

## Replacement Heifer Enterprise

The true costs of expansion are sometimes hidden within businesses (ie. in dairy gross output rather than costs in the profit monitor) and therefore go unanalysed. Many farmers within this group are currently or are planning to increase herd size. Analysis of the replacement enterprises on these farms suggest that, on average, heifer rearing is costing 3.36c/l for the MF and 3.84c/l for the HS farms. Adding in the value of the replacement heifer calf, a land charge and the labour costs associated with heifer rearing would bring total heifer rearing cost to approximately €1,400 per heifer reared. This is a substantial cost and therefore one needs to consider the implications of funding this from cash flow.

Contract rearing is an important consideration as herd size and stocking rate increases. This type of an agreement can be cost effective, free up land adjacent to the milking parlour and free up own labour to focus on the milking cows. It also highlights once again the importance of achieving replacement rates of less than 20%.

### Conclusion

1. Improvement in key performance indicators as measured by **6-week calving rate, tonnes of grass utilised per hectare and costs of production**, are cornerstones of a profitable dairy business.
2. Expansion without efficiency gains can reduce overall farm profitability.
3. Continuous improvement is required in farm practices which reduce costs and generate higher labour efficiency.

**The Joint Kerry Agribusiness/Teagasc programme continues to support all suppliers in achieving a more profitable, enjoyable and labour efficient farming business.**

**Kerry Agribusiness and Teagasc wish to thank all of the programme participants for their co-operation and goodwill throughout the year and also all those who open up their farms for events.**



# Focus on Profit

Kerry Agribusiness / Teagasc

Monitor Farm Review 2016





# Kerry Agribusiness / Teagasc Joint Programme Review 2016

## FOCUS ON PROFIT

### Mission Statement:

**Will empower our client farmers with:**

- up-to-date technical advice
- financial expertise to set and achieve financial goals
- blueprint for profitable and environmentally sustainable farming
- an enhanced quality of life

### Foreword

The Joint Kerry Agribusiness/Teagasc “Focus on Profit” Programme focusses on improving the technical and financial performance of dairy farms in the catchment area. Consistent with the Mission Statement the programme aims to provide Kerry Agribusiness suppliers with tools to increase profit by focusing on sustainable improvements in farm productivity.

### The joint programme “Focus on Profit” has the following components:

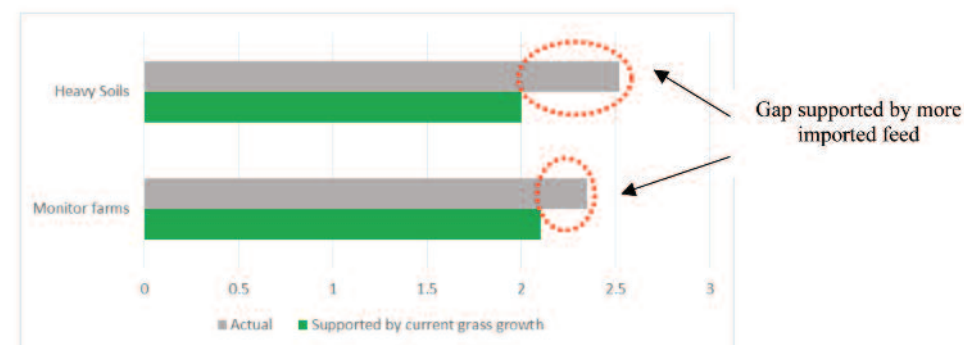
- Monitor farm programme comprising ten Monitor farms and five Heavy soils farms.
- Discussion group programme with forty four discussion groups.
- Monitoring of grass growth across the Kerry Agribusiness catchment.
- Targeted campaigns on grazing management, soil fertility, milk quality and farm systems.
- Farm Info-Zone initiative to enhance programme participation among all suppliers.

All suppliers can participate in a range of meetings, farm walks and workshops throughout the year.

### Summary findings Monitor Group:

- Milksolids production of 959kg per hectare at a cost of €2.44/kg was achieved for the group
- Increased focus on soil fertility required – only 10% of soils with optimum overall fertility
- Must develop farm businesses which withstand volatility in milk price
- Consider all costs fully if developing the business – labour, capital, heifer rearing etc.

**Figure 7: Milking block stocking rate**

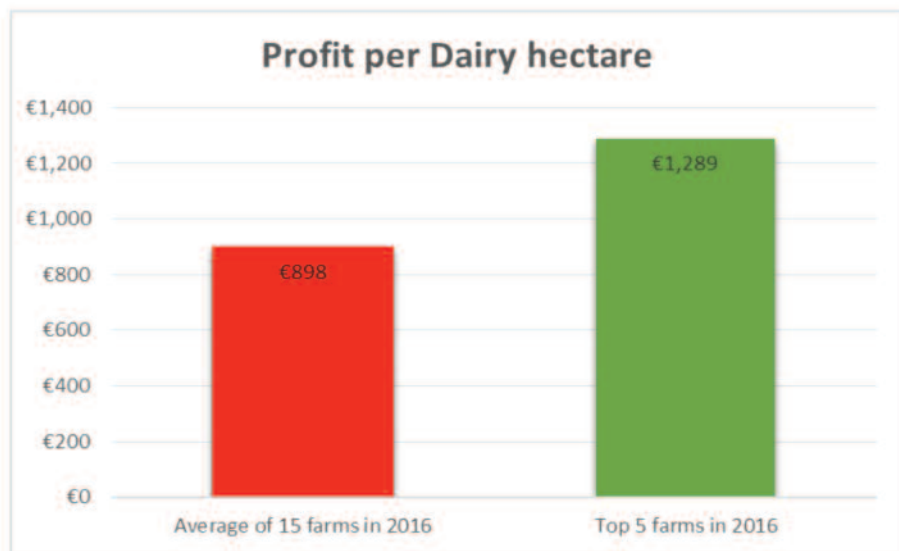


Given the group focus on converting grass to milksolids it is now essential that grass grown on these farms increases by 2 to 3t DM/ha. A planned approach is being implemented where spending is prioritised in descending order of lime, weed control, P&K, reseeding good soils with top grass varieties on Pasture Profit Index, grazing infrastructure and drainage of heavy soils.



Figure 6 outlines the profit per hectare achieved by the combined group (red bar) and the top five farms (green bar). These were achieved at the base milk price of 24.5c/l (€3.22/kg MS). The top five farms invested €312/ha on hired labour, bank interest and land leases suggesting that when managed correctly these can be productive costs, giving a good return. The group are targeting a profit of approximately €2,000/ha at a base price of 30c/l (€3.95/kg MS).

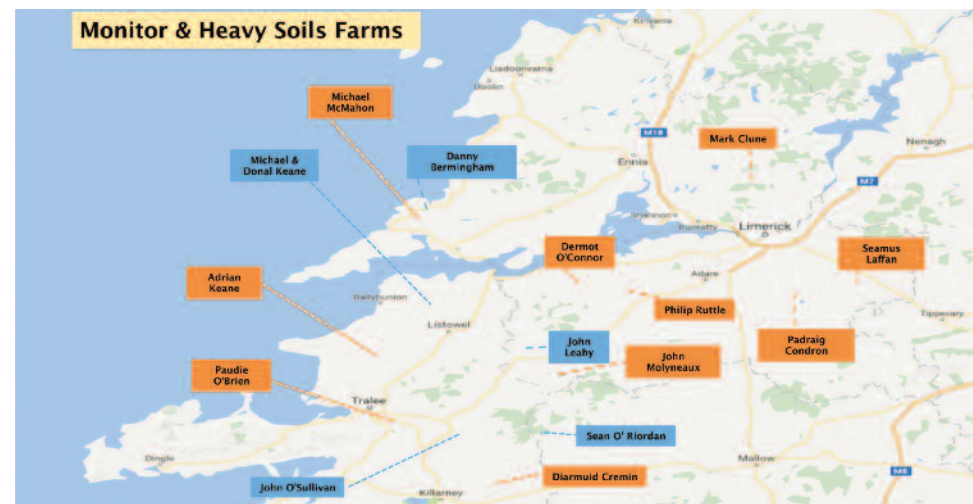
**Figure 6: Profit per hectare**



From a Gross Output perspective, improvement will be achieved by focusing on increasing the protein and fat content of every litre of milk sold, increasing the milk solids produced per hectare and reducing the replacement rate and meal feeding costs. In the short-term this will require increased fertiliser, lime and reseeding costs. Stocking rate on the milking area will be increased aligned with an increase in grass grown. Based on the amount of grass grown per hectare on these farms the current stocking rate is supported by large amounts imported feed, mainly grass silage, see Figure 7. This highlights that any further increases in stocking rate without increased grass grown can only be supported with even more imported feed or reduced performance per cow.

## INTRODUCTION

A new group of ten dairy monitor farms completed their first year of the programme in 2016. These farms were selected to represent a range of farm profiles, geographical spread and stage of development. The names and locations are outlined on the map below (orange boxes). In addition the five heavy soil farms continued in the programme, (blue boxes.)



At their first meeting this group identified some key indicators of success which they wanted to achieve by the end of the program. These are:

- Increased milksolids per cow and per hectare
- More money in the bank account - better control of spending
- Increased confidence in decision making
- More grass grown and utilised from every hectare farmed
- Happy within the group and achieve a good work-life balance

Currently the program involves ten Monitor Farms (MF), five Heavy Soils farms (HS) and three mentor farms. The new monitor farms will focus on improving the physical and financial performance of their farms. The Heavy Soils group are focusing on soil fertility and farm infrastructure while the mentor farmers provide support for the new group and they themselves focus on labour management as their herds expand.

### Reflections on the year:

- Extremely wet spring led to less grass in the cows diet which impacted on feed costs
- Annual grass growth of 11.4 tonnes dry matter per hectare
- Introduction of an EU Voluntary Milk Reduction Scheme
- Reduced milk price



## PHYSICAL PERFORMANCE

The physical performance of the MF and HS farms is outlined in Table 1 below. Average herd size for the fifteen farms was 91 cows in 2016 with a stocking rate of 2.41 Lu/ha on the milking block (MB) area. On average the HS farms had a higher stocking rate on the MB but a lower overall farm stocking rate. Milk solids per hectare were 123kg higher for the HS farms, achieved through the importation of additional supplements and grass silage as grass grown was 0.52t DM/ha lower than the MF.

**Table 1: Physical Performance in 2016**

|                                    | Monitor Farm | Heavy Soils | Range 2016        |
|------------------------------------|--------------|-------------|-------------------|
| Cow Numbers                        | 87           | 99          | 52 - 151          |
| Milking block (MB) area (ha)       | 38.02        | 39.46       | 25.00 - 64.00     |
| Stocking rate - MB (Lu/ha)         | 2.35         | 2.52        | 1.58 - 3.20       |
| Stocking rate - Whole farm (Lu/ha) | 2.01         | 1.86        | 1.52 - 2.41       |
| Milksolids/cow (kg's)              | 414          | 429         | 316 - 496         |
| Milksolids/ha on MB                | 959          | 1082        | 700 - 1291        |
| Milk yield/cow (l)                 | 5261         | 5354        | 4335 - 6160       |
| Milk production per farm (l)       | 457,637      | 533,998     | 245,574 - 803,371 |
| Milksolids per farm                | 35,965       | 42,971      | 19,046 - 63,798   |
| % Protein                          | 3.52         | 3.57        | 3.30 - 3.68       |
| % Fat                              | 4.11         | 4.21        | 3.78 - 4.50       |
| SCC (,000)                         | 169          | 171         | 102 - 264         |
| TBC (,000)                         | 18           | 29          | 9 - 57            |
| Grass grown (t DM/ha)              | 11.6         | 11.1        | 9.2 - 12.1        |
| Concentrate /cow (kg's)            | 620          | 710         | 470 - 840         |

## HERD GENETICS & FERTILITY

**Table 2: Breeding and replacement data 2016**

| Breeding                      | Monitor Farm | Heavy Soils | Range       |
|-------------------------------|--------------|-------------|-------------|
| Herd EBI €                    | 88           | 94          | 57 - 137    |
| Milk sub-index €              | 17           | 24          | 2 - 42      |
| Fertility sub-index €         | 43           | 42          | 28 - 64     |
| Protein % PTA                 | 0.06         | 0.07        | 0.03 - 0.13 |
| Replacements 0-1 yrs EBI €    | 158          | 169         | 150 - 203   |
| Replacements 1-2 yrs EBI €    | 148          | 154         | 127 - 190   |
| Replacements 0-1 as % of herd | 25           | 23          | 9 - 40      |
| Replacements 1-2 as % of herd | 30           | 25          | 16 - 33     |
| Yearly EBI gain -2016 €       | 9            | 10          | 4 - 15      |

## Genetics

The herd genetics in the group is variable and the current breeding objective is to breed for high fertility and high milk solids and to produce a cow type that is robust and survives in the herd over a long period. Over the next three years, the MF are focusing on improving the herd milk sub-index to €50 from the current €17 and fertility sub-index to

As the kgs of milksolids produced on farm are a key performance parameter, all revenue and costs should be expressed as € / kg MS. Table 8 below presents the output and costs of the monitor and heavy soils farms in this way. Both groups achieved a profit (excluding own labour) of approximately €1/kg MS in what was a low base milk price year.

**Table 8: Performance per kg milksolids**

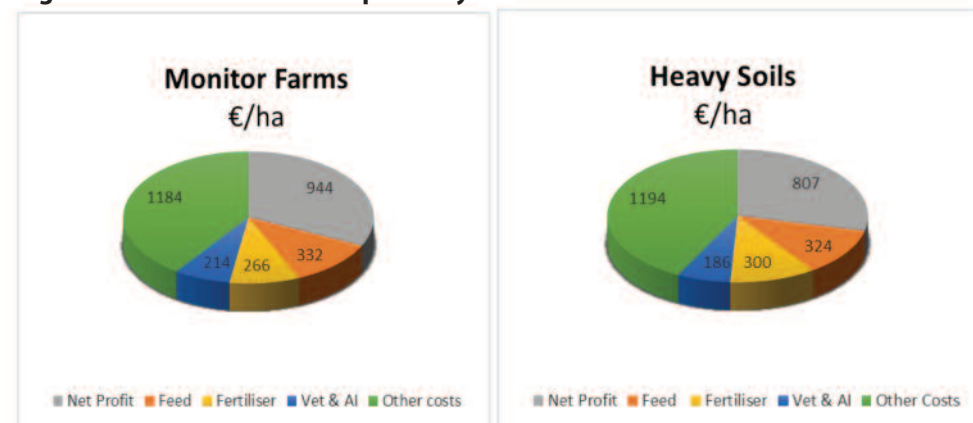
|                         | Monitor Farms | Heavy Soils |
|-------------------------|---------------|-------------|
| Gross Output* (€/kg MS) | 3.56          | 3.54        |
| Variable cost (€/kg MS) | 1.45          | 1.52        |
| Fixed cost (€/kg MS)    | 0.99          | 1.00        |
| Total Costs* (€/kg MS)  | 2.44          | 2.52        |
| Profit (€/kg MS)        | 1.12          | 1.02        |

\* Gross Output is milk sales plus stock sales, less change in stock inventory and excludes all direct payments

# Costs exclude own labour

Currently land is the major limiting factor on our farms and therefore measuring performance from every hectare farmed is useful. Ultimately the objective is to establish a farm business delivering cost efficient production of milk solids at stocking rates that are driven by maximising the use of grazed grass in the herd diet. Figure 5 shows the breakdown of different cost items per hectare for the MF and HS groups.

**Figure 5: Breakdown of costs per dairy hectare**



## FINANCIAL

**Table 6: Financial overview – Gross output and costs (c/L)**

|                      | Average |       | Range 2016    |
|----------------------|---------|-------|---------------|
|                      | MF      | HS    |               |
| Gross Output* (c/l)  | 28.00   | 28.45 | 24.42 - 31.42 |
| Variable costs (c/l) | 11.38   | 12.21 | 8.14 - 16.83  |
| Fixed Costs (c/l)    | 7.77    | 8.02  | 5.75 - 10.60  |
| Total Costs (c/l)    | 19.15   | 20.23 | 15.25 - 22.58 |
| Profit (c/l)         | 8.85    | 8.22  | 3.07 - 15.29  |

\* Gross Output is milk sales plus stock sales, less change in stock inventory and excludes all direct payments

# Costs exclude own labour

Good levels of gross output were achieved given an average base milk price of 24.5c/l (3.3%P & 3.6% BF). The group focused on minimising total farm costs by eliminating unnecessary spending. Lower input prices for feed, fertiliser and energy also helped keep base costs close to 20c/litre on average. In many cases, very good mid-season grass growth allowed concentrate feeding to be eliminated. Where possible, group members diverted their spending to capital fertiliser, namely lime, P and K.

**Cost control is a key component of lifting overall farm profit and therefore focus will remain on spending only on productive items in all years.**

**Table 7: Breakdown of costs (c/L)**

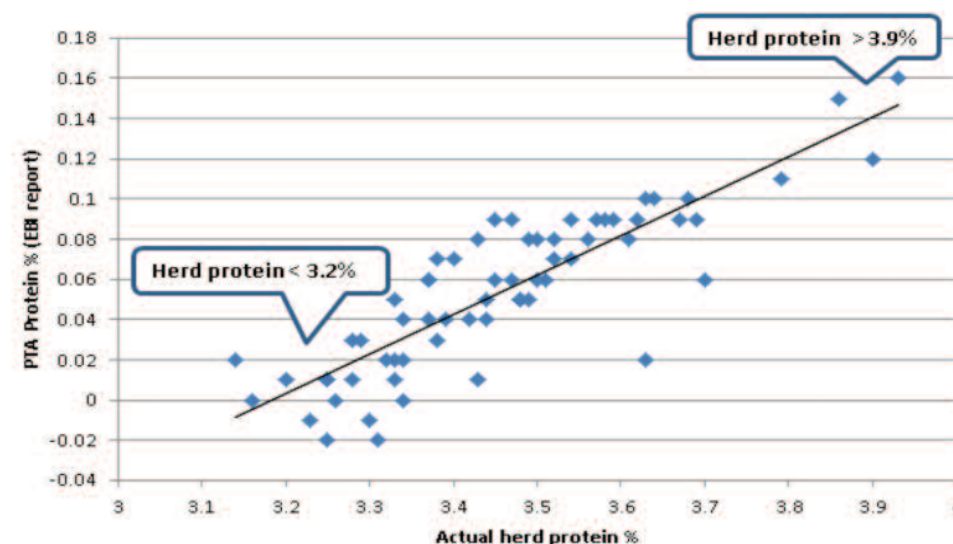
|               | Feed | Fertiliser | Vet & A.I. | Contr-actor | Other Variable Costs | Total Variable Costs | Total Fixed Costs | Total Costs <sup>#</sup> |
|---------------|------|------------|------------|-------------|----------------------|----------------------|-------------------|--------------------------|
| Monitor Farms | 3.15 | 2.58       | 2.03       | 1.66        | 1.96                 | 11.38                | 7.77              | 19.15                    |
| Heavy Soils   | 3.28 | 3.10       | 1.87       | 1.96        | 1.99                 | 12.21                | 8.02              | 20.23                    |

# Costs exclude own labour

Heavy soils farms had slightly higher feed, fertiliser, contractor and fixed costs (associated with winter housing infrastructure). Base costs were only 1c/l higher in the HS group and a clear message is that where high levels of efficiency and performance are achieved, through grass measurement, compact calving and financial control, the impact of soil type can be minimised. A key feature of the HS farms is the need to be flexible and take opportunities which arise, such as responding quickly when good weather windows present themselves for grazing, fertiliser & slurry applications or taking out surplus bales. An increased level of forward planning with lime applications and reseeding is also required.

€80, with a slightly lower target of €50 fertility sub-index where hybrid vigour is introduced to the herd via crossbreeding. Within the milk sub-index there is huge scope to lift the genetic potential of herds and thereby produce higher protein percentage milk. Figure 1 below outlines the relationship between actual herd protein % and the herd genetic predicted transmitting ability (PTA) for milk protein % (Teagasc 2016).

**Figure 1: Relationship between herd protein % and PTA protein %**



## Breeding

Calving started on February 1st for both groups, see Table 3. Reducing the interval between calving and access to grass is an important factor in maintaining herd body condition, reducing both concentrate costs and the reliance on grass silage. Therefore, these farms will continue to focus on achieving a 6 week calving rate of 90% versus 74% and 79% respectively. To achieve this requires using bulls with a fertility sub-index of €120, achieving a 90% submission rate in 3 weeks, conception rate of 50%+ to first service and calving all heifers in the first six weeks.

**Table 3: Calving data 2016**

|                         | Monitor Farm | Heavy Soils | Range           | Target |
|-------------------------|--------------|-------------|-----------------|--------|
| Start date calving      | 01-Feb       | 01-Feb      | 17-Jan - 7 Feb  |        |
| Finish date calving     | 05-May       | 26-Apr      | 04-Apr - 11-Jun |        |
| Median calving date     | 25-Feb       | 22-Feb      | 10-Feb - 10 Mar |        |
| 6 week calving rate     | 74           | 79          | 62 - 88         | 90     |
| Calving interval (days) | 367          | 360         | 360 - 373       | 365    |

# FEED MANAGEMENT

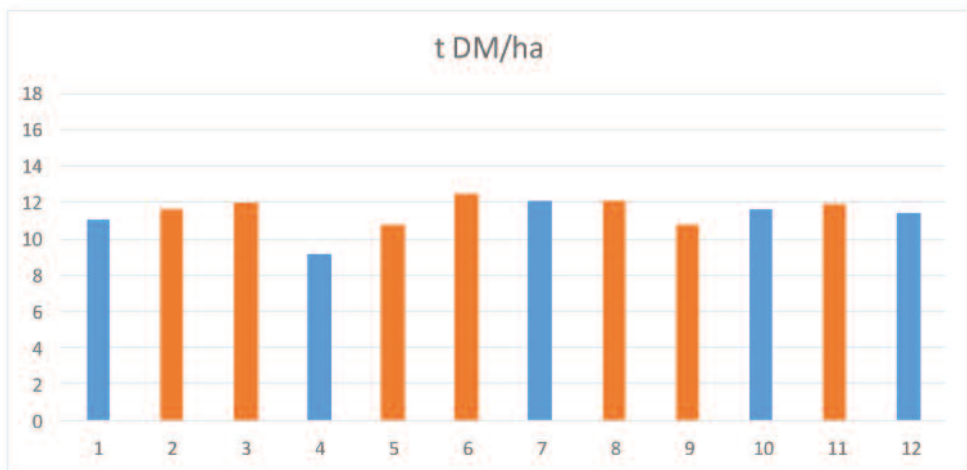
Information on grass growth and utilisation are summarised in Table 4 and Figure 2 below. Grass growth is highly dependent on good soil fertility, grazing management, grass varieties and Nitrogen use. The new group of MF are focused on improving their grazing management skills through monitoring and measuring grass growth more accurately using Pasture Base Ireland. Similarly the HS farms will put more emphasis on ensuring soil PH, P and K are in the optimum ranges.

Table 4: Grass Growth & Utilisation 2016

|                                | Monitor Farm | Heavy Soils | Range      |
|--------------------------------|--------------|-------------|------------|
| Grass grown (t DM/ha)          | 11.6         | 11.1        | 9.2 - 12.1 |
| Number grass measurements/year | 25           | 30          | 6* - 42    |
| Grass Utilised (t DM/ha)       | 9.3          | 8.9         | 7.4 - 10   |

\*low as some MF joined mid-year in 2016

Figure 2: Grass grown on individual farms (those with full year data)

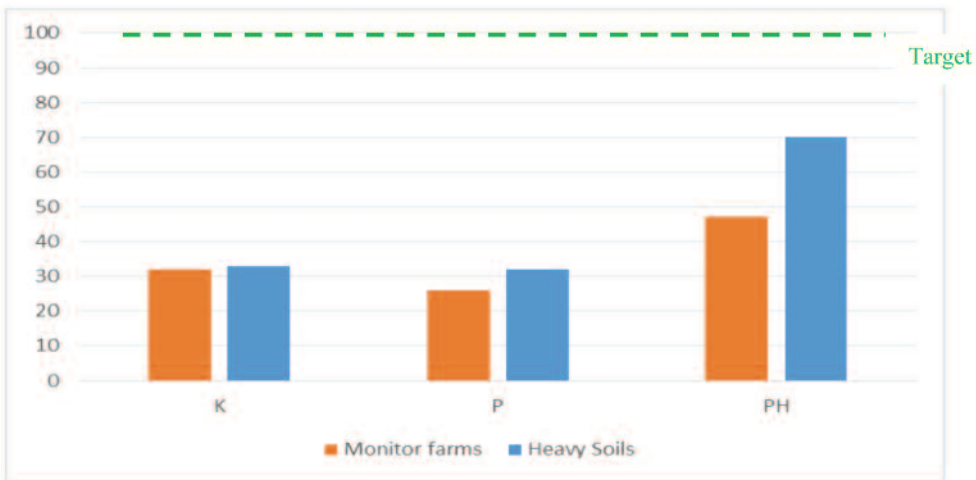


Note: Farms 1,4,7,10 & 12 are heavy soils farms



Figure 3 highlights the current soil fertility status on the farms. Approximately one third of soils for both groups are optimum for P and K. However the HS farms have focused greatly on addressing soil PH and currently have 70% of paddocks at target. This is important as it ensures that any added P will not be locked up by iron and aluminium in these soils due to low PH.

Figure 3: Soil fertility status - % at optimum



The grass growth curve for 2016, Figure 4, shows the exceptional grass growth pattern in both summer and early autumn compared to the 5 year average. While grass growth in Spring was similar to previous years ground conditions meant this could not be easily grazed.

Figure 4: Grass growth curve

