



Business, Environment Technology through  
Training Extension Research

## PHASE 2 - FARM WALK

4 March 2014  
Billy Glasheen,  
Ballingarry,  
Mullinahone  
Co Tipperary



A Teagasc/Irish Farmers Journal initiative, supported by industry sponsors







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The Teagasc/Irish Farmers Journal BETTER Farm Phase 2 management team (clockwise, from top left): Adam Woods, Paul Crosson and Paul Maher, Teagasc, Darren Carty and Kieran Mailey, Irish Farmers Journal, and programme advisers Catherine Egan, Peter Lawrence and Alan Dillon.

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Irish Farmers Journal  
in print and online at  
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Edited by: Darren Carty. Production/artwork: Brian Murphy. Printer: Johnswood Press ([info@johnswoodpress.ie](mailto:info@johnswoodpress.ie))

## Welcome note

**O**n behalf of Teagasc and the management team of the Teagasc/*Irish Farmers Journal* **BETTER** Farm beef programme, I would like to welcome you to today's event on Billy Glasheen's farm.

This is the first in a series of 10 open days taking place in 2014 on farms participating in the programme. I would like to acknowledge the support of our sponsors and, in particular, the *Irish Farmers Journal* who have been instrumental to the programme's success over the past five years.

We hope that you will find today's walk both informative and practical and hope that you can take home some messages from this farm to improve the profitability of your own farm.

Increasing output has been a

major focus of the farm plan and is very important in a trading store to beef enterprise. Achieving this output cheaply is equally important and Billy has paid extra attention to correct grassland management during the year to ensure a long grazing season and maintaining quality swards for grazing.

Finally, I'd like to thank Billy and his family for opening up their farm today to public view. Since joining the programme, Billy has been very open to taking on new ideas and advice and we commend him for this.

With Billy's management ability and commitment, we have no doubt that he will continue to push his business in the future and we look forward to helping him on this journey.

**Adam Woods,**  
**BETTER Farm beef**  
**programme manager**

### PHYSICAL SYSTEM

Measure	Current 2011	Target 2016
	Store to Beef	Store to Beef
Stocking rate (LU/ha)	1.95	2.5
Land base (adj. ha)	41	43

### PURCHASES

Purchases	136 Angus steers store to beef	240 Angus steers store to beef
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### LIVEWEIGHT OUTPUT

Liveweight output (kg/ha)	725	1,089
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### FINANCIAL SYSTEM

Output value (€/ha)	882	2,420
Variable costs (% of output)	679 (77%)	1,331 (55%)
Gross margin (€/ha)	205	1,089



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## Focus on changing feeding regime

**B**illy Glasheen hails from Passage East in Waterford and is married to Rosie. They have two children, Patrick and Kate.

Billy joined the BETTER Farm programme in 2012 and is one of two farmers in the programme operating a trading store to beef system.

The farm, located in Ballin-garry, Co Tipperary, extends to 43 hectares, all of which is owned and is in two separate locations. The main grazing block of 31 hectares is located at the farmyard. Another outfarm consisting of 12 hectares is located approximately two miles away. This outfarm is used mainly for harvesting three crops of silage annually and some early and late grazing.

This farm runs a store to beef system with Angus and whitehead steers purchased on an all-year-

round basis at circa 400kg at local marts and slaughtered at roughly 620kg live-weight.

In 2012, the farm

slaughtered 157 Angus steers. In 2013, due to bad weather earlier in the year, the farm slaughtered 109 Angus and Hereford steers.

Numbers increased on the farm during the latter half of 2013, with the farm aiming to slaughter up to 240 Angus and Hereford steers on an all-year-round basis from 2014 on.

This increase in output, combined with improved technical efficiency, should improve the farm's gross margin.

Improvements in technical efficiency include better grassland management and a change to feeding regime, involving moving away from straw and ad lib ration during the final phase of winter finishing towards top quality silage (70% DMD +) and 5kg of a good quality finishing nut.

Steers finished from grass during the summer may be fed up to 3kg of ration for four weeks prior to slaughter. Steers slaughtered are averaging a 50% kill-out, leaving a 310kg carcass. Stores are fed top quality silage (70DMD +) ad lib plus minerals only.

The stock are weighed regularly on the farm. At the last weighing on 19 February, finishing steers on the farm have averaged over 1kg per head per day since 2 October, while store cattle have averaged 0.6kg per head per day on silage only.

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# Growing more grass

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The programme has shown that the farm grew 11.4 tonnes per hectare grass dry matter during the year.

The farm used circa 156 units of nitrogen per acre in 2013 stocked at 2.15 Lu/ha. The farm has corrected its P and K during the year, in accordance with nitrates regulations and soil test results.

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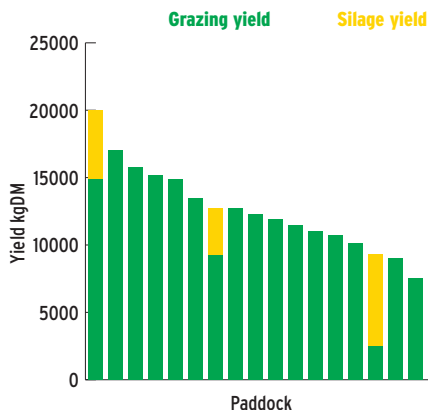
Overall, the farm is relatively dry, although some of the heavier areas on the farm were drained in 2013 and reseeded to increase production. This land had suffered badly in the wet year of 2012 and early part of 2013.

The main emphasis on the farm is on early housing and early turnout, as Billy is a firm believer that stock won't thrive well at grass coming into the winter. Paddocks were closed from 10 October onwards with all stock housed by 10 November.

Billy's closing cover on 21 November was 1,048kg DM/ha. This facilitates early turnout once ground conditions allow in the spring.

**Figure 1**

Cumulative paddock yield to 06/12/2013





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# Increasing output

**S**ince joining the BETTER Farm programme, Billy's profit monitor results have shown a steady increase in output value.

The farm has increased its stocking rate by 13% since 2012. While liveweight output has increased by 1% since 2012, the value of Billy's output has increased by 19% in the same timeframe.

The reason for the increase in output value in the past 12 months has been an increase in finished cattle prices and in the amount of stock held on the farm at the end of 2013. This livestock will be slaughtered in 2014 and will contribute to even higher liveweight output and output value by the end of the year.

The farm, during the second half of 2012 and first half of 2013, suffered due to bad weather. This resulted in higher than normal concentrate bills along with higher fertilizer and purchased forage bills.

Output suffered in the early part of 2013, as dwindling silage stocks and low grass growth meant few cattle were purchased early in the year. This led to a

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With stock levels built up at the end of 2013, the farm is now set up to achieve its planned target of slaughtering 240 steers in 2014.

lower than normal kill of 109 steers in 2013.

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Fertilizer costs have shown the biggest increase in 2013. The farm had very low phosphorus levels shown in soil test results taken at the end of 2012 and a significant cost was involved in rectifying this. Reseeding poorly performing paddocks and correcting soil pH with lime applications has contributed to fertilizer costs also.

Feed costs, which includes concentrates and purchased forage, has decreased in 2013. This is due largely to the increased amount of grazed grass utilised along with harvesting top quality silage for feeding to both stores and finishing stock.

Other costs, such as contractor and vet, have increased slightly and will increase slightly again in the future as stocking rate increases due to higher requirements for slurry spreading and silage harvesting along with larger amounts of stock for dosing, testing etc.

**Table 2: Profit monitor yearly comparison**

Year	Area farmed (ha)	Stocking rate LU/ha	Lwt output kg/ha	Value of output €/ha	
2011	41	1.95	725	883	
2012	41	1.87	692	1,707	
2013	42.9	2.15	696	2,034	


**Table 1: Target performance by end of 2015**

	2012	2013	2015 (target)
Stocking rate	1.87	2.15	2.50
Output kg/ha	692	696	1,100
Output €/ha	€1,707	€2,034	€2,420
Gross margin €/ha	€602	€707	€1,089

	Feed €/ha	Fert/lime €/ha	Vet €/ha	Contractor €/ha	Other €/ha	Gross margin €/ha
	226	200	50	199	2	205
	514	176	63	220	133	602
	431	360	93	262	180	707





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# Managing spring grass

It is well known that spring grazing management has a large influence on the overall annual productivity of pasture-based production systems.

The spring rotation planner (SRP) is a management tool to remove guesswork from decision making during this period.

It allocates a proportion of the farm each day to the herd from turnout to grass in spring up to magic day (where growth rate equals demand), thereby rationing grass supply in spring until growth exceeds demand.

The SRP technique, in addition to weekly grass measurement, will ensure that the first rotation finishes on the correct date and the herd do not run out of grass at critical times of the year.

Billy fills out a simple spring rotation planner each year to aid in grassland management.

As turnout date is dictated by grass supply and ground conditions, the farms turnout date var-

“

Billy must aim to graze roughly 50% of his farm, including silage ground in the first three weeks so as to hit his target of 100% grazed by 12 April.

**Table 1: Spring rotation targets**

Total hectares to be grazed	42.9
Graze 40% by March 22nd	17.16
Graze 70% by April 5th	30.03
Graze 100% by April 12th	42.9

ies slightly from year to year.

This will also dictate the numbers of stock that can be turned out at a given date.

Priority stock should be turned out first. For example, in Billy's case, cattle closest to finishing off grass.

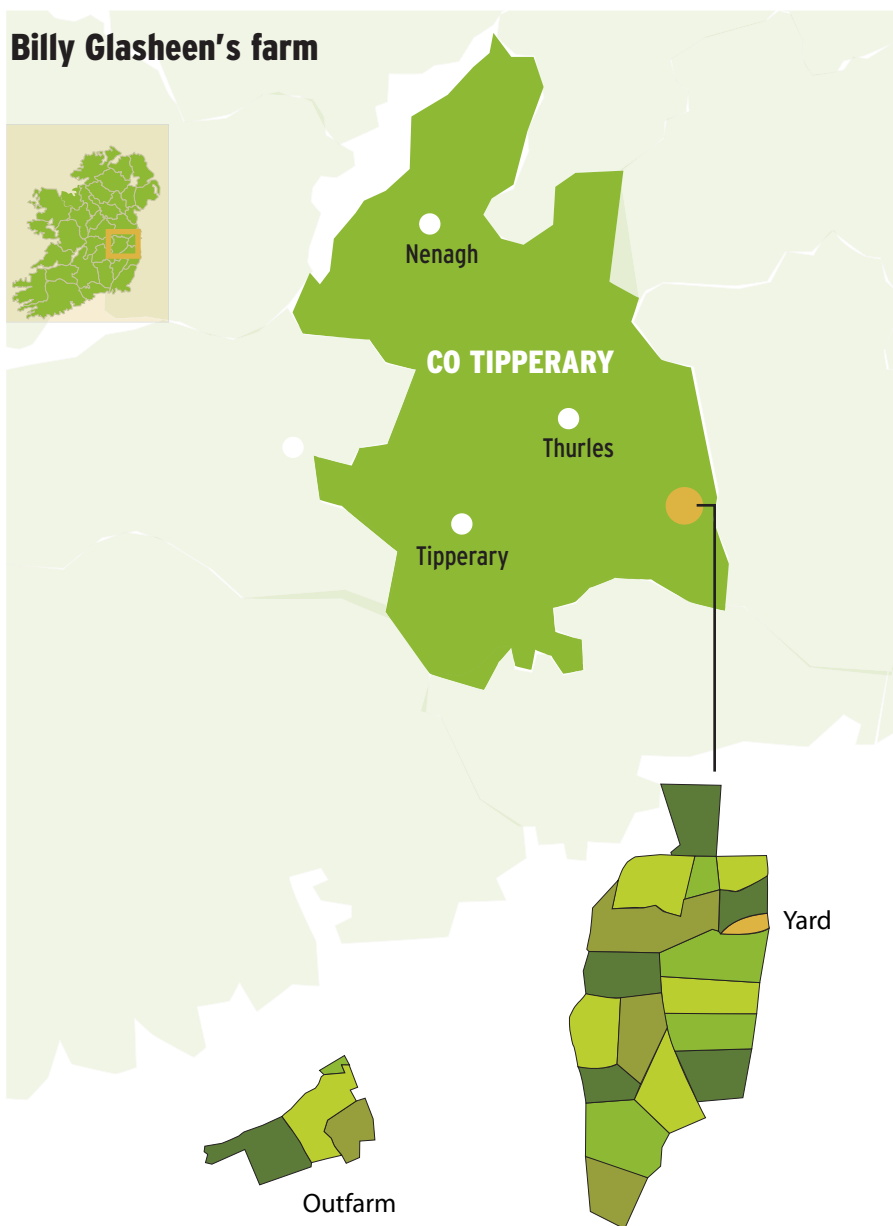
This year, given the wet start, it is estimated that the turnout date on this farm will be slightly later than anticipated at around 1 March.

With magic day estimated at around 12 April, this gives six weeks until the second rotation has to begin.

Put simply, Billy must aim to graze roughly 50% of his farm, including silage ground in the first three weeks so as to hit his target of 100% grazed by 12 April.

**Table 2: Spring rotation planner worksheet**

Week of	Weekly %	Weekly hectares	Actual grazed
1 Mar - 8 Mar	13.3%	5.7	
8 Mar - 15 Mar	13.3%	5.7	
15 Mar - 22 Mar	13.3%	5.7	
<b>Have 40% of farm grazed</b>			
22 Mar - 29 Mar	15%	6.43	
29 Mar - 5 Apr	15%	6.43	
5 Apr - 12 Apr	30%	12.87	





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# Feeding the soil

**A**s can be seen from Billy's soil results, there is a substantial increase in soil phosphorus (P) index levels in the previous 12 months.

This resulted from more targeted applications of slurry on soils low in P and K, along with applications of compound fertilizers at the recommended rate based on soil test results and nitrates regulations allowances.

Billy's P levels have increased overall in the soils by at least one index in the last 12 months. The focus in 2014 will be to maintain the higher P levels at index 3 at least and increase any of the

**Table 2: Fertilizer usage in 2013**

Fertilizer	Tonnes
Urea (46% N)	1.5
18-6-12	8.0
Pasture Sward (27-2.5-5)	4.0
Muriate of Potash	2.0
Leifi Start (25-4-0)	10.0
CAN (27% N)	10.0

lower index 2 soils by targeting these with slurry and compound fertilizer applications.

The potassium (K) levels in the soil have increased by a lesser amount than the P levels. While more focus was placed on increas-

**Table 1: Soil sample results and change in pH, P and K levels 2013 v 2014**

Sample	Field name	Use	Ha	
1	Road field	Grass	3.0	
2	Field under shed	Grass	2.2	
3	3 Paddocks beside shed	Grass	5.4	
4	Big Bog	Grass	2.0	
5	Hunting gate	Grass	1.9	
6	Tank Field	Grass	4.8	
7	Over Tank	Grass	3.8	
8	Hill Field	Grass	5.5	
9	Over shed	Grass	2.4	
10	Garrynoe Top Field	Three-cut system	4.7	
11	Garrynoe Bottom Field	Three-cut system	4.7	
12	Garrynoe new field	Three-cut system	2.9	
	<b>Total hectares</b>		<b>43.2</b>	



ing P levels in the soil in 2013, 2014 brings an increased emphasis on improving K levels that have dropped.

### Fertilizer usage

A fertilizer plan was completed for the farm and the maximum fertilizer allowance in 2013 was 8,507kg of nitrogen and 980kg of phosphorus.

Billy used his fertilizer allowance up to the limits and applied

8,410kg of chemical nitrogen and 980kg of chemical phosphorus.

For spring 2014, the plan will be to graze off any silage ground early as, due to strong growth rates late in 2013, covers at closing were high. These need to be grazed off early so as to allow slurry to be spread in the second half of March. This will be followed by chemical fertilizer for silage around 1 April with the aim of harvesting first cut silage around 23 May.

Slurry will be applied to bare grazing fields at a rate of 2,500 gallons per acre during the spring. This slurry has the ability to supply the equivalent units of 12 N, 15 P and 95 K. Urea will be applied to other paddocks at a rate of half a bag per acre for the first round. Compound fertilizers will be targeted to paddocks low in P and K for the next round.

2013 sample index reading			2014 sample index reading			Change 2013 v 2014		
pH	P	K	pH	P	K	pH	P	K
5.6	2	4	6.18	4	3	0.60	+2	-1
6.0	4	4	6.50	4	4	0.55	=0	=0
5.5	1	4	6.06	4	4	0.55	+3	=0
5.3	1	3	6.06	4	4	0.78	+3	+1
5.1	1	4	5.90	2	3	0.76	+1	-1
5.8	1	4	5.90	2	3	0.11	+1	-1
5.5	1	3	5.83	2	3	0.31	+	=0
6.1	1	4	6.15	2	4	0.01	+1	=0
5.4	2	4	6.51	4	4	1.10	+2	=0
7.0	3	1	5.55	3	3	-1.45	=0	+2
6.8	2	1	6.77	4	2	0.01	+2	+1
5.8	2	2	5.55	3	3	-0.23	+1	+1





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# Budgeting for profit

**B**illy aims to purchase store Angus and Hereford steers in local marts. The target spring purchase weight is around 350kg to 400kg. Stock purchased later in the year for finishing are purchased at closer to 500kg live-weight.

Stock bought in spring each year are put to grass as soon as possible. Taking an average turn-out date of 10 March, the target gain is around 1kg per day during the grazing season.

Depending on weight gain, cattle will either be finished off grass with 3kg to 4kg of ration by late autumn or housed and finished on 5kg of ration in November/De-

cember, or if weight gain has been poor, February/March.

If stock is purchased at lighter weights towards the end of the year (<400kg), they will be stored over the winter period on silage plus minerals only and prioritised for early turn-out with a view to finishing off grass in May/June of the following year when prices are typically higher than normal.

This set-up creates an even flow of stock to be slaughtered on a year-round basis and helps with cashflow management and price fluctuations in both factory and marts.

Pictured above: Alan Dillon, Billy Glasheen, Joe Hand and Karen Dukelow.

“

The production system creates an even flow of stock to be slaughtered and helps with cashflow management and price fluctuations in both factory and marts.



**Table 1:** Example production budget for a 400kg Angus steer, purchased 1 March, turned out to grass 10 March and slaughtered at the end of the year

Purchase cost @€2/kg	€800
Dose for IBR / rumen fluke / worms	€10
Grazing costs 210 days at average 70c/day	€145
Dose at grass (rumen fluke / liver fluke / worms)	€10
Finished indoors 50 days (70 DMD silage +5kg ration)	€110
Levies/transport	€25
Total cost of production	€1,100
<b>Sale (assuming 630kg lwt @50% killout = 315kg carcass grading O+3=</b>	
<b>Price per kg carcass</b>	
Base price (current)	€4.00
Deductions for O- carcass	-€0.12
Quality assurance bonus	€0.12
Angus bonus	€0.10
Total price per kg carcass	€4.10
Sale price	€1291
Margin per head	€191
<b>Sensitivity analysis</b>	
Beef price -10%	-€130
Ration price +10%	-€75
<b>Net margin per head</b>	<b>€-9</b>

**Assumptions:** 0.955 UFL 30% maize, 18% barley nut costing €270/tonne delivered; silage 70 DMD costing €28/t fresh weight; grazed grass costing €0.07/kg DM.



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## Five tips for BETTER silage

### 1. Plan

- ➔ Decide on fields to harvest
- ➔ The amount and timing of fertilizer and slurry to be spread
  - ➔ The approximate harvest date
  - ➔ Contractor to avoid delays in harvesting
- ➔ Prepare silos and effluent tanks in advance

### 2. Target high yields

- ➔ Harvesting large yields of grass dilutes production costs
- ➔ Soil tests should be carried out to determine optimal rates of P, K and lime to be applied
- ➔ Timely removal of livestock will allow permitted N application to promote high yields

### 3. Graze tight

- ➔ Graze off to remove dead herbage in spring
- ➔ Graze to 4cm to 5cm prior to applying fertilizer/slurry
  - ➔ Harvest at appropriate growth stage

### 4. Work fast

- ➔ Fast filling and perfect sealing from air are essential for good preservation
  - ➔ Harvesting a clean, dry crop enhances preservation

### 5. Minimise exposure to air

- ➔ Careful management of silo/bales and feed trough during feedout
  - ➔ Remove silage at a reasonably fast rate from feed face
  - ➔ Ensure that feed face is kept even and clean

#### Characteristics of good quality silage

Variable	Ranges
Dry matter	20% +
pH	3.8 to 4.2
DMD	70% +
Crude Protein	12 to 16%
Ammonia	<10%
Ash	<10%

#### DMD\* ranges of different forages

Forage type	DMD ranges
Grazed grass	72% to 82%
Leafy silage	74% to 76%
Stemmy silage	60% to 65%
Hay	55% to 60%
Straw	45% to 50%

\*Dry matter digestibility

## Five steps to BETTER soil fertility

### 1. Soil testing

- ⇒ Provides vital information about your soils
- ⇒ Is a foundation for your fertilizer plan
- ⇒ A standard test will give fertility status on pH, lime requirement, P and K

### 2. Soil pH and lime

- ⇒ Lime improves the availability of N, P, K, sulphur, calcium and magnesium
  - ⇒ Lime at least every five years
- ⇒ Ground limestone can be spread at any time
  - ⇒ Apply lime as per soil test report

### 3. Target Index 3 for P and K

- ⇒ Index 3 is optimum for crop growth
- ⇒ Only a soil test will determine P and K status
- ⇒ Index 4 soils (high fertility) are a resource - use them to save money on fertilizer costs
  - ⇒ Index 1 & 2 (low fertility) need additional nutrients

### 4. Slurry and manures

- ⇒ Plan when and where slurry/manure will be best utilised
- ⇒ Aim to apply slurry in spring during moist, cool conditions

### 5. Nutrient balance

- ⇒ Develop a fertilizer plan for your farm
- ⇒ Get the best value from fertilizer and organic manure
  - ⇒ Enhance crop yield and animal performance
- ⇒ Reduce environmental risks due to field loss of excess nutrients

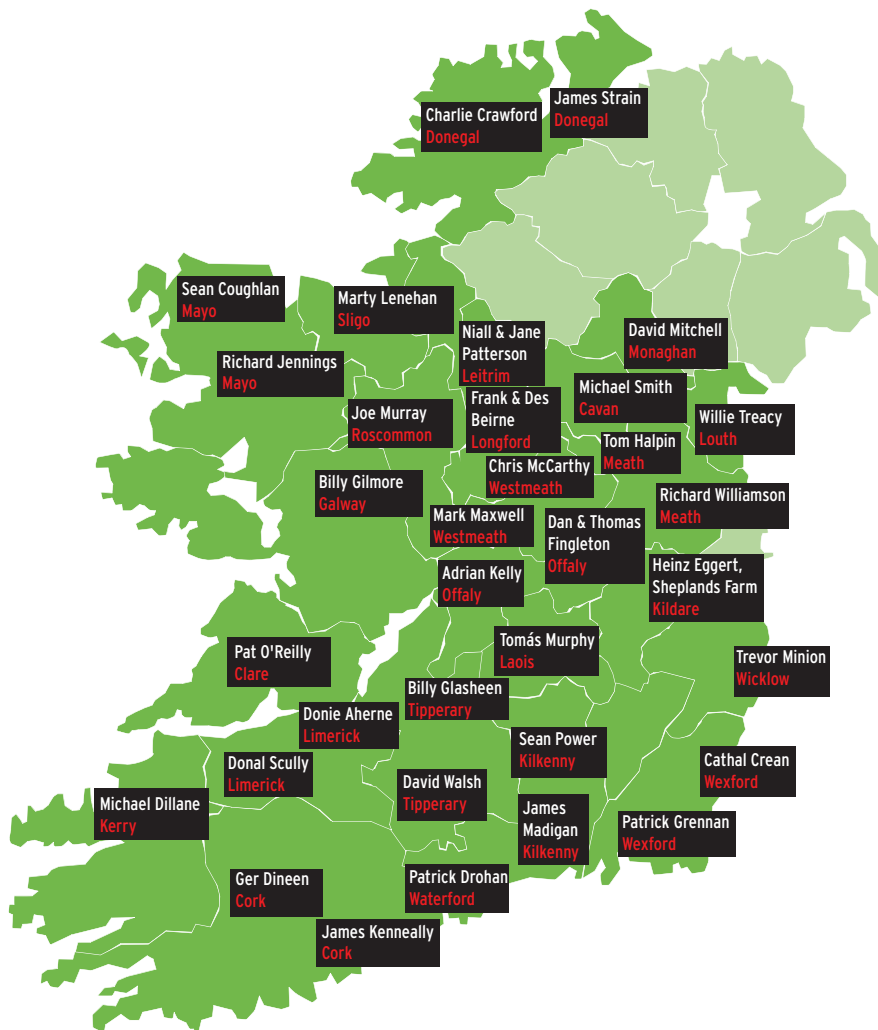
The P index system		
	Soil P ranges (mg/l)	
Soil P index	Grassland crops	Other crops
1	0.0 - 3.0	0.0 - 3.0
2	3.1 - 5.0	3.1 - 6.0
3	5.1 - 8.0	6.1 - 10.0
4	Above 8.0	Above 10.0

The K index system	
Soil K Index	Soil K ranges (mg/l)
1	0 - 50
2	51 - 100
3	101 - 150
4	Above 150





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tilizer applications and increasing or decreasing grassland stocking rate.

Once Billy can see his number of days grazing getting too far ahead, he makes a decision to either take out surpluses as baled silage or purchase extra stock for finishing off grass.

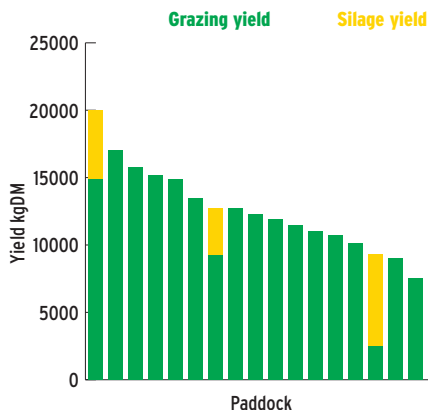
Overall, the farm is relatively dry, although some of the heavier areas on the farm were drained in 2013 and reseeded to increase production. This land had suffered badly in the wet year of 2012 and early part of 2013.

The main emphasis on the farm is on early housing and early turnout, as Billy is a firm believer that stock won't thrive well at grass coming into the winter. Paddocks were closed from 10 October onwards with all stock housed by 10 November.

Billy's closing cover on 21 November was 1,048kg DM/ha. This facilitates early turnout once ground conditions allow in the spring.

**Figure 1**

Cumulative paddock yield to 06/12/2013





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# Increasing output

**S**ince joining the BETTER Farm programme, Billy's profit monitor results have shown a steady increase in output value.

The farm has increased its stocking rate by 13% since 2012. While liveweight output has increased by 1% since 2012, the value of Billy's output has increased by 19% in the same timeframe.

The reason for the increase in output value in the past 12 months has been an increase in finished cattle prices and in the amount of stock held on the farm at the end of 2013. This livestock will be slaughtered in 2014 and will contribute to even higher liveweight output and output value by the end of the year.

The farm, during the second half of 2012 and first half of 2013, suffered due to bad weather. This resulted in higher than normal concentrate bills along with higher fertilizer and purchased forage bills.

Output suffered in the early part of 2013, as dwindling silage stocks and low grass growth meant few cattle were purchased early in the year. This led to a

“

With stock levels built up at the end of 2013, the farm is now set up to achieve its planned target of slaughtering 240 steers in 2014.

lower than normal kill of 109 steers in 2013.

With stock levels built up at the end of 2013, the farm is now set up to achieve its planned target of slaughtering 240 steers in 2014.

Fertilizer costs have shown the biggest increase in 2013. The farm had very low phosphorus levels shown in soil test results taken at the end of 2012 and a significant cost was involved in rectifying this. Reseeding poorly performing paddocks and correcting soil pH with lime applications has contributed to fertilizer costs also.

Feed costs, which includes concentrates and purchased forage, has decreased in 2013. This is due largely to the increased amount of grazed grass utilised along with harvesting top quality silage for feeding to both stores and finishing stock.

Other costs, such as contractor and vet, have increased slightly and will increase slightly again in the future as stocking rate increases due to higher requirements for slurry spreading and silage harvesting along with larger amounts of stock for dosing, testing etc.

**Table 2: Profit monitor yearly comparison**

Year	Area farmed (ha)	Stocking rate LU/ha	Lwt output kg/ha	Value of output €/ha	
2011	41	1.95	725	883	
2012	41	1.87	692	1,707	
2013	42.9	2.15	696	2,034	


**Table 1: Target performance by end of 2015**

	2012	2013	2015 (target)
Stocking rate	1.87	2.15	2.50
Output kg/ha	692	696	1,100
Output €/ha	€1,707	€2,034	€2,420
Gross margin €/ha	€602	€707	€1,089

	Feed €/ha	Fert/lime €/ha	Vet €/ha	Contractor €/ha	Other €/ha	Gross margin €/ha
	226	200	50	199	2	205
	514	176	63	220	133	602
	431	360	93	262	180	707



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# Managing spring grass

It is well known that spring grazing management has a large influence on the overall annual productivity of pasture-based production systems.

The spring rotation planner (SRP) is a management tool to remove guesswork from decision making during this period.

It allocates a proportion of the farm each day to the herd from turnout to grass in spring up to magic day (where growth rate equals demand), thereby rationing grass supply in spring until growth exceeds demand.

The SRP technique, in addition to weekly grass measurement, will ensure that the first rotation finishes on the correct date and the herd do not run out of grass at critical times of the year.

Billy fills out a simple spring rotation planner each year to aid in grassland management.

As turnout date is dictated by grass supply and ground conditions, the farms turnout date var-

“

Billy must aim to graze roughly 50% of his farm, including silage ground in the first three weeks so as to hit his target of 100% grazed by 12 April.

**Table 1: Spring rotation targets**

Total hectares to be grazed	42.9
Graze 40% by March 22nd	17.16
Graze 70% by April 5th	30.03
Graze 100% by April 12th	42.9

ies slightly from year to year.

This will also dictate the numbers of stock that can be turned out at a given date.

Priority stock should be turned out first. For example, in Billy's case, cattle closest to finishing off grass.

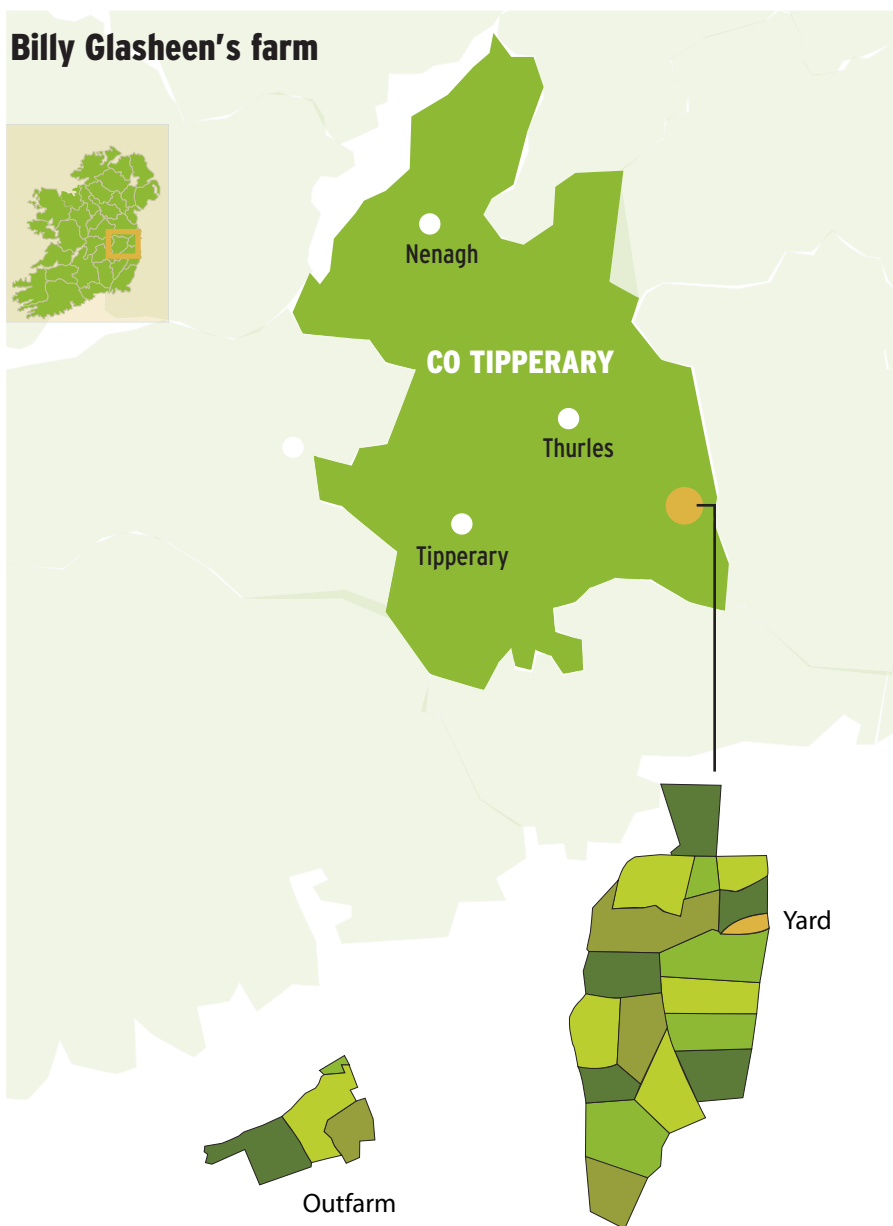
This year, given the wet start, it is estimated that the turnout date on this farm will be slightly later than anticipated at around 1 March.

With magic day estimated at around 12 April, this gives six weeks until the second rotation has to begin.

Put simply, Billy must aim to graze roughly 50% of his farm, including silage ground in the first three weeks so as to hit his target of 100% grazed by 12 April.

**Table 2: Spring rotation planner worksheet**

Week of	Weekly %	Weekly hectares	Actual grazed
1 Mar - 8 Mar	13.3%	5.7	
8 Mar - 15 Mar	13.3%	5.7	
15 Mar - 22 Mar	13.3%	5.7	
<b>Have 40% of farm grazed</b>			
22 Mar - 29 Mar	15%	6.43	
29 Mar - 5 Apr	15%	6.43	
5 Apr - 12 Apr	30%	12.87	







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# Feeding the soil

**A**s can be seen from Billy's soil results, there is a substantial increase in soil phosphorus (P) index levels in the previous 12 months.

This resulted from more targeted applications of slurry on soils low in P and K, along with applications of compound fertilizers at the recommended rate based on soil test results and nitrates regulations allowances.

Billy's P levels have increased overall in the soils by at least one index in the last 12 months. The focus in 2014 will be to maintain the higher P levels at index 3 at least and increase any of the

**Table 2: Fertilizer usage in 2013**

Fertilizer	Tonnes
Urea (46% N)	1.5
18-6-12	8.0
Pasture Sward (27-2.5-5)	4.0
Muriate of Potash	2.0
Leifi Start (25-4-0)	10.0
CAN (27% N)	10.0

lower index 2 soils by targeting these with slurry and compound fertilizer applications.

The potassium (K) levels in the soil have increased by a lesser amount than the P levels. While more focus was placed on increas-

**Table 1: Soil sample results and change in pH, P and K levels 2013 v 2014**

Sample	Field name	Use	Ha	
1	Road field	Grass	3.0	
2	Field under shed	Grass	2.2	
3	3 Paddocks beside shed	Grass	5.4	
4	Big Bog	Grass	2.0	
5	Hunting gate	Grass	1.9	
6	Tank Field	Grass	4.8	
7	Over Tank	Grass	3.8	
8	Hill Field	Grass	5.5	
9	Over shed	Grass	2.4	
10	Garrynoe Top Field	Three-cut system	4.7	
11	Garrynoe Bottom Field	Three-cut system	4.7	
12	Garrynoe new field	Three-cut system	2.9	
	<b>Total hectares</b>		<b>43.2</b>	



ing P levels in the soil in 2013, 2014 brings an increased emphasis on improving K levels that have dropped.

### Fertilizer usage

A fertilizer plan was completed for the farm and the maximum fertilizer allowance in 2013 was 8,507kg of nitrogen and 980kg of phosphorus.

Billy used his fertilizer allowance up to the limits and applied

8,410kg of chemical nitrogen and 980kg of chemical phosphorus.

For spring 2014, the plan will be to graze off any silage ground early as, due to strong growth rates late in 2013, covers at closing were high. These need to be grazed off early so as to allow slurry to be spread in the second half of March. This will be followed by chemical fertilizer for silage around 1 April with the aim of harvesting first cut silage around 23 May.

Slurry will be applied to bare grazing fields at a rate of 2,500 gallons per acre during the spring. This slurry has the ability to supply the equivalent units of 12 N, 15 P and 95 K. Urea will be applied to other paddocks at a rate of half a bag per acre for the first round. Compound fertilizers will be targeted to paddocks low in P and K for the next round.

2013 sample index reading			2014 sample index reading			Change 2013 v 2014		
pH	P	K	pH	P	K	pH	P	K
5.6	2	4	6.18	4	3	0.60	+2	-1
6.0	4	4	6.50	4	4	0.55	=0	=0
5.5	1	4	6.06	4	4	0.55	+3	=0
5.3	1	3	6.06	4	4	0.78	+3	+1
5.1	1	4	5.90	2	3	0.76	+1	-1
5.8	1	4	5.90	2	3	0.11	+1	-1
5.5	1	3	5.83	2	3	0.31	+	=0
6.1	1	4	6.15	2	4	0.01	+1	=0
5.4	2	4	6.51	4	4	1.10	+2	=0
7.0	3	1	5.55	3	3	-1.45	=0	+2
6.8	2	1	6.77	4	2	0.01	+2	+1
5.8	2	2	5.55	3	3	-0.23	+1	+1



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# Budgeting for profit

**B**illy aims to purchase store Angus and Hereford steers in local marts. The target spring purchase weight is around 350kg to 400kg. Stock purchased later in the year for finishing are purchased at closer to 500kg live-weight.

Stock bought in spring each year are put to grass as soon as possible. Taking an average turn-out date of 10 March, the target gain is around 1kg per day during the grazing season.

Depending on weight gain, cattle will either be finished off grass with 3kg to 4kg of ration by late autumn or housed and finished on 5kg of ration in November/De-

cember, or if weight gain has been poor, February/March.

If stock is purchased at lighter weights towards the end of the year (<400kg), they will be stored over the winter period on silage plus minerals only and prioritised for early turn-out with a view to finishing off grass in May/June of the following year when prices are typically higher than normal.

This set-up creates an even flow of stock to be slaughtered on a year-round basis and helps with cashflow management and price fluctuations in both factory and marts.

Pictured above: Alan Dillon, Billy Glasheen, Joe Hand and Karen Dukelow.

“

The production system creates an even flow of stock to be slaughtered and helps with cashflow management and price fluctuations in both factory and marts.



**Table 1:** Example production budget for a 400kg Angus steer, purchased 1 March, turned out to grass 10 March and slaughtered at the end of the year

Purchase cost @€2/kg	€800
Dose for IBR / rumen fluke / worms	€10
Grazing costs 210 days at average 70c/day	€145
Dose at grass (rumen fluke / liver fluke / worms)	€10
Finished indoors 50 days (70 DMD silage +5kg ration)	€110
Levies/transport	€25
Total cost of production	€1,100
<b>Sale (assuming 630kg lwt @50% killout = 315kg carcass grading O+3=</b>	
<b>Price per kg carcass</b>	
Base price (current)	€4.00
Deductions for O- carcass	-€0.12
Quality assurance bonus	€0.12
Angus bonus	€0.10
Total price per kg carcass	€4.10
Sale price	€1291
Margin per head	€191
<b>Sensitivity analysis</b>	
Beef price -10%	-€130
Ration price +10%	-€75
<b>Net margin per head</b>	<b>€-9</b>

**Assumptions:** 0.955 UFL 30% maize, 18% barley nut costing €270/tonne delivered; silage 70 DMD costing €28/t fresh weight; grazed grass costing €0.07/kg DM.



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## Five tips for BETTER silage

### 1. Plan

- ➔ Decide on fields to harvest
- ➔ The amount and timing of fertilizer and slurry to be spread
  - ➔ The approximate harvest date
  - ➔ Contractor to avoid delays in harvesting
- ➔ Prepare silos and effluent tanks in advance

### 2. Target high yields

- ➔ Harvesting large yields of grass dilutes production costs
- ➔ Soil tests should be carried out to determine optimal rates of P, K and lime to be applied
- ➔ Timely removal of livestock will allow permitted N application to promote high yields

### 3. Graze tight

- ➔ Graze off to remove dead herbage in spring
- ➔ Graze to 4cm to 5cm prior to applying fertilizer/slurry
  - ➔ Harvest at appropriate growth stage

### 4. Work fast

- ➔ Fast filling and perfect sealing from air are essential for good preservation
  - ➔ Harvesting a clean, dry crop enhances preservation

### 5. Minimise exposure to air

- ➔ Careful management of silo/bales and feed trough during feedout
  - ➔ Remove silage at a reasonably fast rate from feed face
  - ➔ Ensure that feed face is kept even and clean

Characteristics of good quality silage

Variable	Ranges
Dry matter	20% +
pH	3.8 to 4.2
DMD	70% +
Crude Protein	12 to 16%
Ammonia	<10%
Ash	<10%

DMD\* ranges of different forages

Forage type	DMD ranges
Grazed grass	72% to 82%
Leafy silage	74% to 76%
Stemmy silage	60% to 65%
Hay	55% to 60%
Straw	45% to 50%

\*Dry matter digestibility



## Five steps to BETTER soil fertility

### 1. Soil testing

- ⇒ Provides vital information about your soils
- ⇒ Is a foundation for your fertilizer plan
- ⇒ A standard test will give fertility status on pH, lime requirement, P and K

### 2. Soil pH and lime

- ⇒ Lime improves the availability of N, P, K, sulphur, calcium and magnesium
  - ⇒ Lime at least every five years
- ⇒ Ground limestone can be spread at any time
  - ⇒ Apply lime as per soil test report

### 3. Target Index 3 for P and K

- ⇒ Index 3 is optimum for crop growth
- ⇒ Only a soil test will determine P and K status
- ⇒ Index 4 soils (high fertility) are a resource - use them to save money on fertilizer costs
  - ⇒ Index 1 & 2 (low fertility) need additional nutrients

### 4. Slurry and manures

- ⇒ Plan when and where slurry/manure will be best utilised
- ⇒ Aim to apply slurry in spring during moist, cool conditions

### 5. Nutrient balance

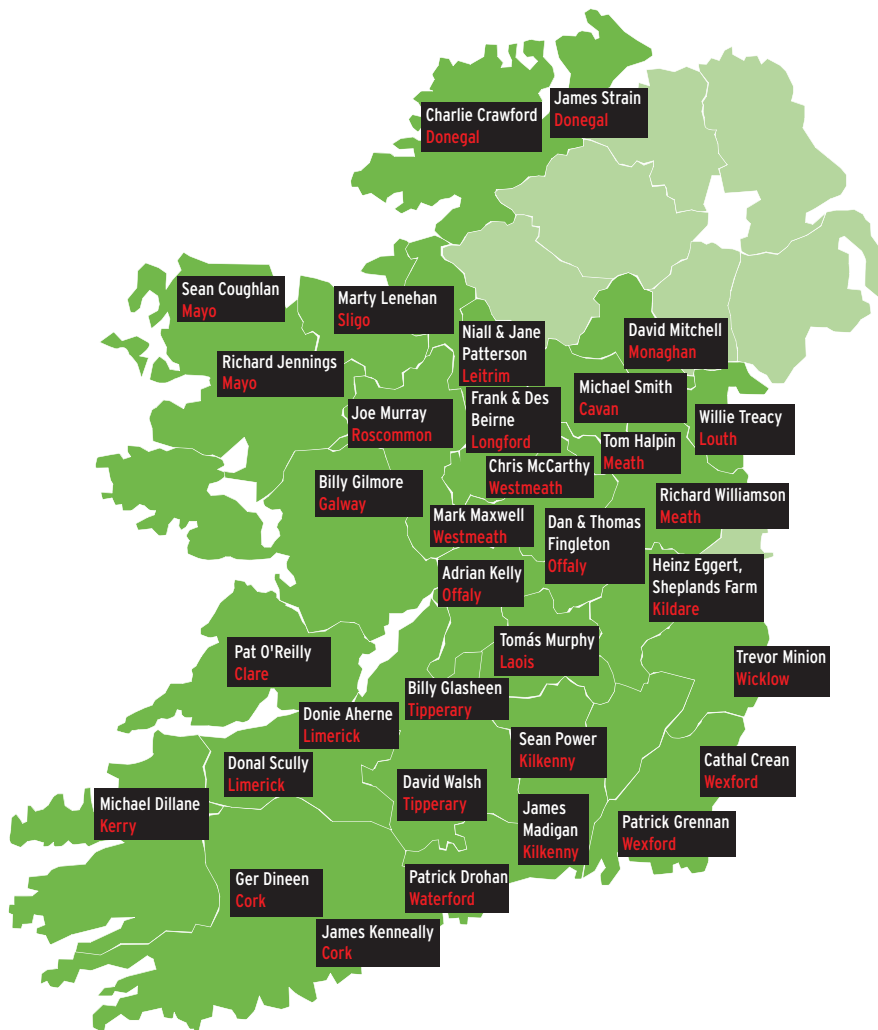
- ⇒ Develop a fertilizer plan for your farm
- ⇒ Get the best value from fertilizer and organic manure
  - ⇒ Enhance crop yield and animal performance
- ⇒ Reduce environmental risks due to field loss of excess nutrients

The P index system		
	Soil P ranges (mg/l)	
Soil P index	Grassland crops	Other crops
1	0.0 - 3.0	0.0 - 3.0
2	3.1 - 5.0	3.1 - 6.0
3	5.1 - 8.0	6.1 - 10.0
4	Above 8.0	Above 10.0

The K index system	
Soil K Index	Soil K ranges (mg/l)
1	0 - 50
2	51 - 100
3	101 - 150
4	Above 150



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