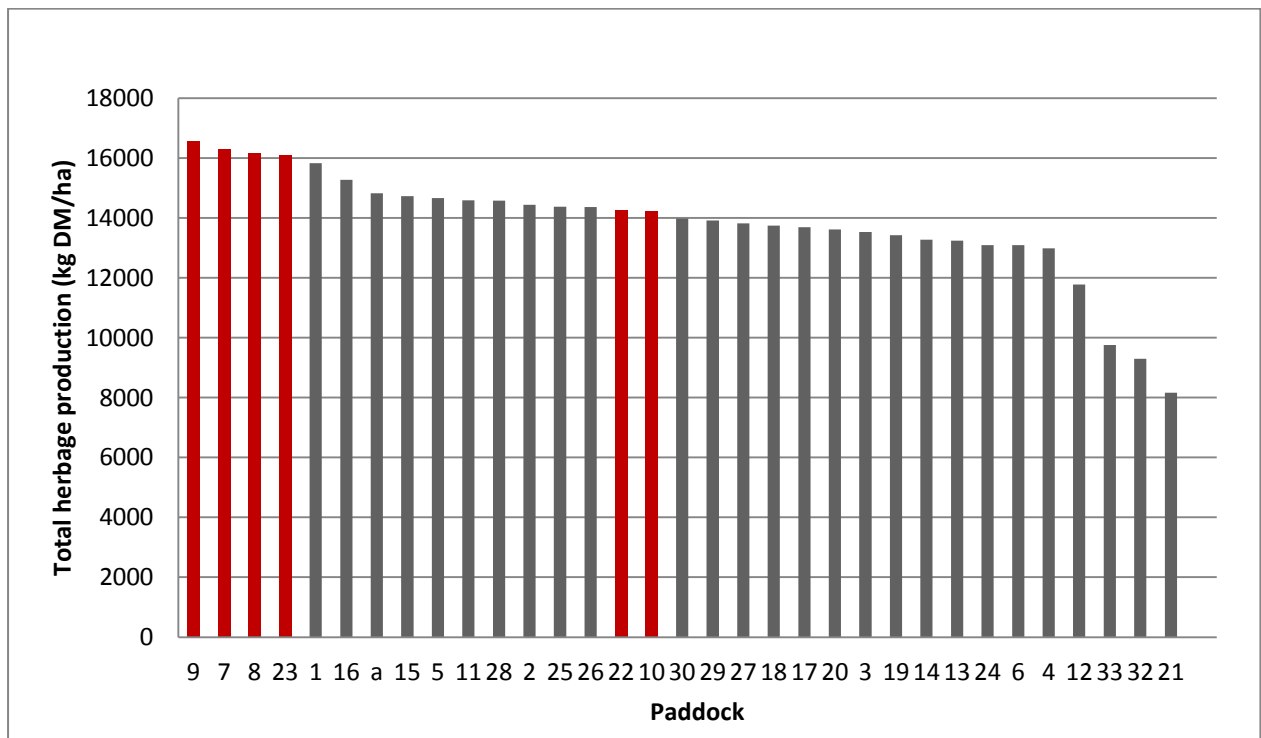


Figure 2. Distribution of individual paddock growth across a farm producing an average of 13.8 tonne DM/ha. Red bars are paddocks reseeded in the previous year.

Timing of reseeded

Most reseeded in Ireland takes place in autumn. This may make sense from a feed budget perspective but it does have some negative consequences. Soil conditions deteriorate as autumn progresses – lower soil temperatures can reduce seed germination, and variable weather conditions reduce the chances of grazing the new sward. The opportunity to apply a post-emergence spray in autumn is also reduced as ground conditions are often unsuitable for machinery. Pest damage can also be a problem in the autumn.

Spring reseeding offers farmers huge opportunities to be flexible when reseeding. Swards reseeded in spring will have similar, or even greater, total herbage production in the year of reseeding as will an old permanent pasture.

Establishing white clover in a spring reseed is more reliable than in autumn due to the stability of soil temperatures in late spring. Post emergence spraying for weed control is usually very successful with spring reseeding, due to favourable weather conditions in summer.

Whether reseeding in spring or autumn, it generally takes a sward around 11 months to fully establish, so good grazing management in that early growth phase is very important.

Turnaround time

The target turnaround time in which to get a reseed back into production should be 60 days. Generally farmers are slow to reseed pastures because they view that paddocks are out of production for too long.

The time that the sward is out of production can be minimised by cultivating 7-10 days after spraying off the old grass – a major failing at farm level is to wait too long after spray off. Prevailing weather conditions will influence this decision, but the objective must be to minimise the non-productive period and weather conditions in spring are generally more stable and predictable than in autumn.

What is important about timing in Spring and Autumn?

- Spray off the old sward. If there are perennial weeds such as docks and ragwort use a glyphosate spray.
- Begin cultivation 7 – 10 days after spray off.
- Ensure a low level of thrash in the pre-cultivation sward, particularly for minimum cultivation techniques (graze tight or top or mow tightly). Trash will be buried if ploughing.
- Target a short turnaround time – 60 days.
- Use a post emergence spray early (5-6 weeks post sowing / at the seedling stage of weeds).
- Ensure a firm seed bed, irrespective of reseeded method used.
- Roll to ensure seed to soil contact, even if rolling isn't possible at sowing, roll before first grazing – otherwise loose plants will get pulled at grazing.
- Monitor for pest attacks, especially in wet autumns (slugs, leatherjackets, frit fly and rabbits are the main threats)

Soil fertility - need soil index 3 for P and K

Reseeding can improve the productivity of a sward; however, for it to have maximum effect soil fertility must be correct. Getting soil fertility right is crucial if perennial ryegrass is to establish well and persist after reseeding. Soil testing provides information on the soil fertility status of a field or paddock. Once soil test results are available, appropriate applications of P, K and lime can be made to ensure adequate soil fertility for perennial ryegrass germination, establishment and production.

Getting soil fertility right

- Soil test for P, K and lime requirements (pH) before reseeding
- Soil test in the autumn before planned reseeding
- Make sure to test to an adequate soil depth – 10 cm
- The target soil pH is 6.3 for mineral soils and pH 5.5 for peat soils
- Do not apply more than 7.5 t lime/ha (3 t/ac) in a single application
- P and K must be brought up to soil Index 3
- N is essential for good grass establishment and growth
- Apply 40 – 75 kg N/ha (20 – 60 units N/ac) when reseeding
- After ploughing permanent pasture for reseeding, paddocks should be soil tested again the following year to ensure that the fertility of the soil brought to the surface by ploughing is correct for grass growth.

Phosphorus and Potassium

Phosphorus (P) is essential for root development. It is immobile in the soil, and if the young seedling roots are to get adequate P, there must be an abundance of this element dispersed in the soil. Table 1 shows the P and K requirements when reseeding grassland at the different P and K index levels.

TABLE 1. P AND K RATES REQUIRED FOR PASTURE ESTABLISHMENT

Soil P Index	Soil P range (Morgan's mg/l)	P application rate (kg/ha)
1	0.0-3.0	60
2	3.1-5.0	40
3	5.1-8.0	30
4	>8.0	0
Soil K Index		
1	0-50	110
2	51-100	75
3	101-150	50
4	> 150	30

An additional 15 kg P/ha is permitted in addition to normal allowances on reseeded grassland on index 1, 2 and 3 soils. These advice rates must be checked against total annual P allowances on the farm under Nitrates rules.

The value of slurry

Slurry is a good option to maintain soil nutrient status. With the increased cost of compounds (P and K) slurry should be used when reseeding to replace some of the P and K fertiliser. At soil Index 3, 3-4,000 gals/acre of slurry is sufficient to supply required P and K nutrients

Reseeding Checklist

- Identify paddocks for reseeded (poorer performing paddocks; low perennial ryegrass content)
- Soil test and lime
- Sowing date
- Method of reseeded
- Spray off paddock
- Prepare a good seed bed when cultivating
- Choose appropriate grass cultivars
- Sowing rate
- Roll
- Slugs and other pests
- Control weeds early
- Graze when herbage mass is 1000 – 1200 kg DM/ha
- Avoid poaching and over grazing

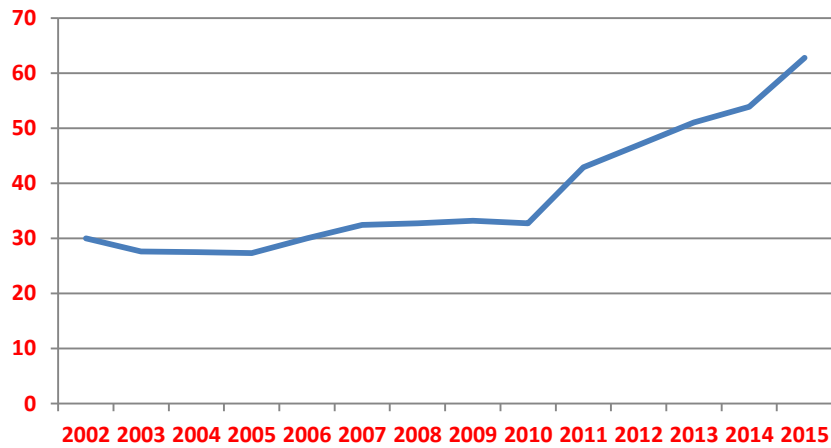


Sustainable dairy production has gone from ‘nice to have’ to ‘need to have’ in a short space of time. The efforts that have been made to quantify the sustainability of Carbery suppliers are being recognised at a global level. We must continue to champion a fully traceable and transparent flow of safe food from farm to fork in order to continue to retain and gain global markets.

With a large proportion of suppliers now certified under SDAS and the remainder being asked to become certified by the end of 2016, Carbery suppliers are leading the country in producing quality assured milk. Producing high quality milk, along with taking part in CellCheck and Johne’s programmes all contribute to that leadership.

Quantification of carbon emissions at farm level contributes greatly to the management and reduction of overall agriculture emissions as required by the EU; possibly by as much as 30% by 2030. With a continued effort from all Carbery stakeholders we can face the challenges of Climate Change while expanding our businesses in an economic and environmentally sustainable manner.

% of Suppliers With SCC <200K



Above is a table of how Carbery milk suppliers have improved SCC levels between 2002 and 2015. Through the use of the Bord Bia SDAS and CellCheck workshops we hope this trend continues, as it allows us to continue to generate new markets for this high quality product.

