

Soil Fertility Atlas of Ireland

Teagasc

February 2014

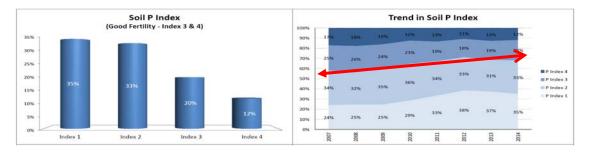
Introduction

Teagasc has provided soil analysis services for its clients since the 1960's. In recent years because of changes in legislation and the cost of fertiliser farmers have changed their practices on fertiliser application. Total volumes of fertiliser used have reduced substantially (reduction of 45% for P and 43% for K in national fertiliser use between 2006 and 2009) and the products being used have changed. In 2009 national phosphorus (P) and potassium (K) fertiliser use was at the lowest levels for previous two decades. Teagasc maintains a database of the soil samples it analyses and has been in a position to analyse the trends in soil fertility that have emerged. Although this database is not a fully random sample of national soils, the large numbers of samples therein and sample representation from each county in Ireland allows the national trends in soil fertility to be estimated.

This publication provides a graphic representation of recent trends in soil fertility both at national level and at a county level. It is of interest to policy makers, farmers advisers and industry. Soil fertility is the basis on which increases in productivity set out in Food Harvest 2020 will be delivered. A clear picture of what is happening to soil fertility will help to guide policy and practice and support the achievement of positive outcomes. Improvements in environmental outcomes, notably water quality, are also affected by nutrient management and ensuring soil fertility matches crop demand.

The publication consists of a series of graphs for all enterprises followed by an enterprise breakdown. On each page there are bar graphs outlining the breakdown of soil samples by index of both phosphorus and potassium for 2014 and a trend graph since 2007. A breakdown of soil pH into five groupings is also graphed for 2014 and for the period. The fourth set of graphs looks at the percentage of samples that achieved good overall fertility, i.e. Soil pH > 6.2; Soil P and K Index 3 or 4. (Note: target soil pH range for grassland on mineral soils is 6.2 - 7.0, but for grassland on peat soils is pH 5.2 - 5.6)

Interpreting the Graphs



The graph on the left is a simple representation of the 2014 soil analysis results. The graph on the right provides an insight as to what has been happening to soil fertility over the last 8 years. The intersection between Index 2 and 3 provides a key insight as to the level of fertility and trend and is the basis for the majority of the commentary in this publication. Trend in soil fertility shown in the graphs reveal the impact of regulation, high fertiliser practice and concerted efforts to halt declining fertility.

Soil Index System for P, K for Grassland and Tillage Crops (Morgan's soil test)

| Index | | Phosphorus (P) mg/litre | | Potassium (K) mg/litre |
|-------|-------------|-------------------------|----------|------------------------|
| | | Grassland | Tillage | All Crops |
| 1 | Very Low | 0-3.0 | 0-3.0 | 0-50 |
| 2 | Low | 3.1-5.0 | 3.1-6.0 | 51-100 |
| 3 | Target | 5.1-8.0 | 6.1-10.0 | 101-150 |
| 4 | Excess | >8.0 | >10.0 | >150 |

Disclaimer

This publication and it's interpretation is based on data compiled from soil samples submitted to Teagasc for analysis. It does not represent a random national sample of soils. However, the large numbers of samples from each county in Ireland allows the national trends in soil fertility to be estimated.

These analysis are based on average soil fertility targets. Please note that variability according to soil type and local conditions needs to be taken into account, e.g target pH for high molybdenum soils is less than pH 6.2.

Information available at

http://www.teagasc.ie/soil/analysis/results.asp

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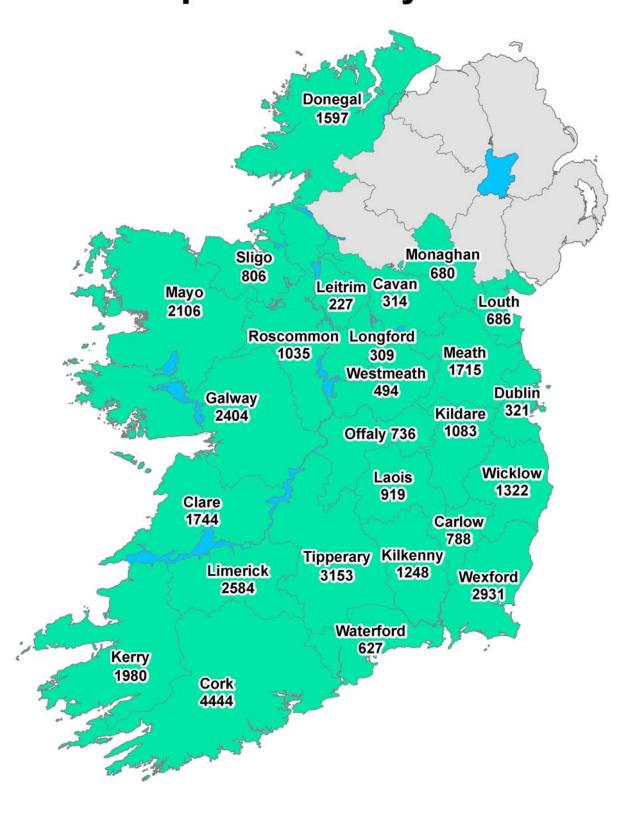
David Wall, Soil Scientist, Johnstown Castle

Acknowledgement

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- Southern Scientific Services Ltd
- Teagasc Soil Laboratory Staff, Johnstown Castle
- Dr Stan Lalor

Soil Samples / County 2014



Highlights National

Overall

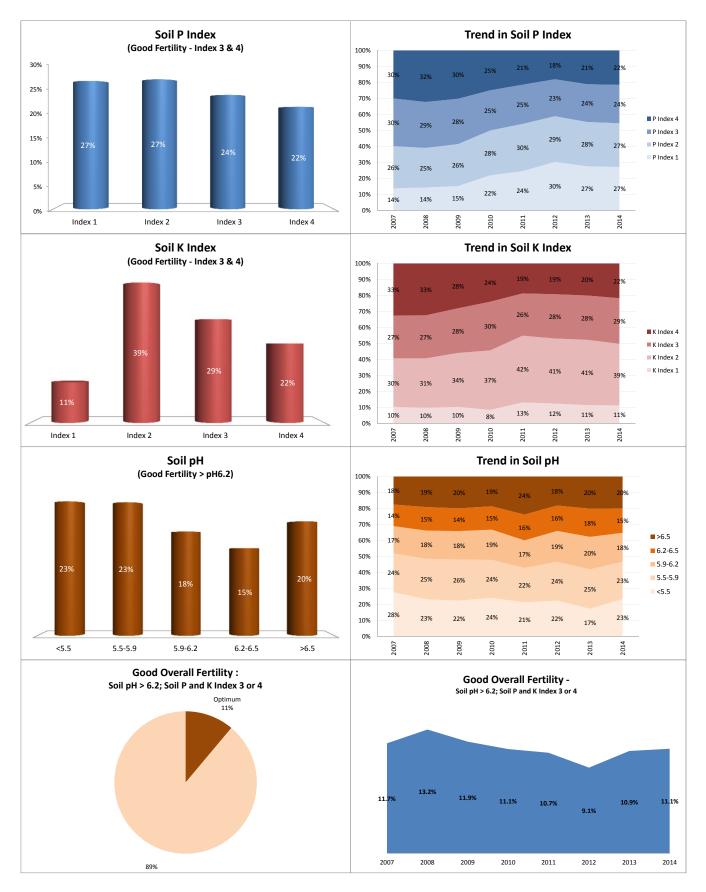
- 11% of soils tested achieved good overall fertility in 2014.
- 35% of soils have a pH of greater than 6.2. Soil pH has been relatively stable since 2007
- The dramatic fall in soil P which took place between 2008 and 2012 has been halted and a small improvement has taken place since then.
- 54% of Soil P samples were below optimum (Index 1 or 2). This figure was 29% in 2008
- 27% of soils are at Very Low P levels (Index 1) in (10% in 2008).
- 50% of soils are at K index 1 or 2. K levels in samples fell between 2007 and 2011 but have recovered somewhat since then. 11% are at index 1

Enterprise

- 12% of dairy samples achieved good overall status
- 35% of dairy samples exceeding pH 6.2
- 53% of dairy samples had a P index of 1 or 2. The decline in P index was more severe on dairy farms than on drystock
- 49% of dairy samples had a K index of 1 or 2
- 9% of drystock samples achieved good overall status
- 30% of drystock samples exceeding pH 6.2
- 56% of drystock samples had a P index of 1 or 2
- 51% of drystock samples had a K index of 1 or 2
- 12% of tillage samples achieved good overall status
- 59% of tillage samples exceeding pH 6.2
- 55% of tillage samples had a P index of 1 or 2. The gradual decline in P index between 2007 and 2012 has been reversed.
- 45% of tillage samples had a K index of 1 or 2

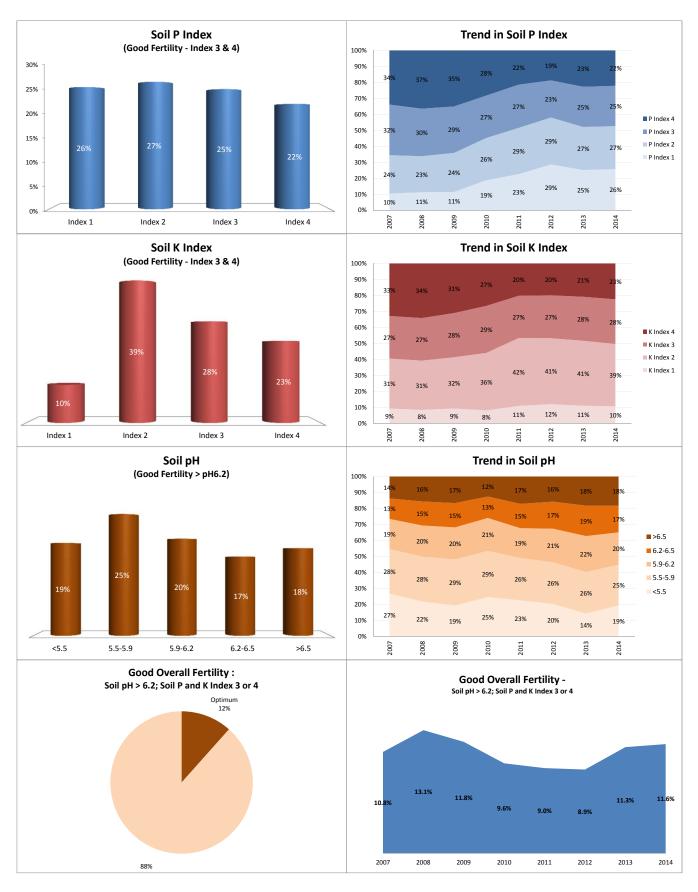


County Year Enterprise Number of Samples All Counties 2014 All Farms 36,336



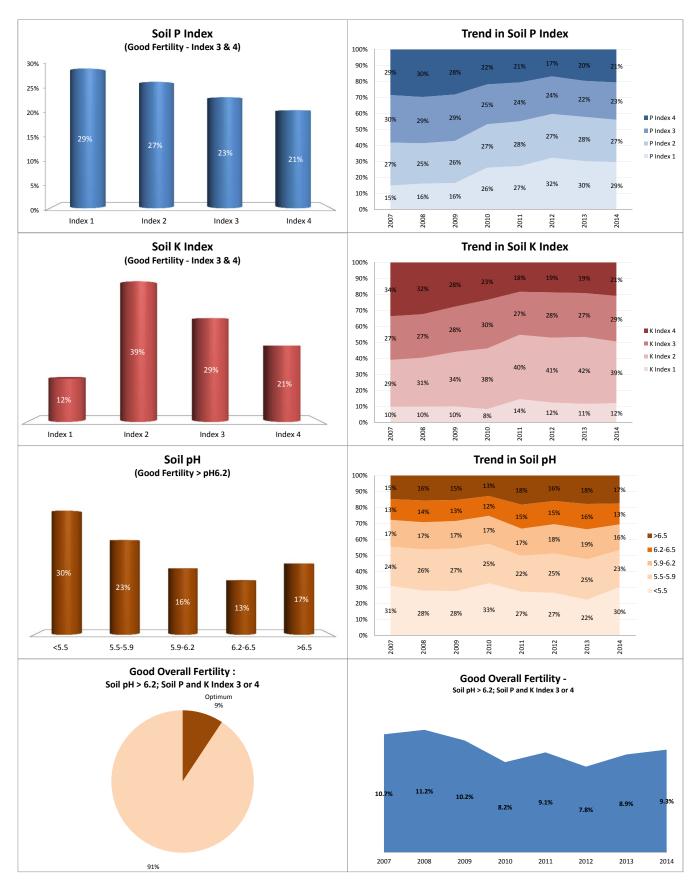


County Year Enterprise Number of Samples All Counties 2014 Dairy 15,668



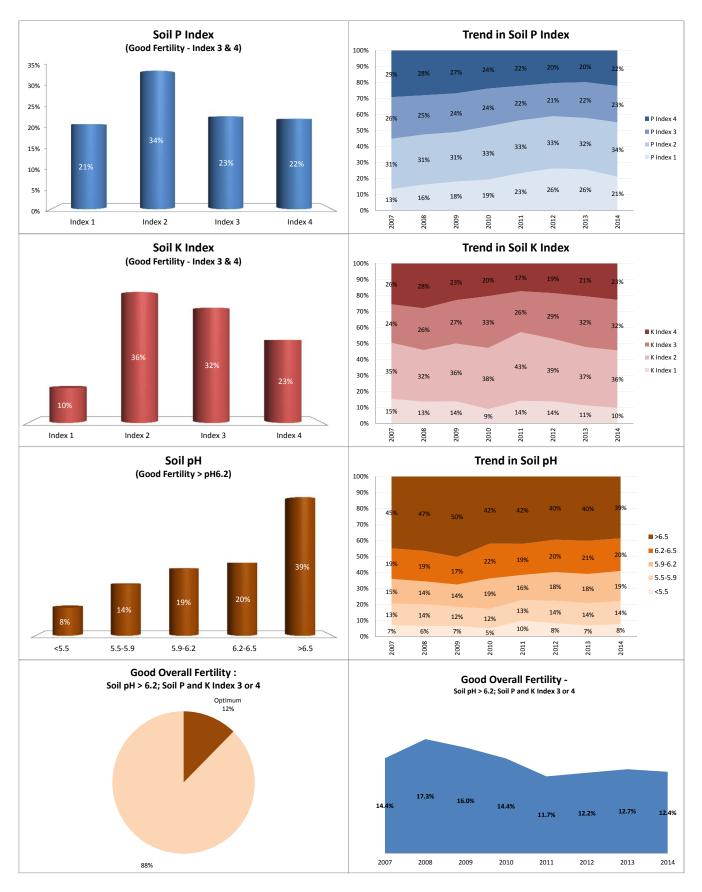


County Year Enterprise Number of Samples All Counties
2014
Drystock
16,805





County Year Enterprise Number of Samples All Counties 2014 Tillage 3,353



Carlow Highlights

Overall Trend

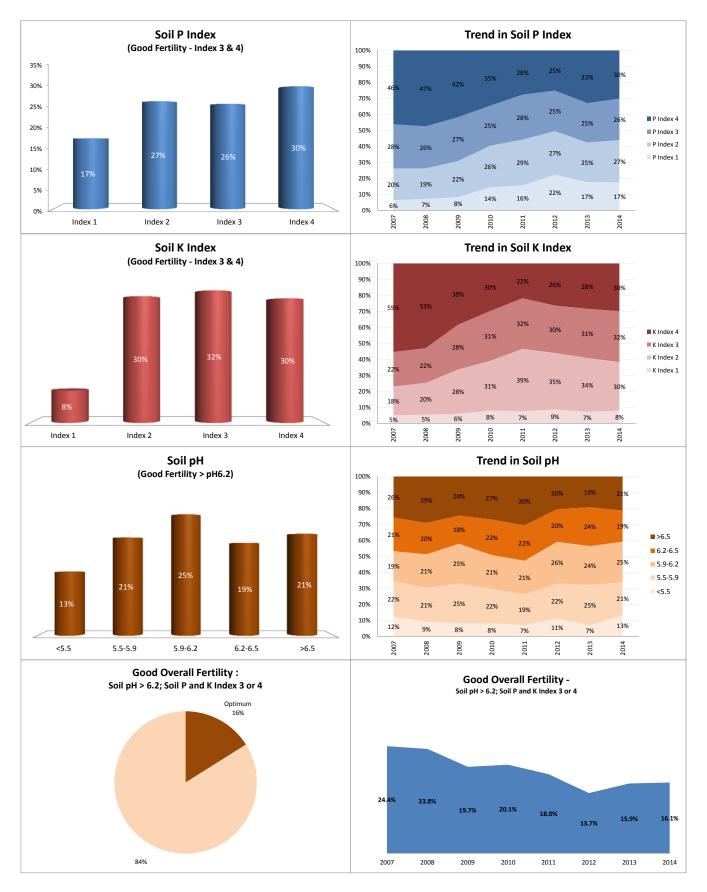
- 16% of soils tested achieved good overall fertility in 2014 while low this is high relative to other counties
- 40% of soils have a pH of greater than 6.2 (National 35%). pH has been declining slowly since 2011
- A steady falls in soil P which took place between 2008 and 2012 was halted in the last two years.
- 44% of samples were below optimum Soil P (Index 1 or 2). This figure is 54% nationally
- 17% of soils are at Very Low P levels (Index 1) in (7% in 2008).
- 62% of soils are at K index 1 or 2. Only 8% at index 1.
- There has been an increase in K levels since 2011 following declines in the 2008 – 2011 period.

Enterprise

- 15% of dairy samples achieved good overall status
- 63% of dairy samples had a P index of 3 or 4. (National 46)
- Soil P levels on dairy and drystock farms have been on an improving trend since 2011 having dropped rapidly from 2008 to 2011.
- On drystock farms overall good fertility is at 15%. Status of P, K and pH is slightly poorer than dairy but ahead of national averages.
- In tillage a steady fall in P levels between 2007 and 2011 has been reversed. However, P levels in tillage samples are relatively high with 69% at index 3 & 4
- K levels in tillage farms are declining marginally
- pH is high in tillage samples with 65% over 6.2. This has remained relatively steady since 2007.

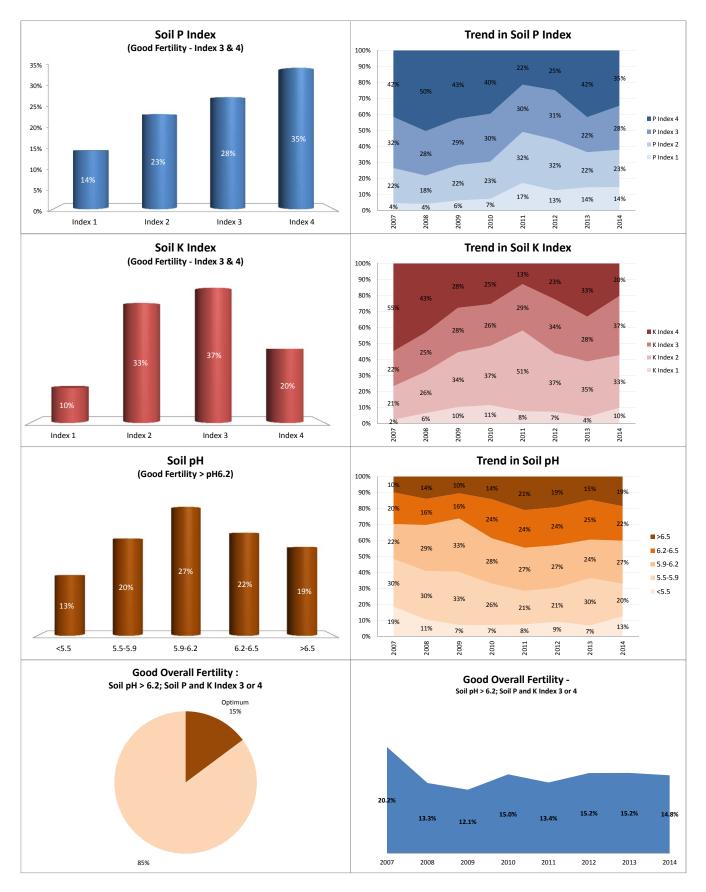


County Year Enterprise Number of Samples Carlow 2014 All Farms 788



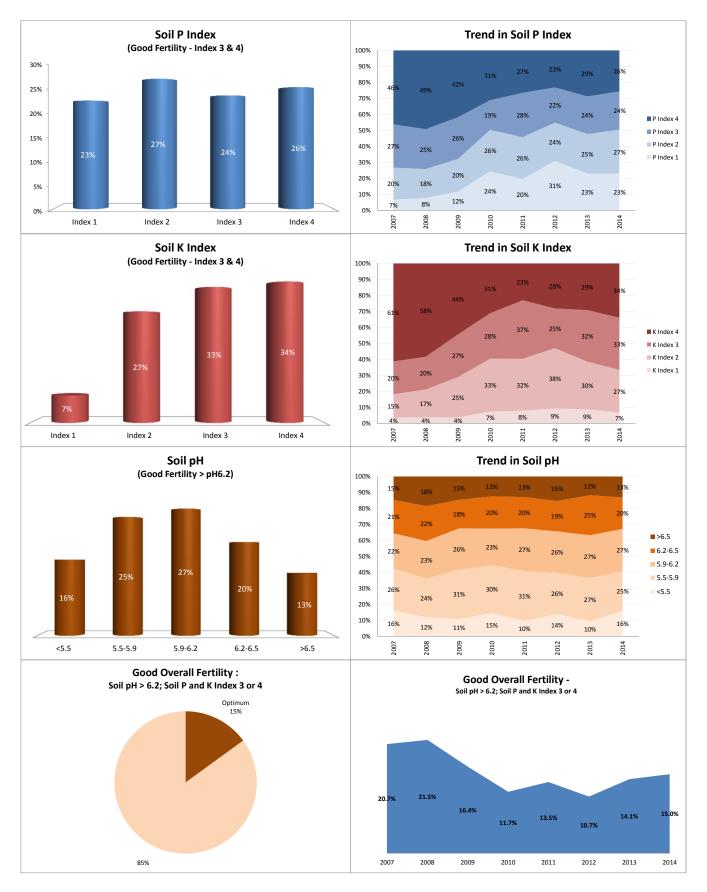


County Year Enterprise Number of Samples Carlow 2014 Dairy 167



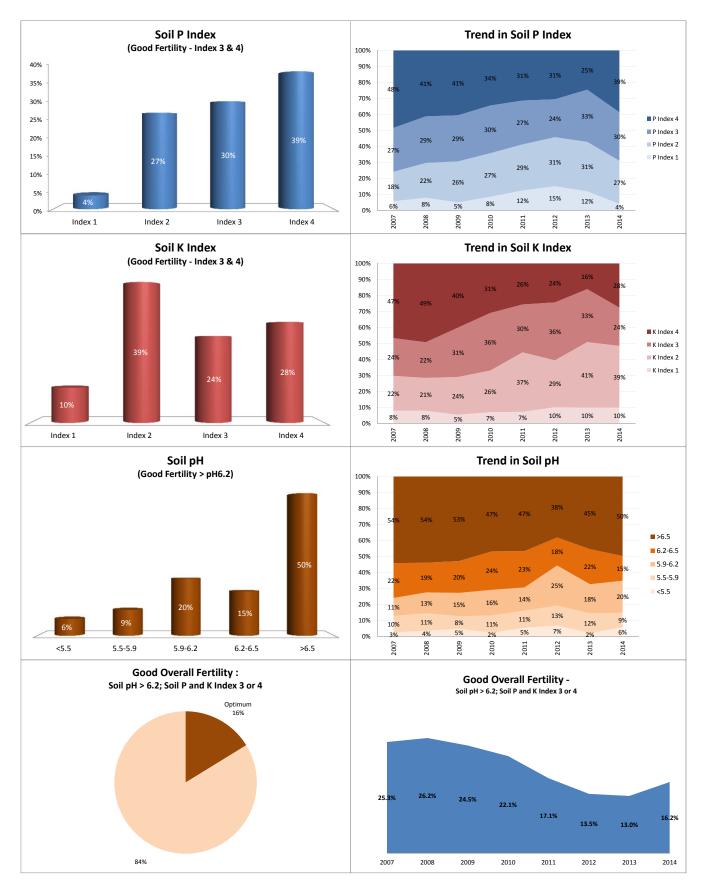


County Year Enterprise Number of Samples Carlow 2014 Drystock 459





County Year Enterprise Number of Samples Carlow 2014 Tillage 155



Cavan Highlights

Overall

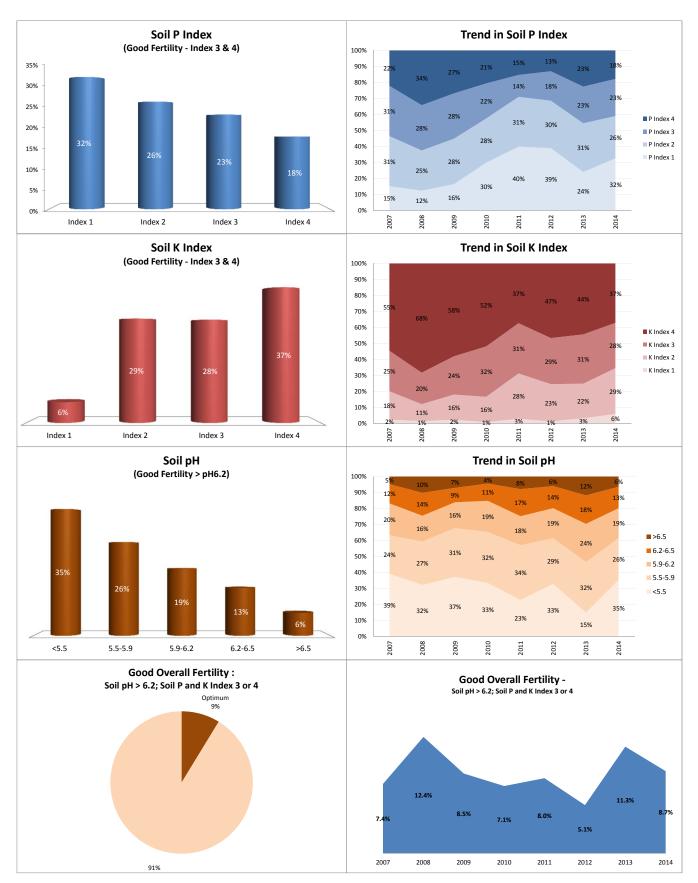
- 7% of soils tested achieved good overall fertility in 2014
- Only 19% of soils have a pH of greater than 6.2 (National 35%)
- The dramatic falls in soil P which took place between 2008 and 2011 was halted and has reversed in the last two years.
- 58% of samples were below optimum Soil P (Index 1 or 2). This figure was 27% in 2008
- Almost 1/3 of soils are at Very Low P levels (Index 1) in (12% in 2008).
- 65% of soils are at K index 1 or 2. Only 6% at index 1.
- There has been a small decrease in K levels in the last 2 years. The rate of decline is lower than in the 2008 to 2011 period

Enterprise (NB Soil Sample Numbers Low)

- Only 8% of dairy samples achieved good overall status
- Soil P levels on dairy and drystock farms have been on an improving trend since 2011 having dropped rapidly from 2008 to 2011, particularly on dairy farms.
- On drystock farms P levels are lower than on dairy farms
- On drystock farms K levels are higher than on dairy farms
- Only 9% of drystock samples are at good overall fertility status.
- Low pH was evident for all enterprises. pH has improved gradually on dairy farms from a very low base. On drystock farms there has been no improvement

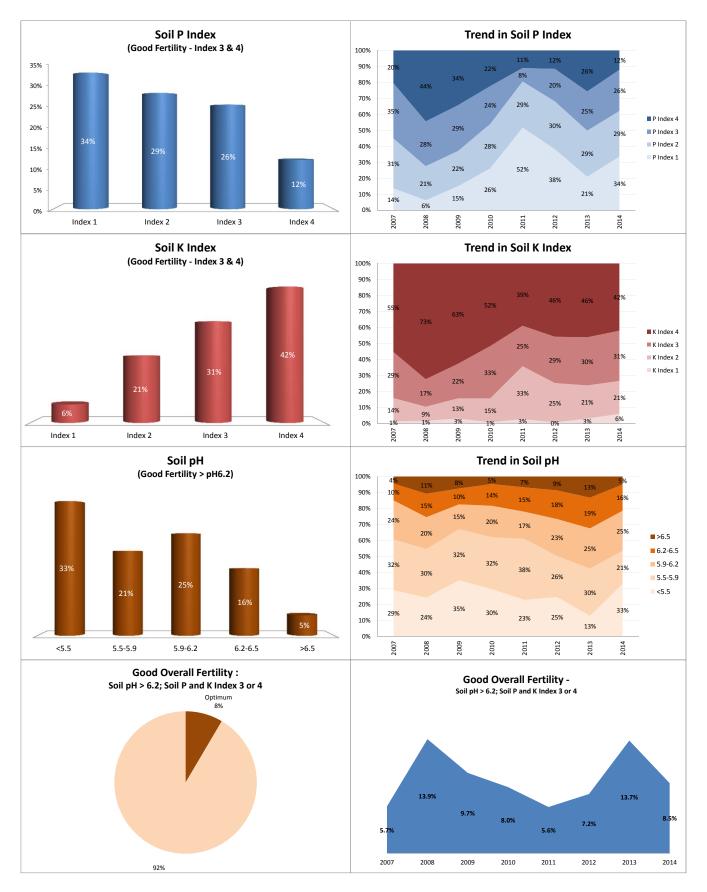


County Year Enterprise Number of Samples Cavan 2014 All Farms 314



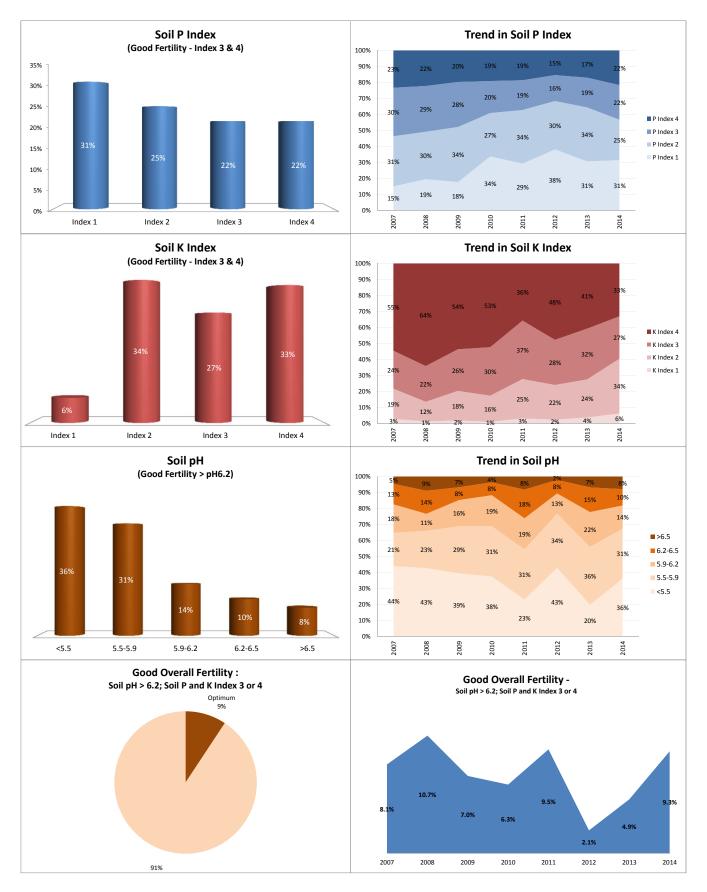


County Year Enterprise Number of Samples Cavan 2014 Dairy 140





County Year Enterprise Number of Samples Cavan 2014 Drystock 166



Clare Highlights

Overall

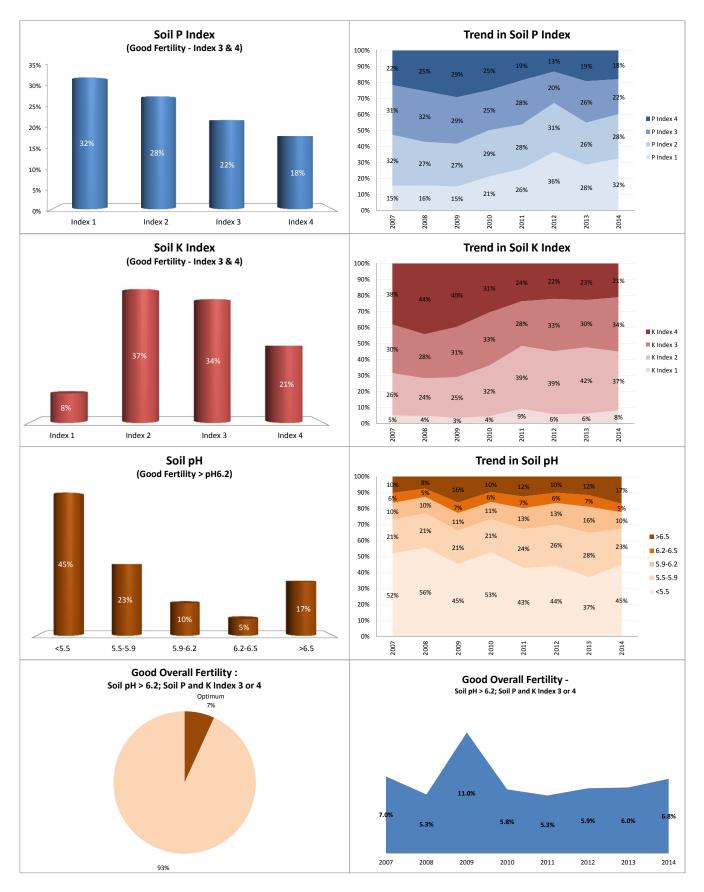
- 7% of soils tested achieved good overall fertility in 2014
- Only 22% of soils have a pH of greater than 6.2 (National 35%)
- The dramatic falls in soil P and K which took place between 2009 and 2012 was halted and has stabilised in the last two years.
- 60% of samples were below optimum Soil P (Index 1 or 2). This figure was 42% in 2009
- Almost 1/3 of soils are at Very Low P levels (Index 1) in (16% in 2008).
- 45% of soils are at K index 1 or 2. Only 8% at index 1
- Soil K levels have stabilised since 2011 having fallen between 2009 and 2011.

Enterprise

- Only 6% of dairy samples achieved good overall status
- Soil P & K levels on dairy farms appear to be still declining but at a slower rate than up to 2012
- On drystock farms P levels are lower than on dairy farms while K levels are higher on drystock farms.
- Only 7% of drystock samples are at good overall fertility status.
- Low pH was evident for all enterprises

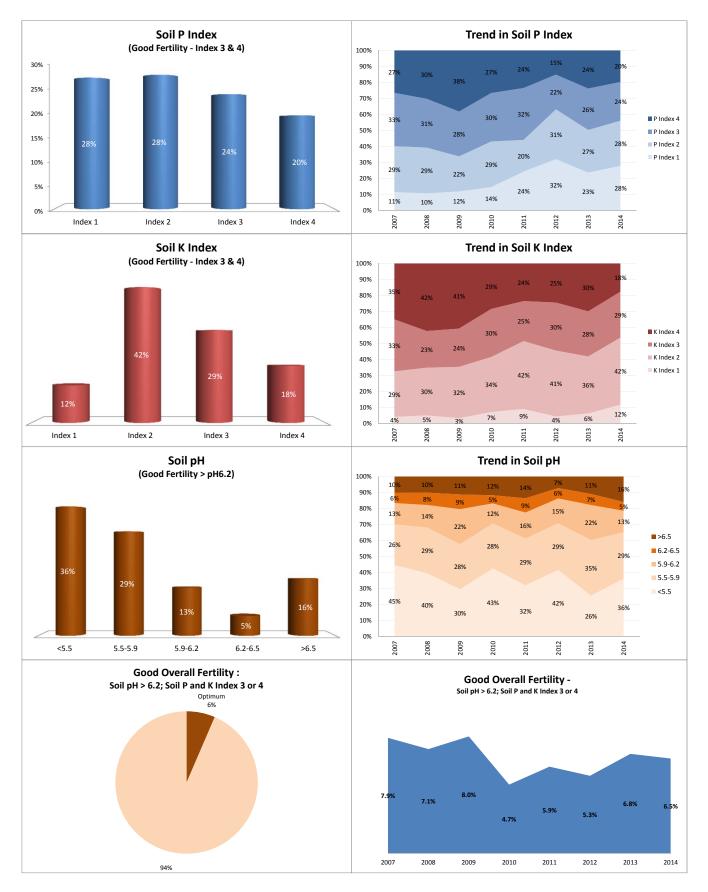


County Year Enterprise Number of Samples Clare 2014 All Farms 1,774



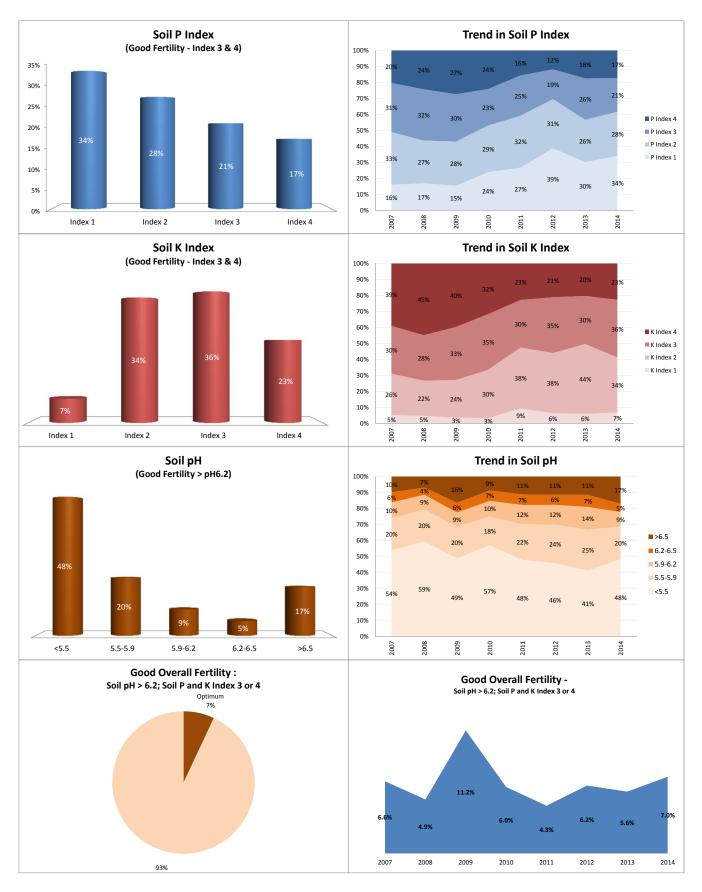


County Year Enterprise Number of Samples Clare 2014 Dairy 491





County Year Enterprise Number of Samples Clare 2014 Drystock 1,268



Cork Highlights

Overall

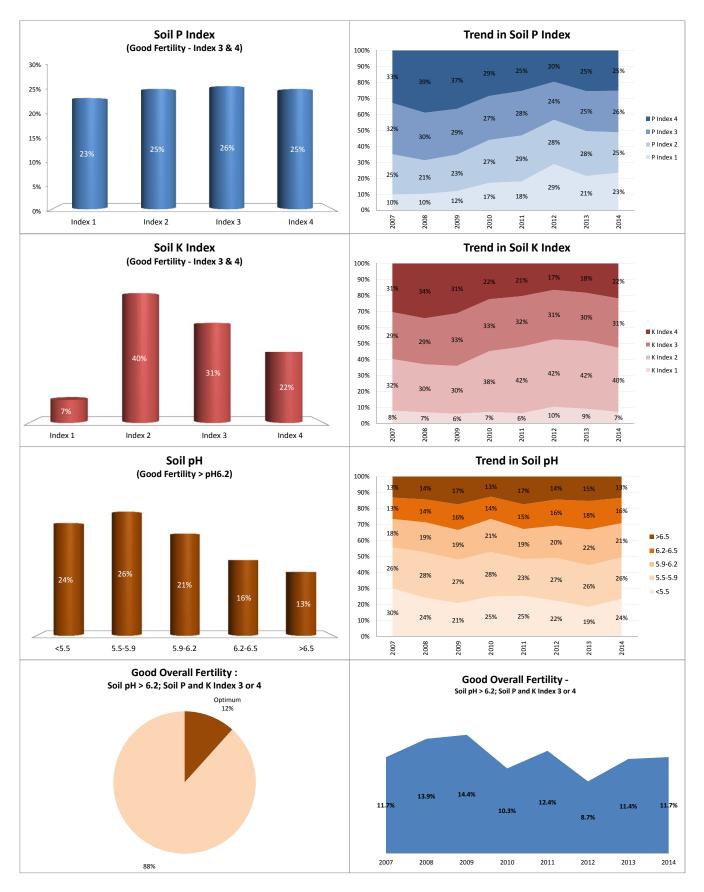
- 12% of soils tested achieved good overall fertility in 2014. Soil fertility has improved a little in the last two years
- 29% of soils have a pH of greater than 6.2 (National 35%)
- The dramatic falls in soil P and K which took place between 2008 and 2012 was halted with small improvements since then
- 48% of samples were below optimum Soil P (Index 1 or 2). This figure was 31% in 2008
- 23% of soils are at Very Low P levels (Index 1) in (10% in 2008).
- 47% of soils are at K index 1 or 2. Only 7% at index 1
- Soil K levels have stabilised since 2012 having fallen between 2009 and 2012.

Enterprise

- There is no significant difference between dairy and drystock farms in terms of fertility
- Between 2008 and 2012 the fall in P Index was much more severe in dairy than in drystock samples.
- Low pH is a significant issue on both dairy and drystock with only 27% and 25% respectively exceeding a pH of 6.2.
- Soil fertility of tillage farms is better than on grassland farms for P, K and pH. 57% had pH in excess of 6.2

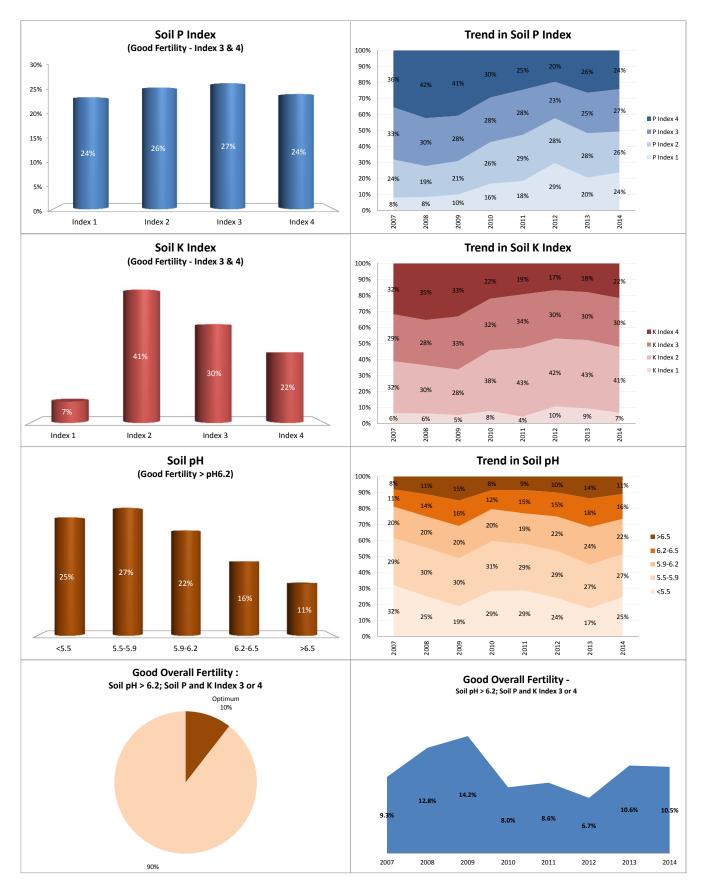


County Year Enterprise Number of Samples Cork 2014 All Farms 4,444



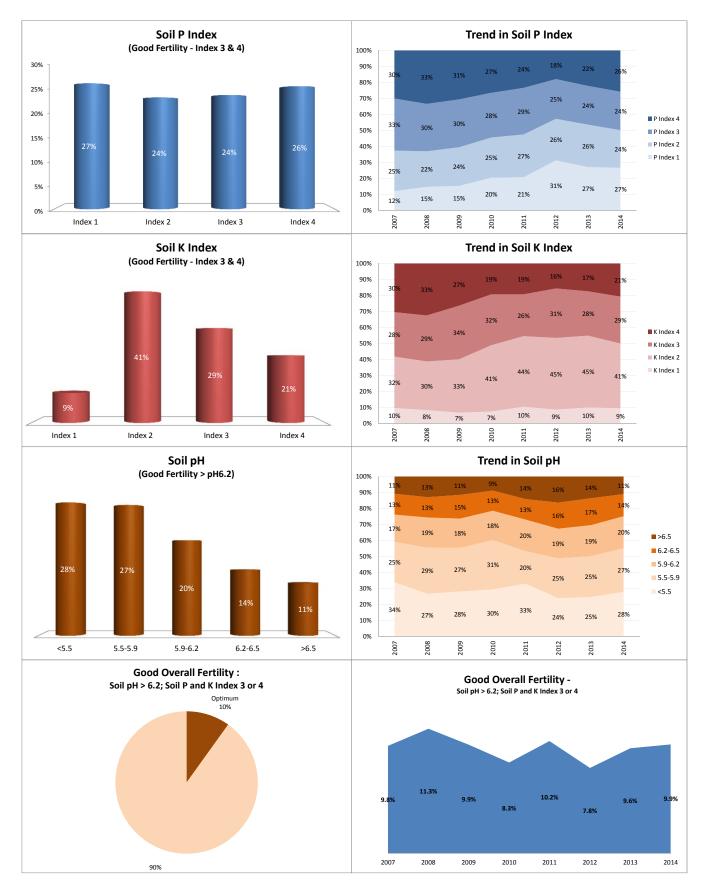


County Year Enterprise Number of Samples Cork 2014 Dairy 2,778



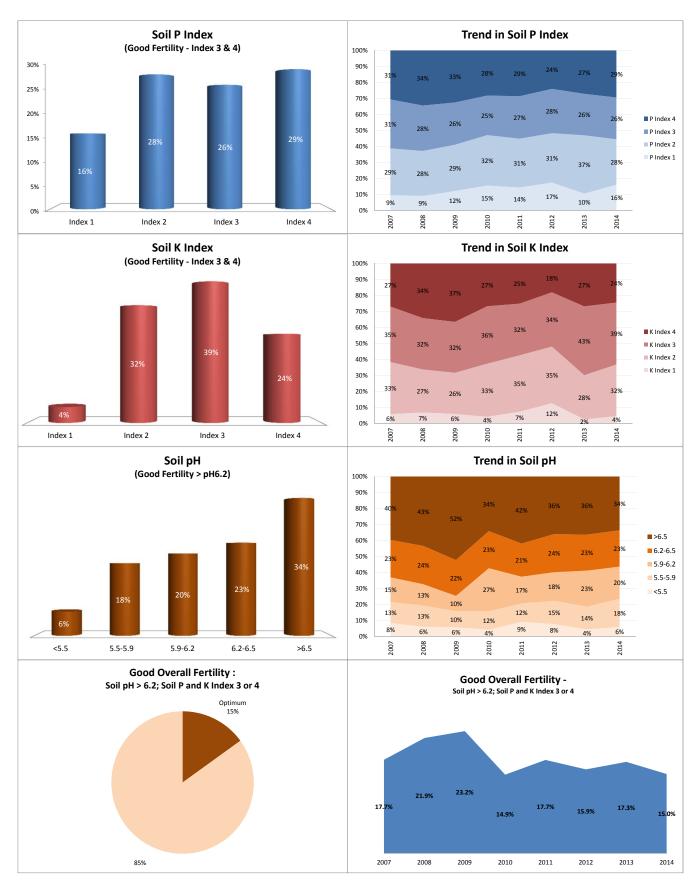


County Year Enterprise Number of Samples Cork 2014 Drystock 1,181





County Year Enterprise Number of Samples Cork 2014 Tillage 458



Donegal Highlights

Overall

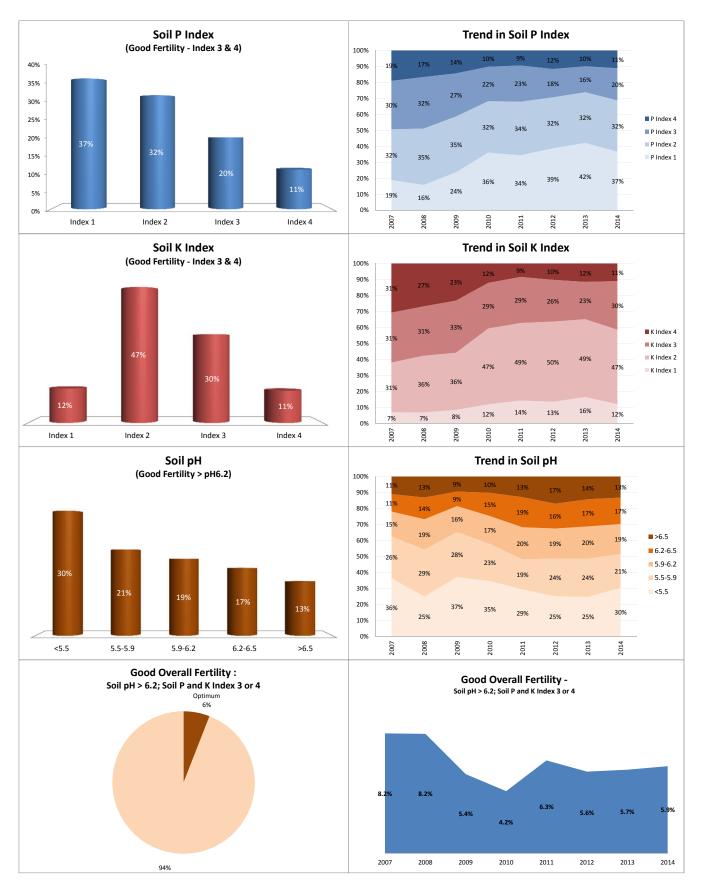
- Only 6% of soils tested achieved good overall fertility in 2014.
- 30% of soils have a pH of greater than 6.2 (National 35%)
- Soil P and K have fallen steadily between 2008 and 2013 but look to have stabilised or improved slightly in 2014
- 69% of samples were below optimum Soil P (Index 1 or 2). This figure indicates very poor fertility levels.
- 37% of soils are at Very Low P levels (Index 1) in (16% in 2008).
- 59% of soils are at K index 1 or 2. 12% are at index 1
- Soil K levels have stabilised since 2012 having fallen between 2007 and 2013.

Enterprise

- 8% of dairy samples achieved good overall status
- 2/3 of dairy samples are either low or very low for P
- 60% of dairy samples are either low or very low for K
- Only 5% of drystock Samples reach Good Overall Fertility
- There is no significant difference between dairy and drystock farms in terms of P and K. However soil pH is lower with only 24% of drystock samples exceeding pH 6.2 as opposed to 36% of dairy samples.
- For tillage samples soil P levels continue to fall with only 27% at Index 3 and 4. The fall in K between 2007 and 2011 has been reversed.
- Almost 50% of tillage samples have a pH > 6.2

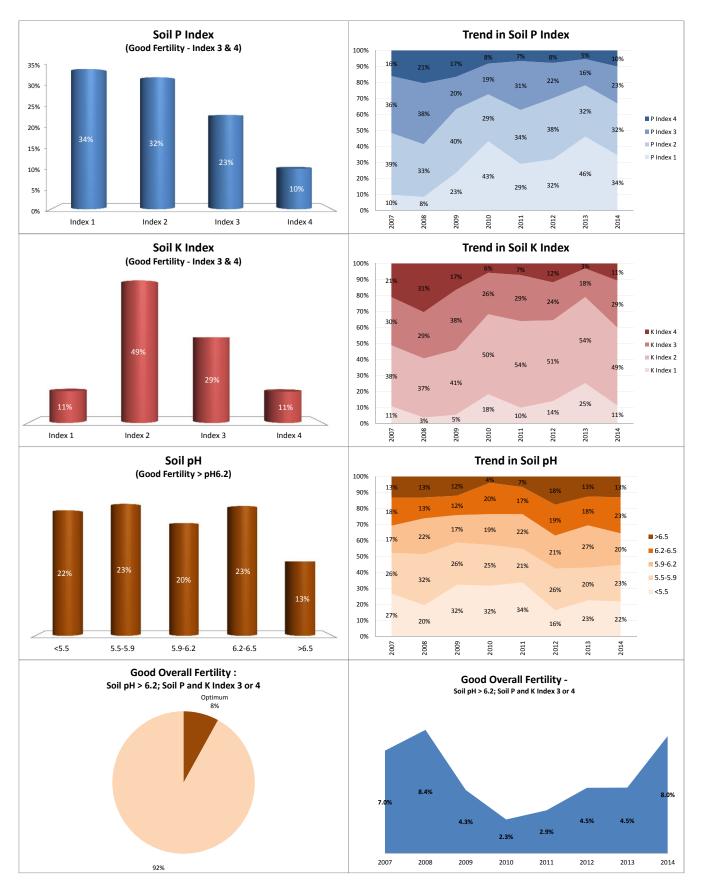


County Year Enterprise Number of Samples Donegal 2014 All Farms 1,597



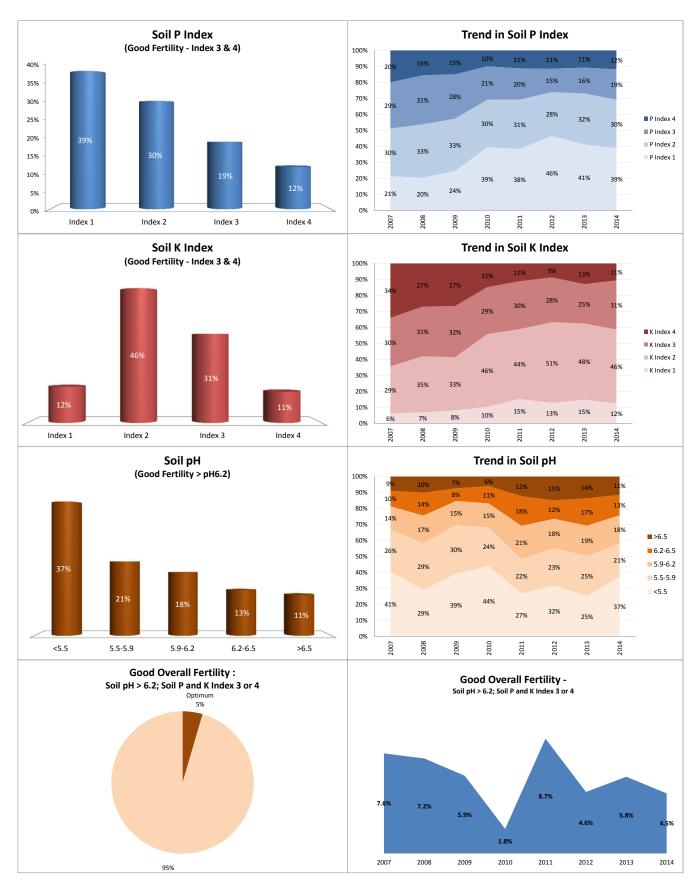


County Year Enterprise Number of Samples Donegal 2014 Dairy 540



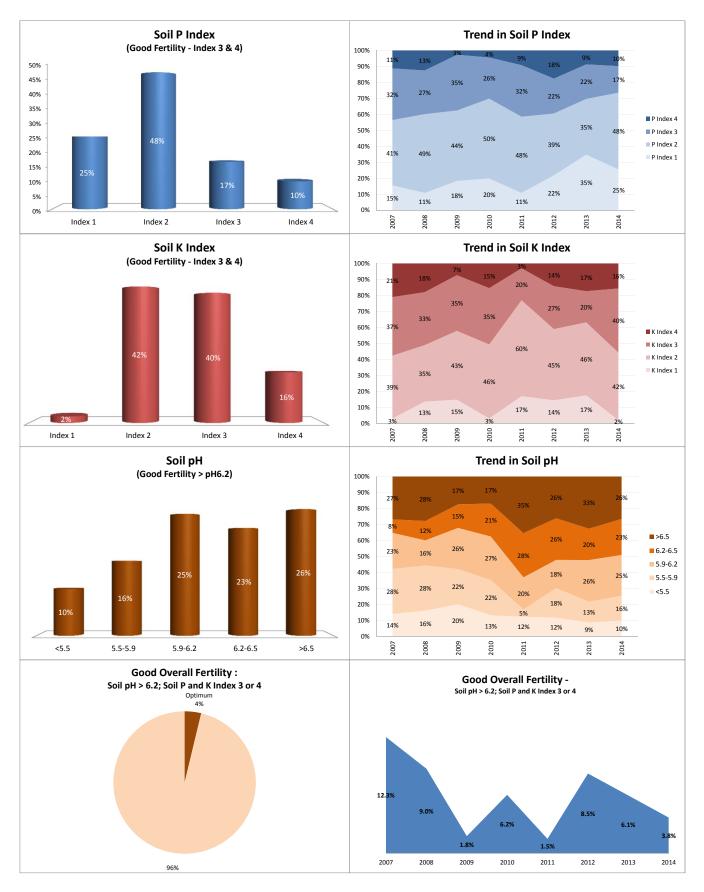


County Year Enterprise Number of Samples Donegal 2014 Drystock 927





County Year Enterprise Number of Samples Donegal 2014 Tillage 102



Dublin Highlights

Overall

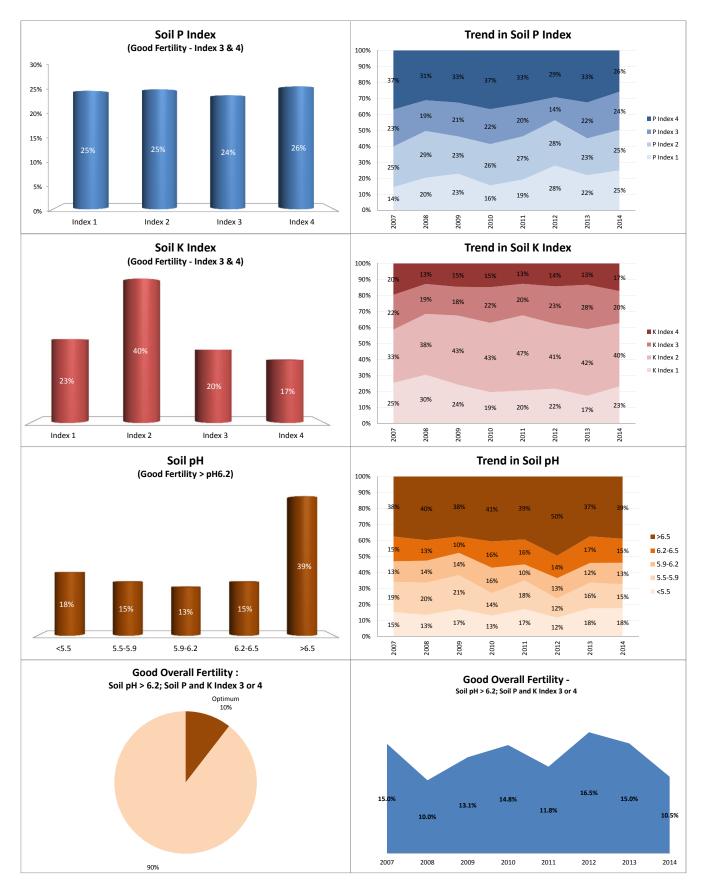
- 10% of soils tested achieved good overall fertility in 2014.
- 54% of soils have a pH of greater than 6.2 (National 35%)
- Soil P has fallen slightly between since 2010
- 50% of samples were below optimum Soil P (Index 1 or 2).
- 63% of soils are at K index 1 or 2. 23% are at index 1.
- Soil K levels have remained static since 2008.

Enterprise (NB Soil Sample Numbers Low)

- 7% of tillage samples achieved good overall status
- 34% of tillage samples have an Index of 3 or 4 for P
- 35% of tillage samples have an Index of 3 or 4 for K



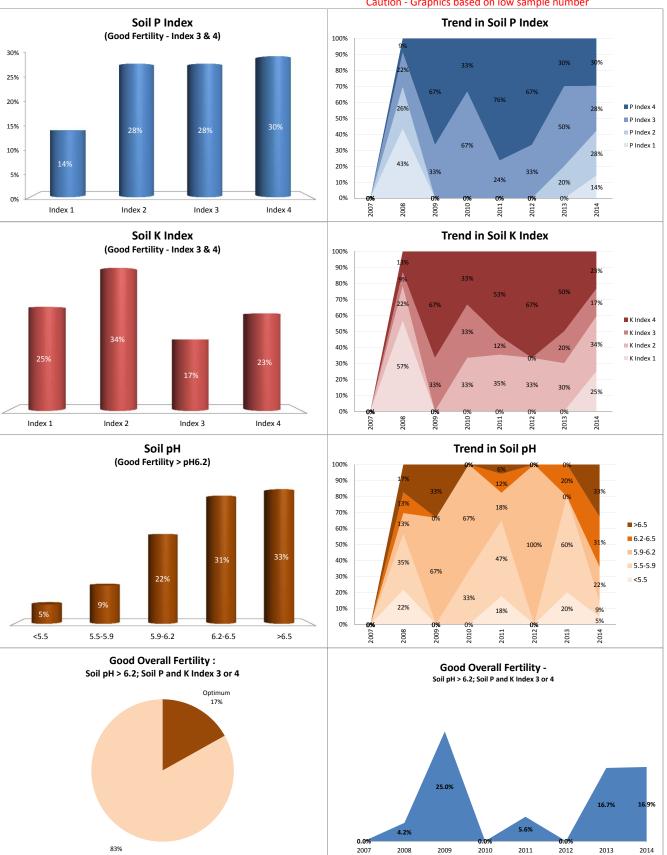
County Year Enterprise Number of Samples Dublin 2014 All Farms 321





County Year Enterprise **Number of Samples** Dublin 2014 Dairy 64

Caution - Graphics based on low sample number

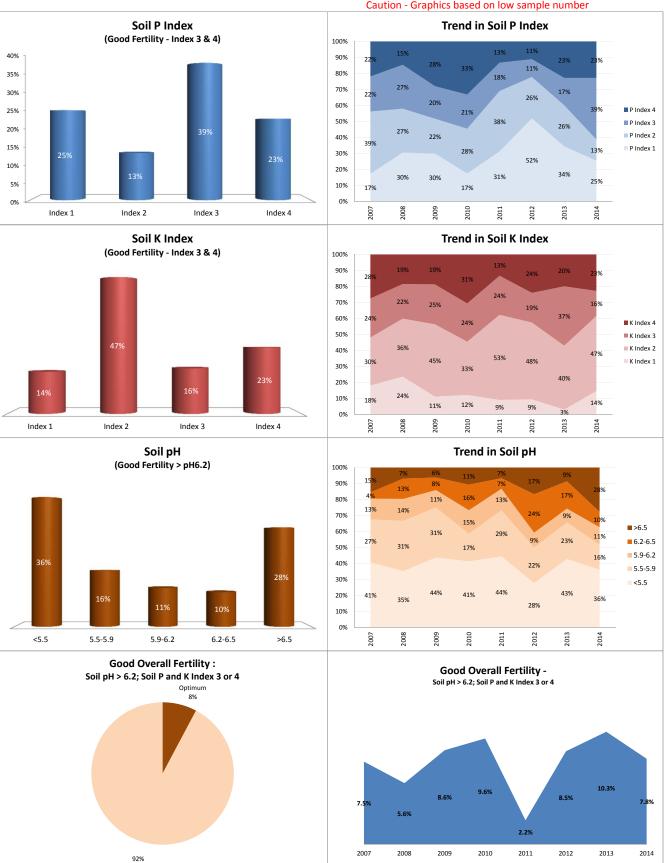




County Year Enterprise **Number of Samples**

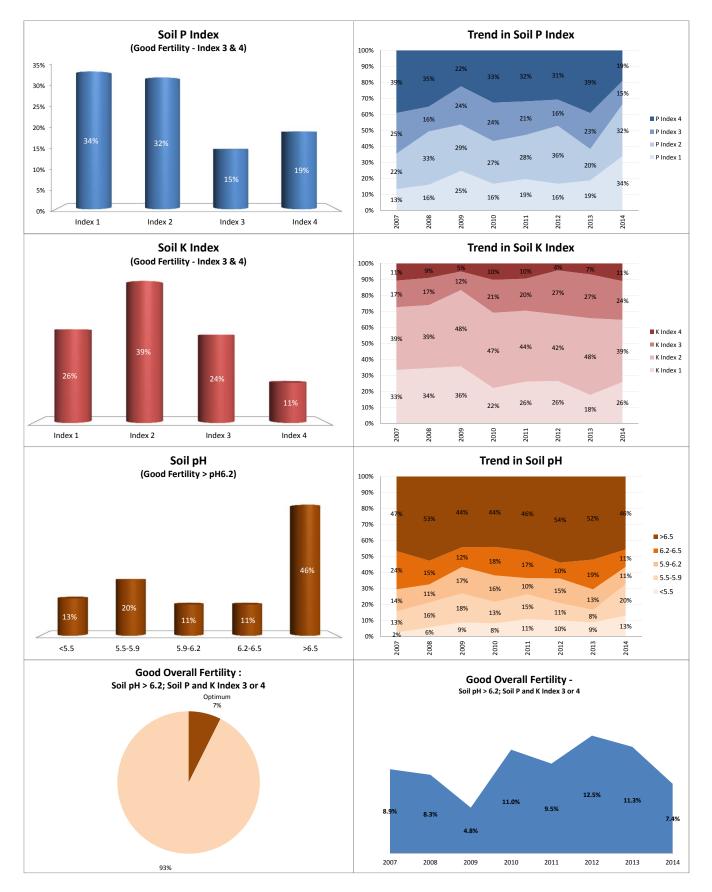
Dublin 2014 Drystock 83

Caution - Graphics based on low sample number





County Year Enterprise Number of Samples Dublin 2014 Tillage 136



Galway Highlights

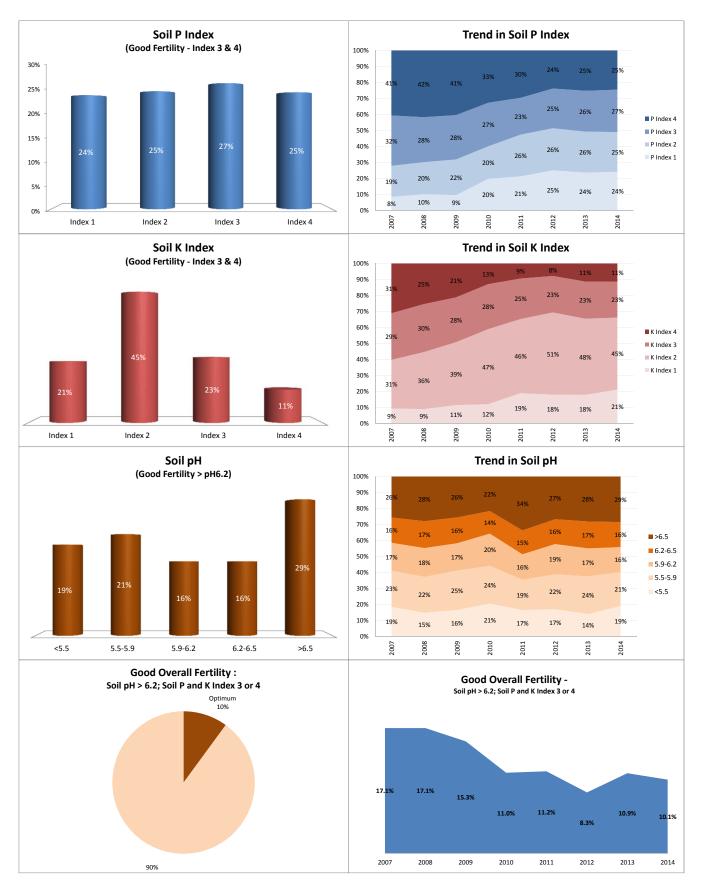
Overall

- 10% of soils tested achieved good overall fertility in 2014.
- 45% of soils have a pH of greater than 6.2 (National 35%)
- Soil P and K have fallen steadily between 2007 and 2012 but have stabilised in 2013 and 2014
- 49% of samples were below optimum Soil P (Index 1 or 2).
- 24% of soils are at Very Low P levels (Index 1) in (16% in 2008).
- 66% of soils are at K index 1 or 2. 21% of samples are at index 1. The national figures are 50% and 11% respectively.

- 12% of dairy samples achieved good overall status
- 46% of dairy samples are either low or very low for P. In particular there has been a very steep increase in the % of Index 1 soils going from 7% in the 2007-2009 period to 26% in 2014. Declines are continuing albeit at a slow pace.
- 73% of dairy samples are either low or very low for K
- 9% of drystock samples reach Good Overall Fertility
- 49% of drystock samples are either low or very low for P, which is similar to dairy.
- 64% of drystock are at index 1 or 2 for K
- Soil pH is lower for drystock samples with 40% exceeding pH 6.2 as opposed to 58% of dairy samples.
- Declines in soil P & K between 2008 and 2012 have stabilised on drystock farms

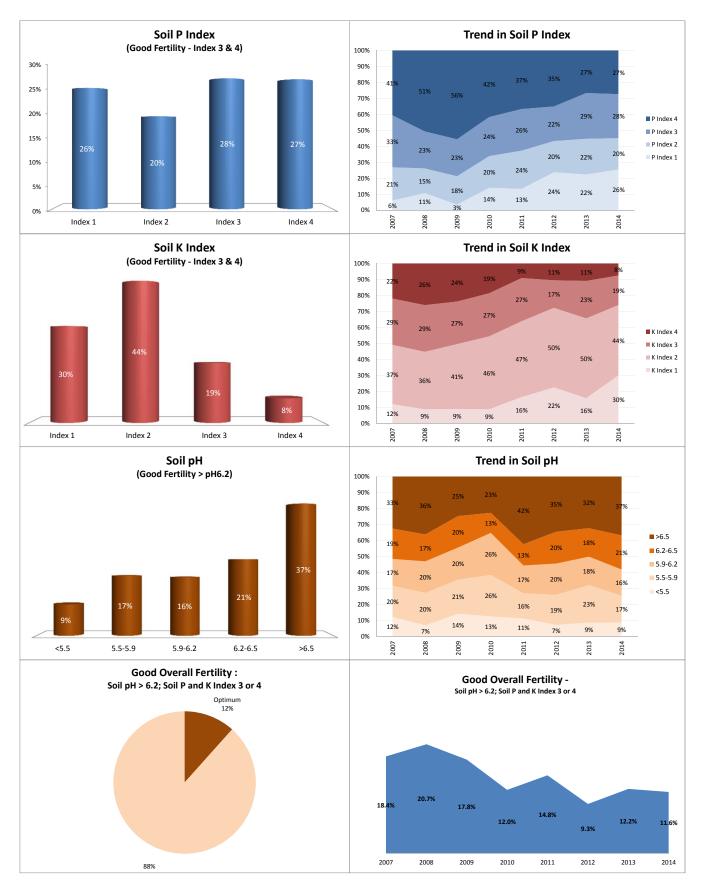


County Year Enterprise Number of Samples Galway 2014 All Farms 2,404



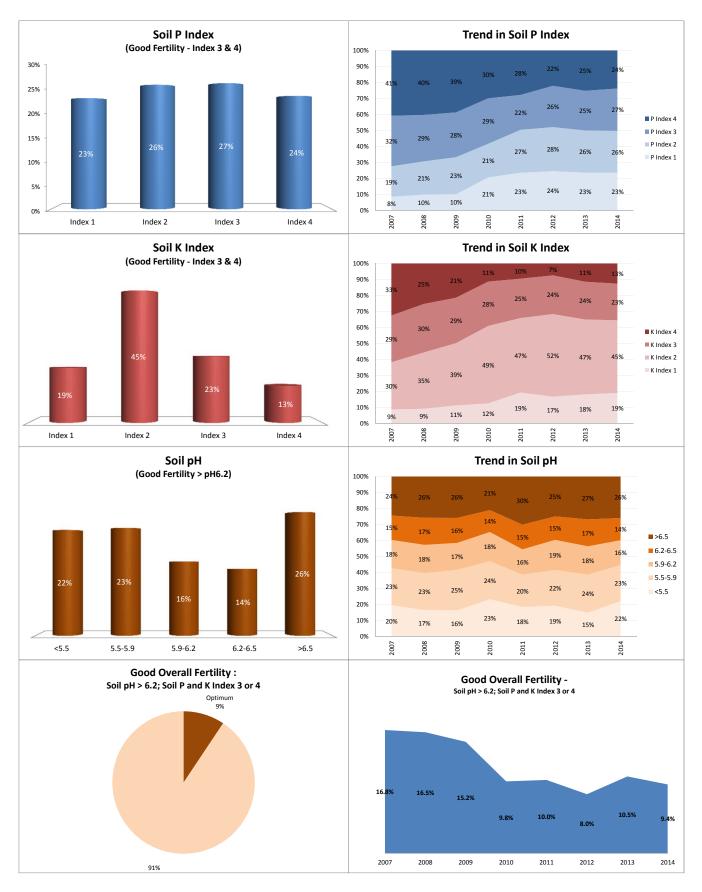


County Year Enterprise Number of Samples Galway 2014 Dairy 501





County Year Enterprise Number of Samples Galway 2014 Drystock 1,843



Kerry Highlights

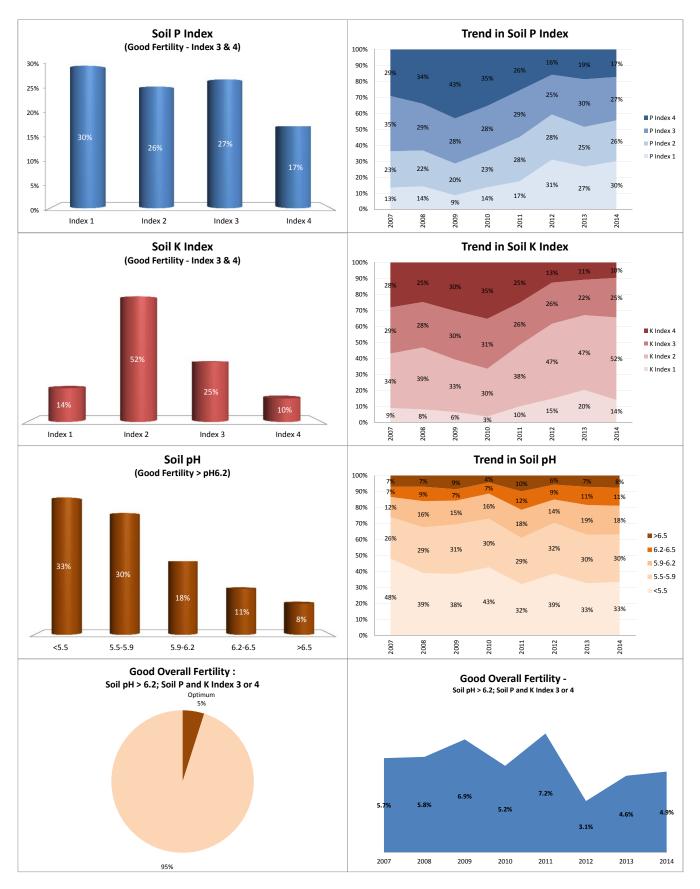
Overall

- Only 5%% of soils tested achieved good overall fertility in 2014.
- Only 19% of soils have a pH of greater than 6.2 (National 35%)
- The dramatic falls in soil P and K which took place between 2009 and 2012 has stabilised.
- 56% of samples were below optimum Soil P (Index 1 or 2). This figure was 29% in 2008
- 30% of soils are at Very Low P levels (Index 1) in (9% in 2009).
- 66% of soils are at K index 1 or 2.
- Soil K levels have stabilised having fallen between 2010 and 2013.

- 5% of dairy samples achieved good overall status
- Only 20% samples are above soil pH6.2. Soil pH in dairy samples has improved slightly since 2010 from a very low base.
- 56% of dairy samples are either low or very low for P. The sharp declines between 2009 and 2012 have stabilised.
- 65% of dairy samples are either low or very low for K. In 2010 the figure was 27%.
- Only 4% of drystock Samples reach Good Overall Fertility
- 55% of drystock samples are either low or very low for P. The steady decline in P levels from 2009 to 2012 has stabilised
- 67 % of drystock samples are at index 1 or 2 for K.
- Only 14% of drystock sampled were above pH 6.2.

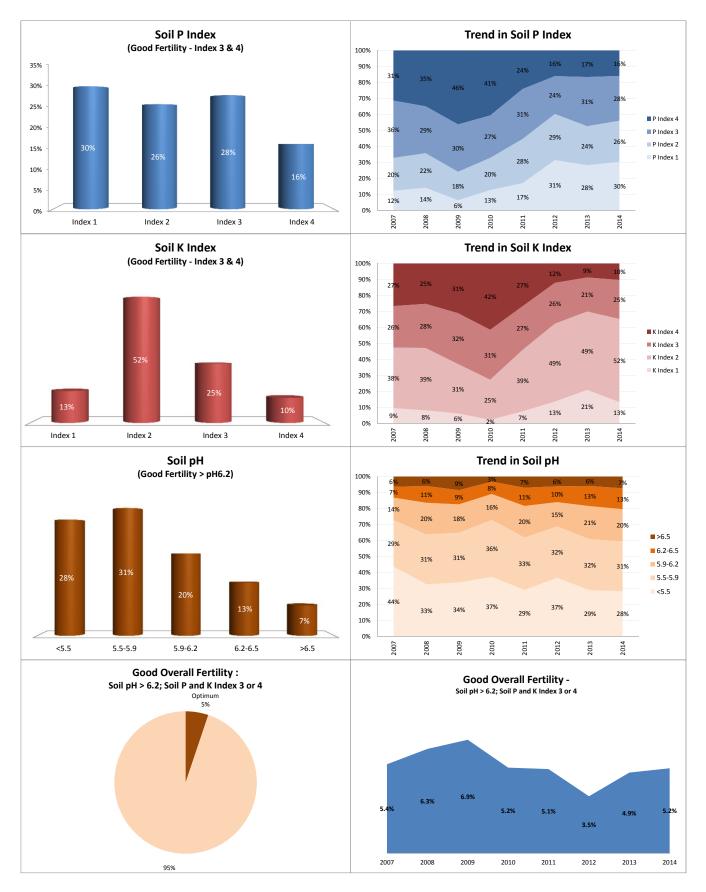


County Year Enterprise Number of Samples Kerry 2014 All Farms 1,980



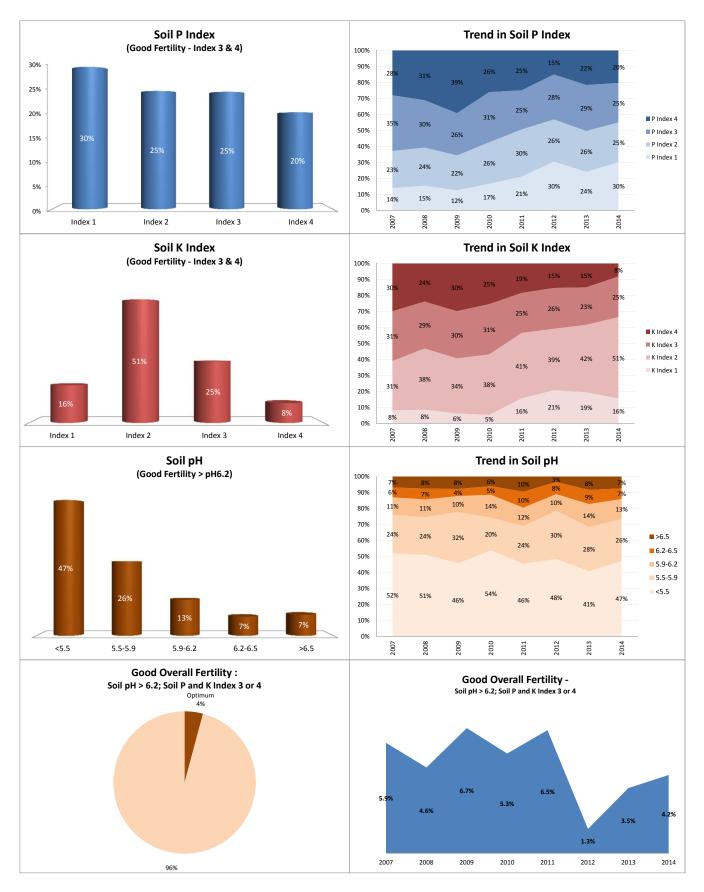


County Year Enterprise Number of Samples Kerry 2014 Dairy 1,414





County Year Enterprise Number of Samples Kerry 2014 Drystock 554



Kildare Highlights

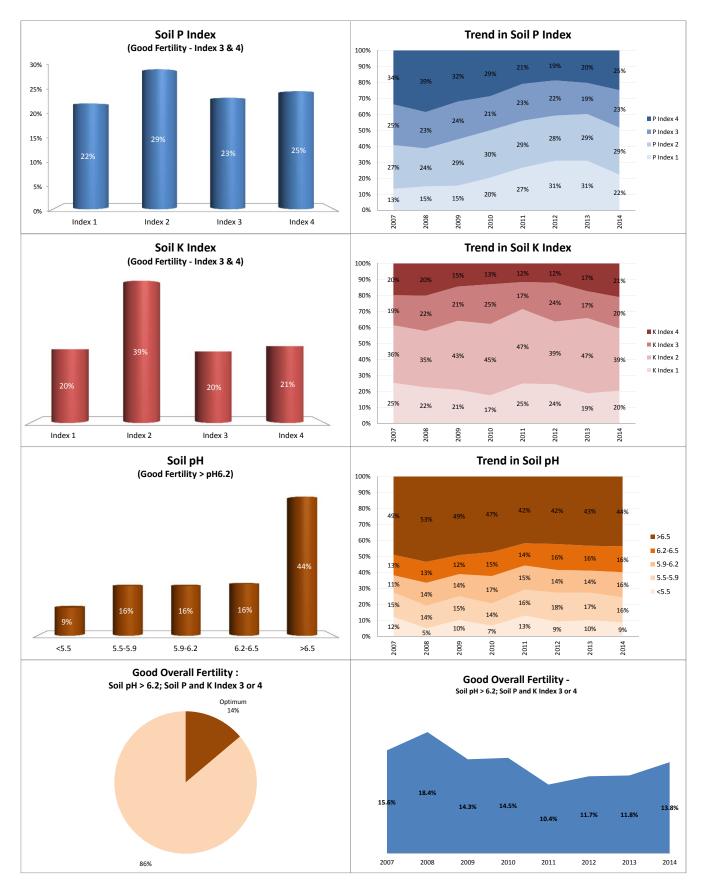
Overall

- 14% of soils tested achieved good overall fertility in 2014.
- 60% of soils have a pH of greater than 6.2 (National 35%)
- Soil P and K have fallen steadily between 2008 and 2013 but seem to have stabilised in 2014
- 48% of samples were below optimum Soil P (Index 1 or 2).
- 22% of soils are at Very Low P levels (Index 1) in (16% in 2008).
- 59% of soils are at K index 1 or 2. 20% of samples are at index 1. The national figures are 50% and 11% respectively.

- 11% of dairy samples achieved good overall status
- 52% of dairy samples are either low or very low for P. There has been a very sharp decline in Soil P levels from a very high base. This seems to have stopped in 2014
- 59% of dairy samples are either low or very low for K
- 13% of drystock Samples reach Good Overall Fertility
- 48% of drystock samples are either low or very low for P. This has been quite stable since 2009.
- 55 % of drystock are at index 1 or 2 for K.
- 58% and 50% of dairy and drystock sampled were above pH 6.2.
- P levels in Tillage samples fell sharply between 2009 and 2012 but have increased sharply since then.
- K level in tillage samples have improved gradually from a low base with 38% currently at index 3 or 4.
- 73% of tillage samples have a pH > 6.2

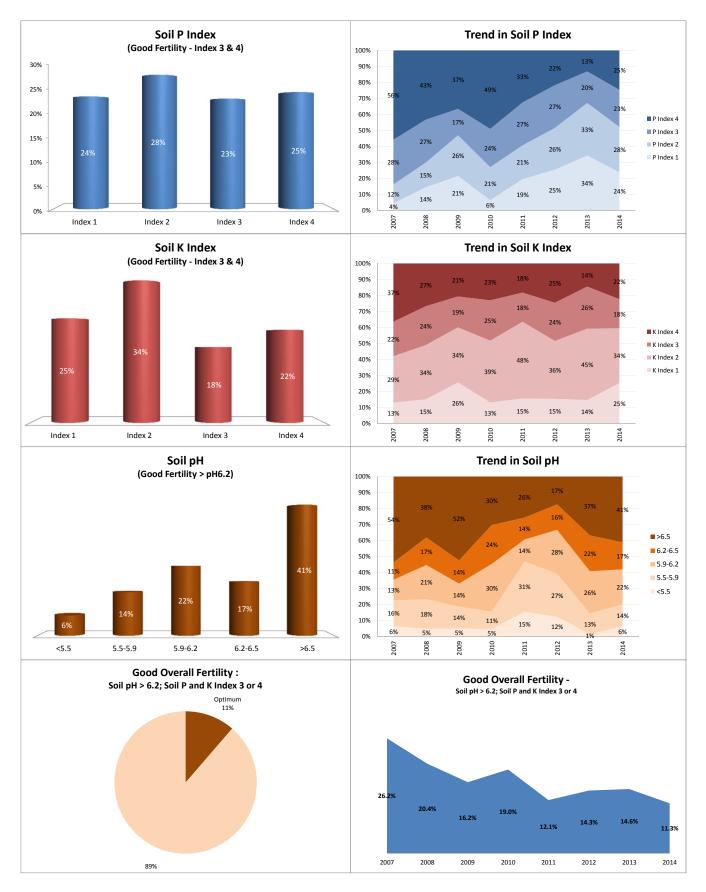


County Year Enterprise Number of Samples Kildare 2014 All Farms 1,083



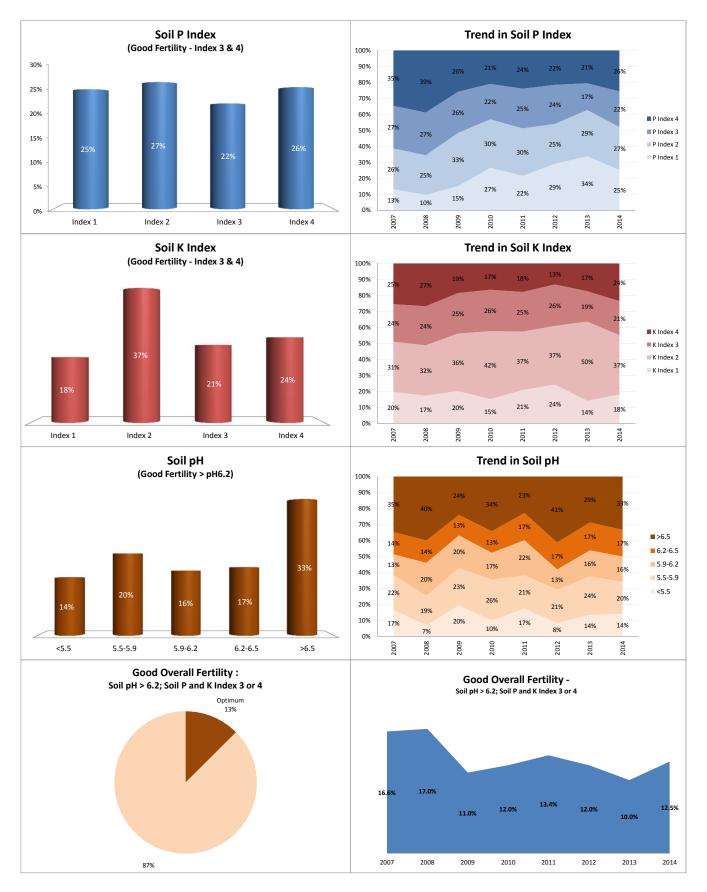


County Year Enterprise Number of Samples Kildare 2014 Dairy 219



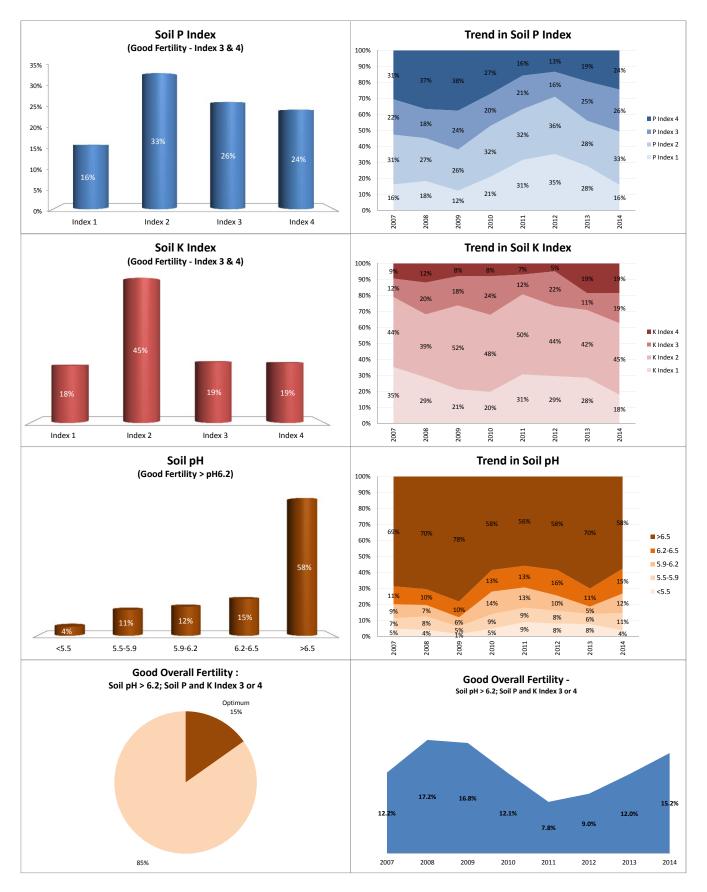


County Year Enterprise Number of Samples Kildare 2014 Drystock 467





County Year Enterprise Number of Samples Kildare 2014 Tillage 368



Kilkenny Highlights

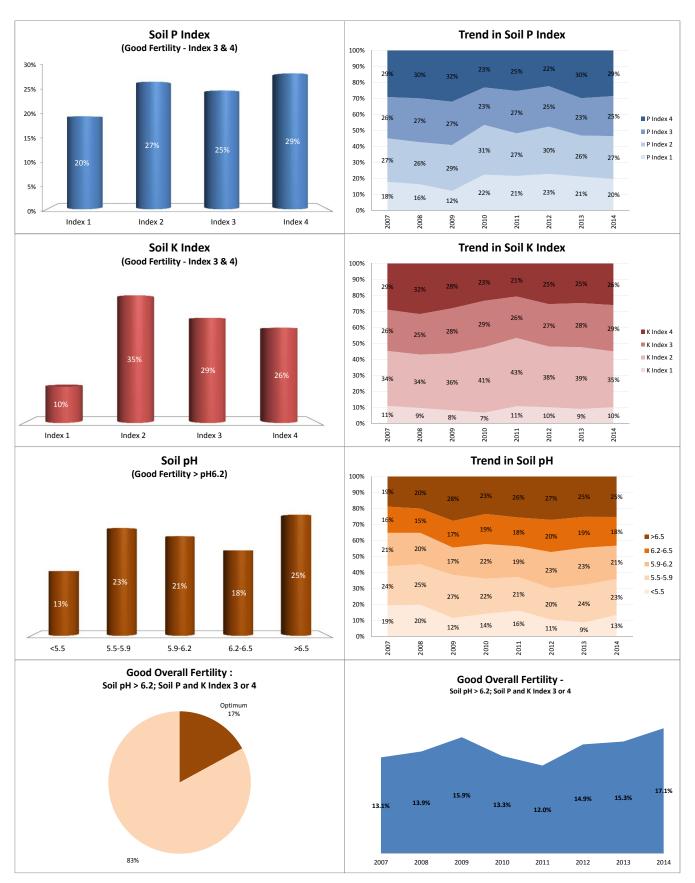
Overall

- 17% of soils tested achieved good overall fertility in 2014. This figure has been rising steadily since 2011
- 43% of soils have a pH of greater than 6.2 (National 35%). There has been a gradual improvement since 2008
- Soil P and K levels have remained fairly stable since 2007.
- 47% of samples were below optimum Soil P (Index 1 or 2).
- 20% of soils are at Very Low P levels (Index 1)
- 45% of soils are at K index 1 or 2.

- 15% of dairy samples achieved good overall status
- Soil pH improved steadily between 2009 and 2012 but has declined since then
- 48% of dairy samples are either low or very low for P. There has been a slight decline in Soil P levels from a high base.
- 40% of dairy samples are either low or very low for K
- 14% of drystock Samples reach Good Overall Fertility
- 50% of drystock samples are either low or very low for P. This has been quite stable since 2007.
- 53 % of drystock are at index 1 or 2 for K.
- 40% of drystock sampled were above pH 6.2.
- P levels in Tillage samples have been relatively stable since 2007.
- K level in tillage samples have improved gradually from a low base with 53% currently at index 3 or 4.
- 74% of tillage samples have a pH > 6.2

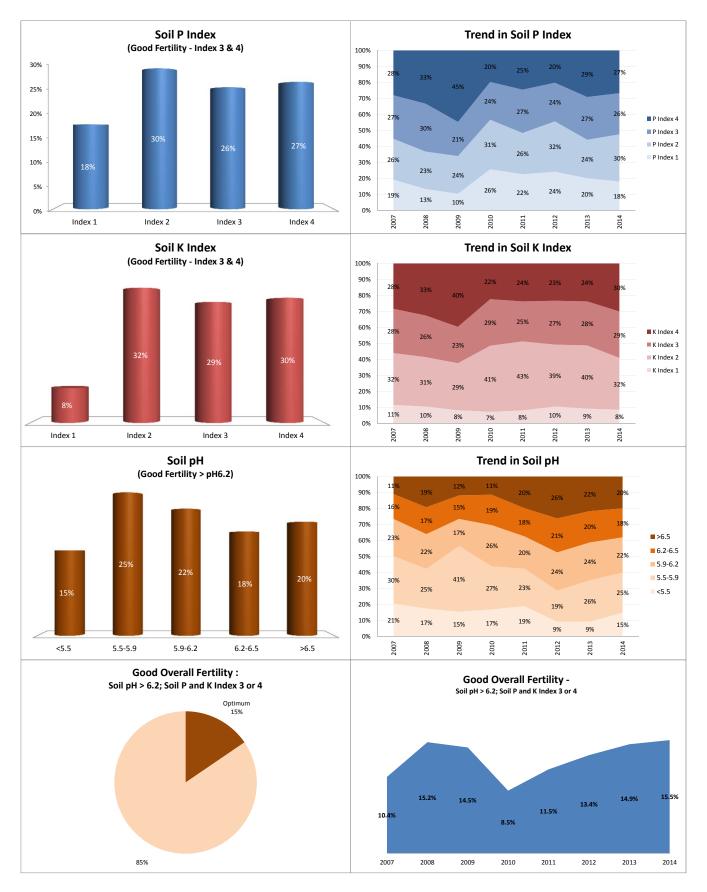


County Year Enterprise Number of Samples Kilkenny 2014 All Farms 1,248



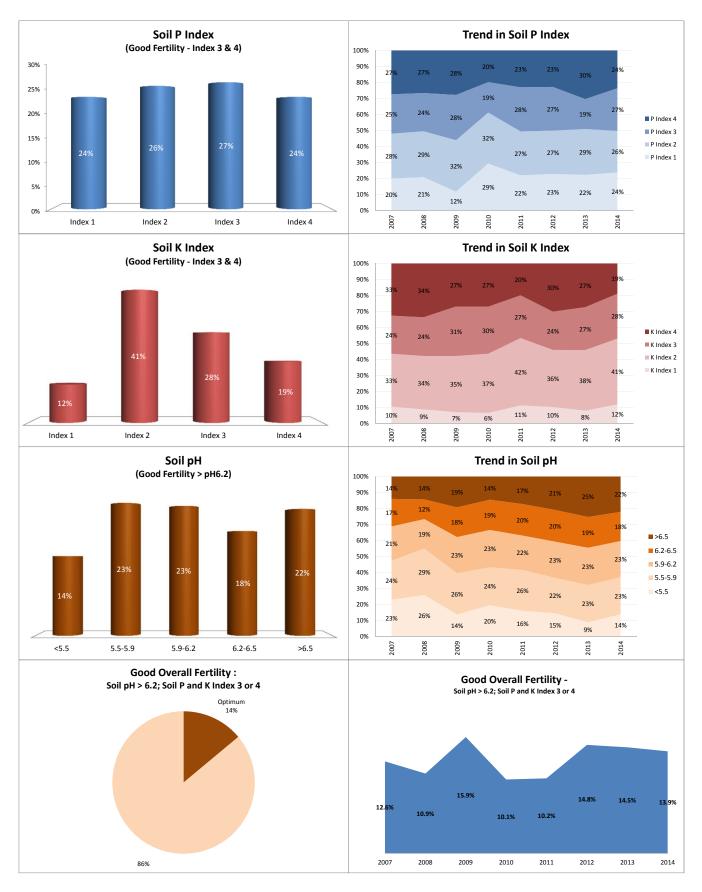


County Year Enterprise Number of Samples Kilkenny 2014 Dairy 705



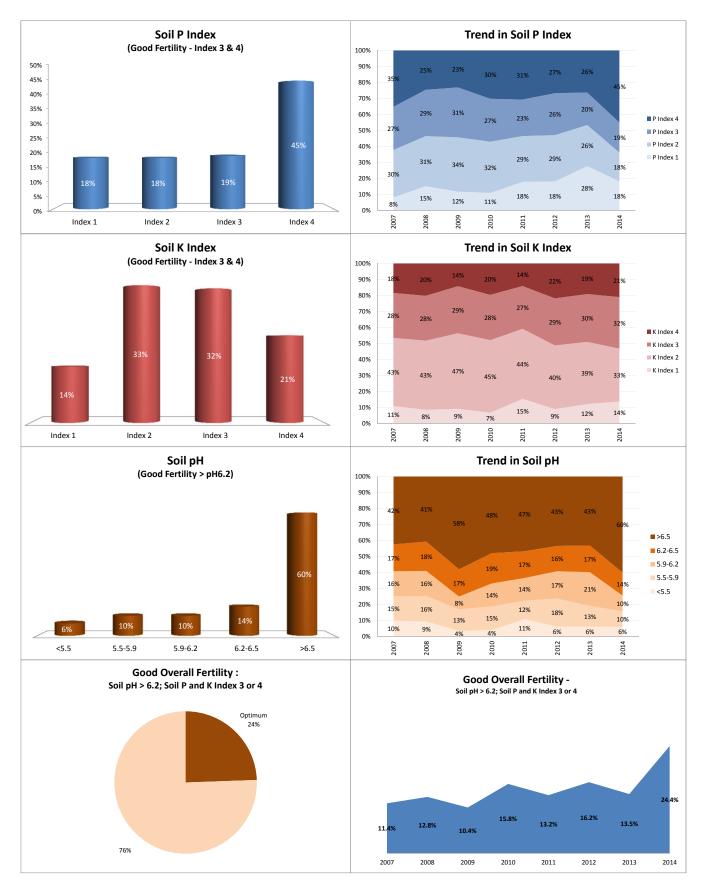


County Year Enterprise Number of Samples Kilkenny 2014 Drystock 389





County Year Enterprise Number of Samples Kilkenny 2014 Tillage 133



Laois Highlights

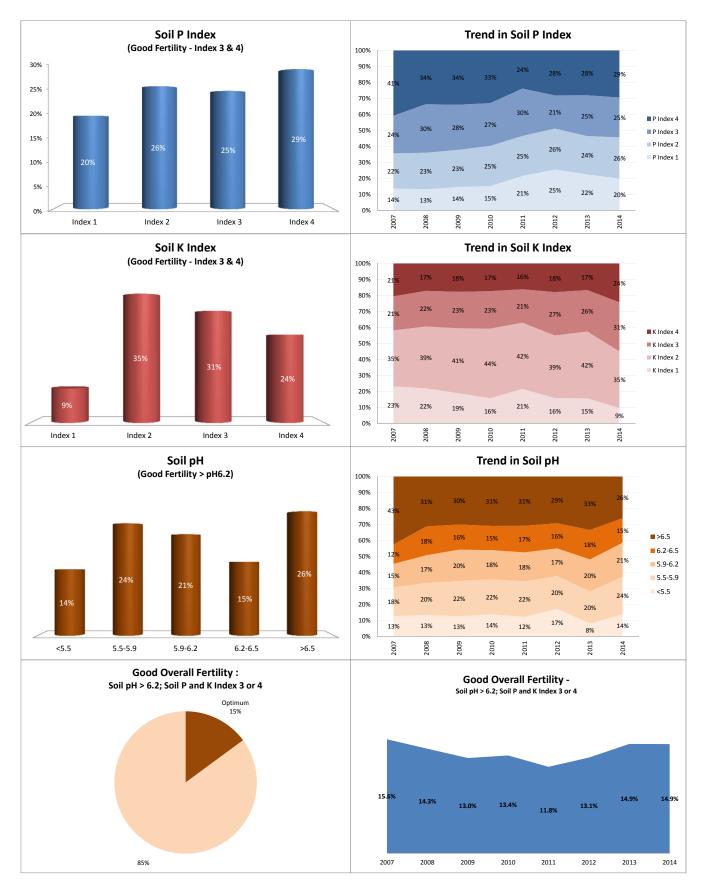
Overall

- 15% of soils tested achieved good overall fertility in 2014.
- 41% of soils have a pH of greater than 6.2 (National 35%).
- Soil P and K fell gradually from 2007 to 2011 but have stabilized or increased slightly since then.
- 46% of samples were below optimum Soil P (Index 1 or 2).
- 44% of soils are at K index 1 or 2. K levels have increased since 2011.

- 15% of dairy samples achieved good overall status
- 47% of dairy samples are either low or very low for P.
- 42% of dairy samples are either low or very low for K
- 15% of drystock samples reach Good Overall Fertility
- 42% of drystock samples are either low or very low for P. This has been quite stable since 2009.
- 47 % of drystock are at index 1 or 2 for K.
- 38% and 42% of dairy and drystock samples were above pH 6.2.
- P levels in Tillage samples fell steadily between 2009 and 2014.
- K level in tillage samples have improved since 2011 with 50% currently at index 3 or 4.
- 52% of tillage samples have a pH > 6.2

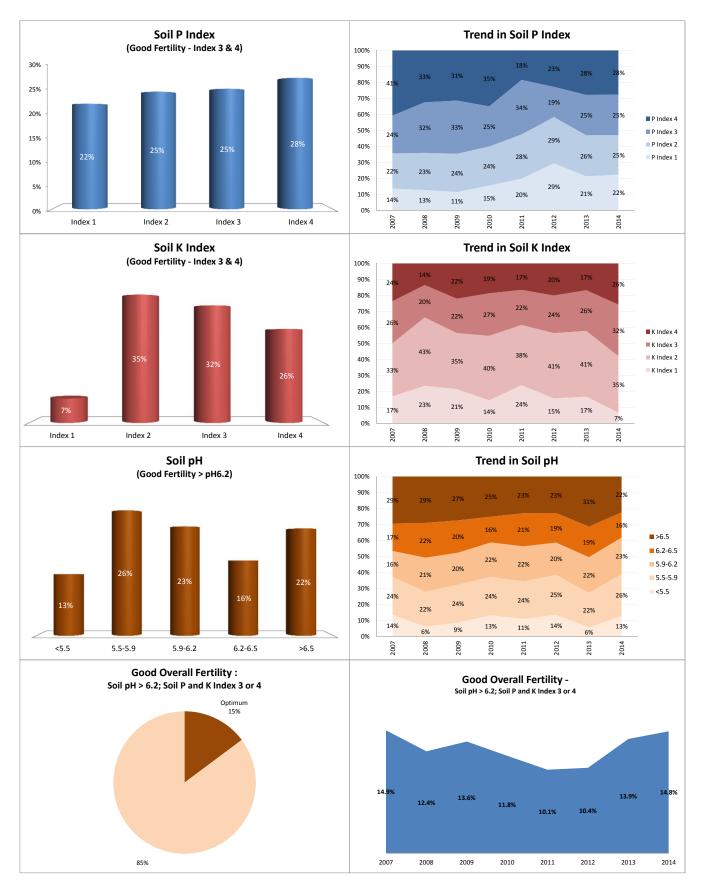


County Year Enterprise Number of Samples Laois 2014 All Farms 919



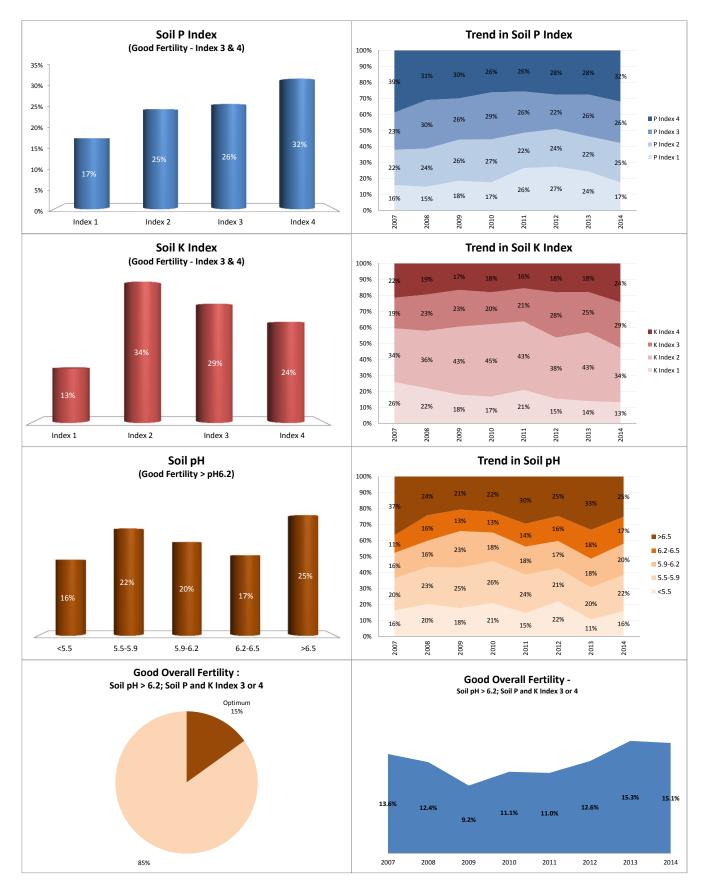


County Year Enterprise Number of Samples Laois 2014 Dairy 477



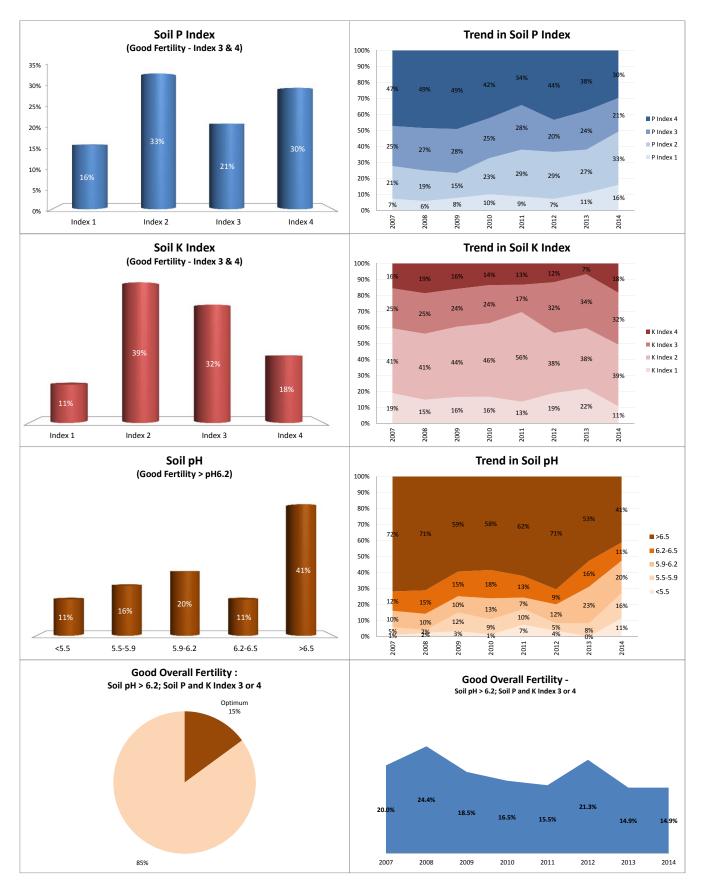


County Year Enterprise Number of Samples Laois 2014 Drystock 321





County Year Enterprise Number of Samples Laois 2014 Tillage 114



Leitrim Highlights

Overall

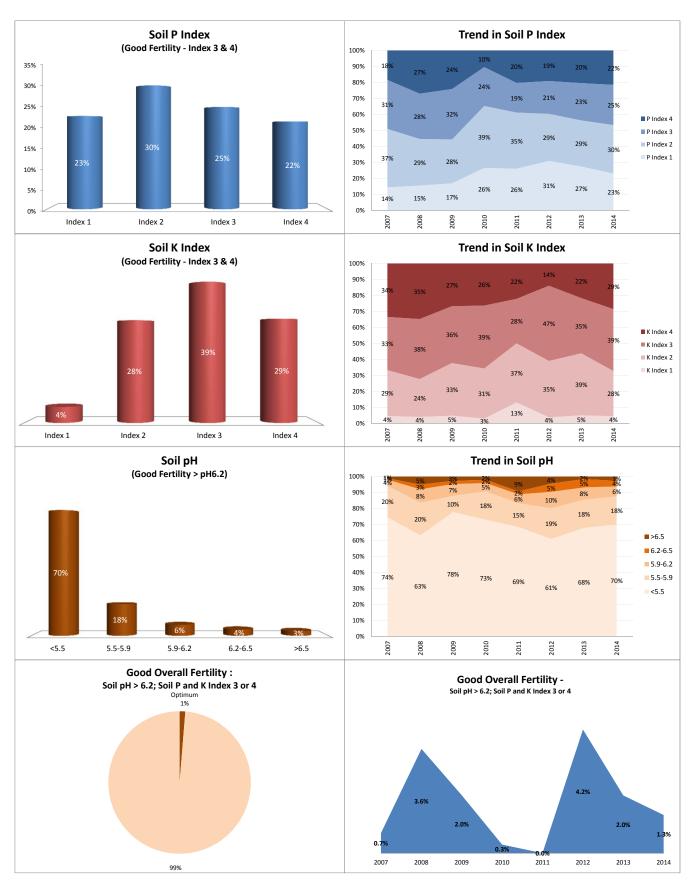
- Only 1% of soils tested achieved good overall fertility in 2014.
- 7%% of soils have a pH of greater than 6.2 (National 35%).
- 53% of samples were below optimum Soil P (Index 1 or 2).
- 68% of soils are at K index 1 or 2. Soil K index has remained relatively stable since 2007.

Enterprise

• Drystock is the predominant enterprise and is reflected above

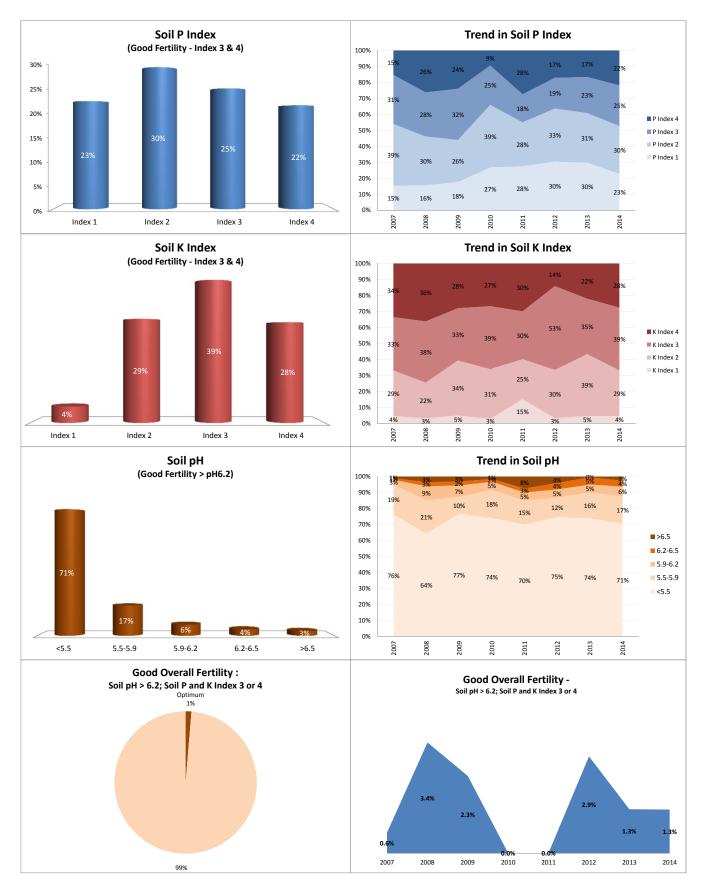


County Year Enterprise Number of Samples Leitrim 2014 All Farms 227





County Year Enterprise Number of Samples Leitrim 2014 Drystock 224



Limerick Highlights

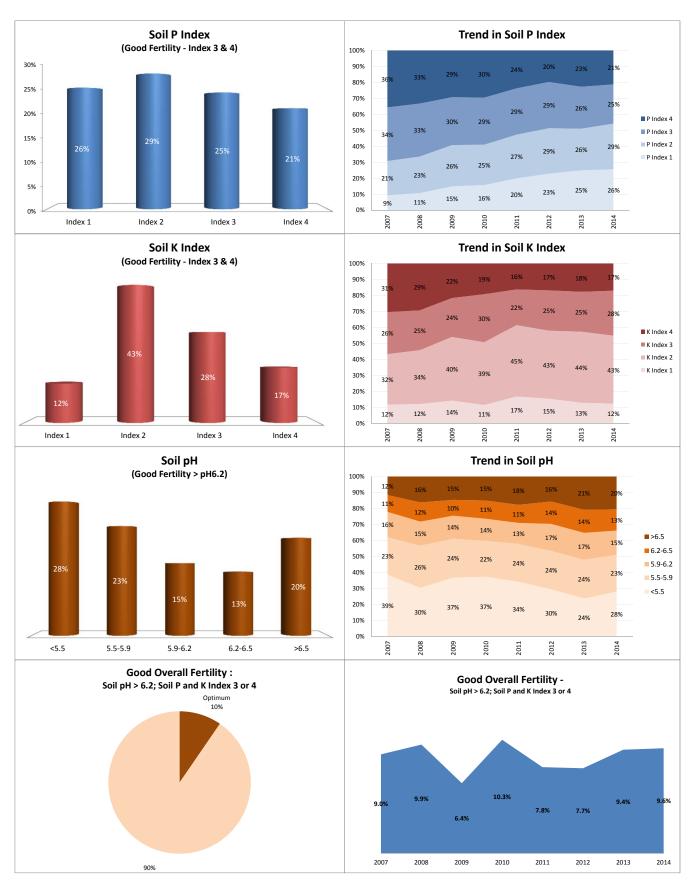
Overall

- 10% of soils tested achieved good overall fertility in 2014.
- 33% of soils have a pH of greater than 6.2 (National 35%). This has increased gradually since 2007
- There has been a steady falls in soil P since 2007.
- 55% of samples were below optimum Soil P (Index 1 or 2). This figure was 30% in 2007
- 55% of soils are at K index 1 or 2. Soil K index declined from 2007 to 2011 but has increased gradually since then.

- 10% of dairy samples achieved good overall status.
- 36% of dairy samples had a pH greater than 6.2. Soil pH in drystock farms is lower with 25% above 6.2.
- 53% of dairy samples are either low or very low for P. Levels continue to decline.
- 56% of dairy samples are either low or very low for K.
- 8% of drystock samples reach Good Overall Fertility
- 59% of drystock samples are either low or very low for P. The steady decline continues
- 53 % of drystock are at index 1 or 2 for K.

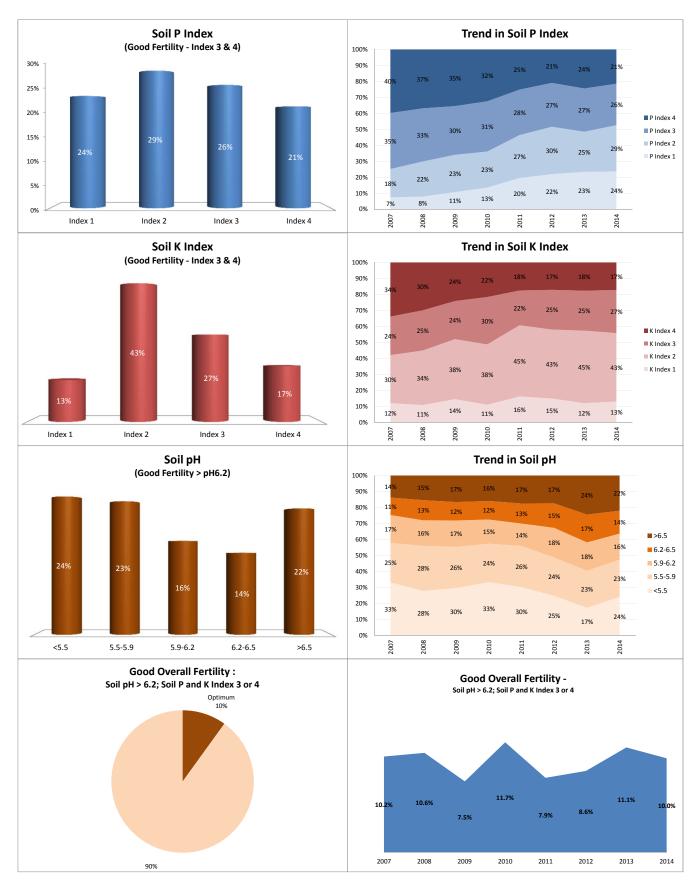


County Year Enterprise Number of Samples Limerick 2014 All Farms 2,584



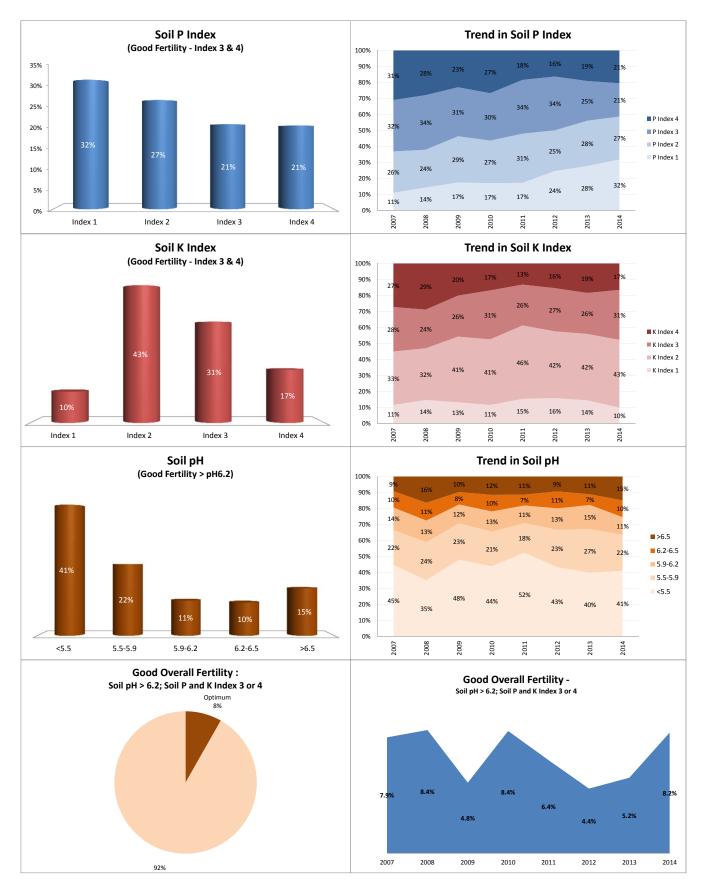


County Year Enterprise Number of Samples Limerick 2014 Dairy 1,930





County Year Enterprise Number of Samples Limerick 2014 Drystock 623



Longford Highlights

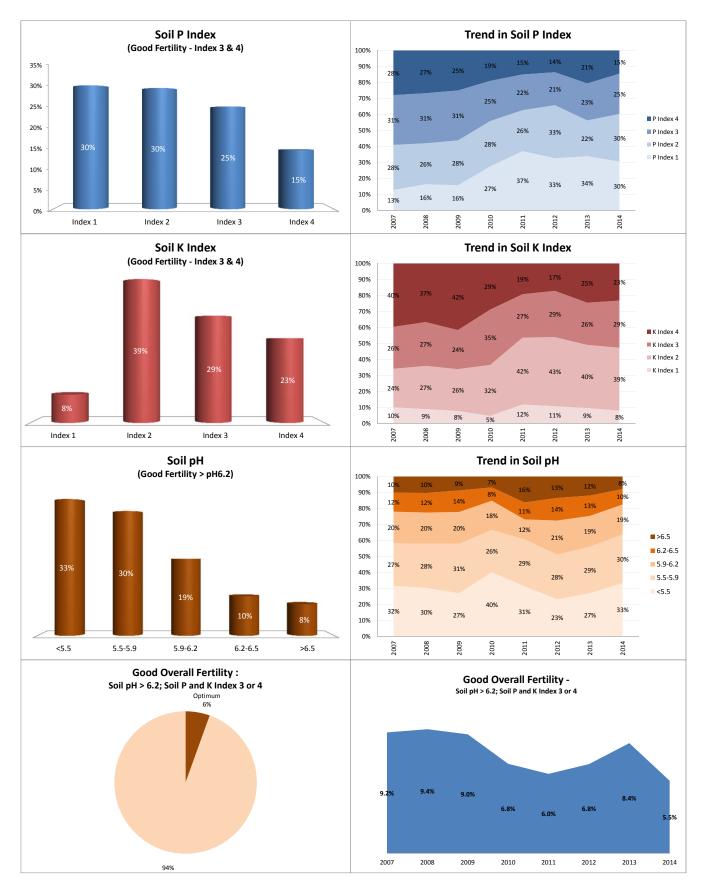
Overall

- 6% of soils tested achieved good overall fertility in 2014.
- 18% of soils have a pH of greater than 6.2 (National 35%). pH status of samples has fallen gradually. 1/3 of samples were below 5.5
- Soil P and K have fallen steadily between 2007 and 2012 but have stabilised in 2013 and 2014
- 60% of samples were below optimum Soil P (Index 1 or 2).
- 30% of soils are at Very Low P levels (Index 1) in (16% in 2008).
- 47% of soils are at K index 1 or 2.

- The number of dairy samples is too low to draw conclusions
- Drystock trends are the same as the overall trends.



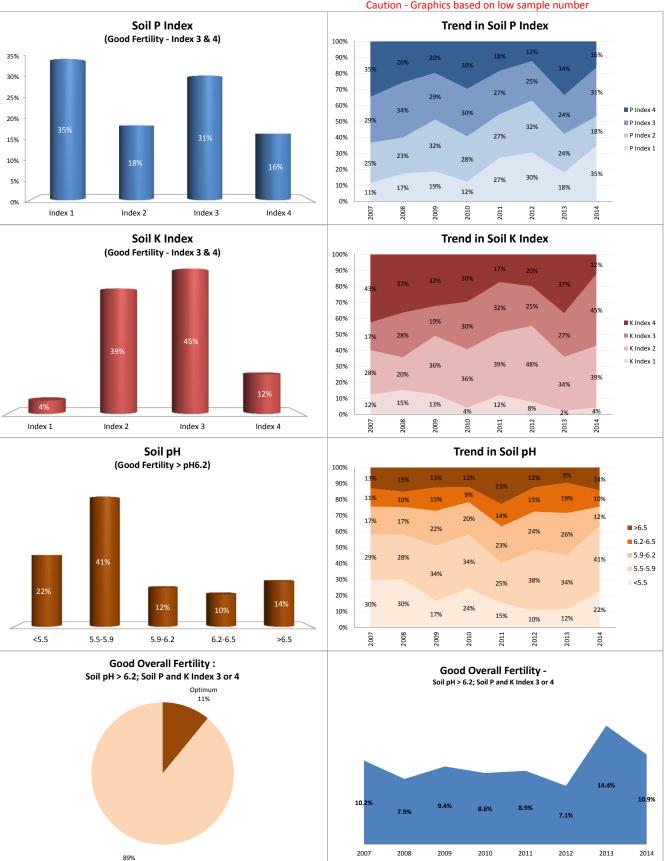
County Year Enterprise Number of Samples Longford 2014 All Farms 309





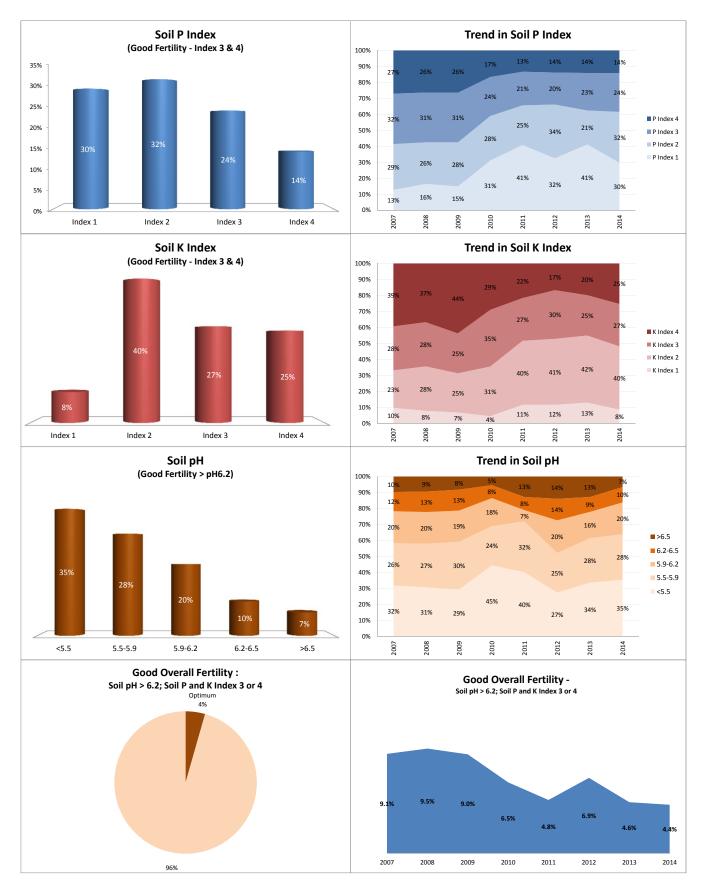
County Year Enterprise **Number of Samples** Longford 2014 Dairy 49

Caution - Graphics based on low sample number





County Year Enterprise Number of Samples Longford 2014 Drystock 260



Louth Highlights

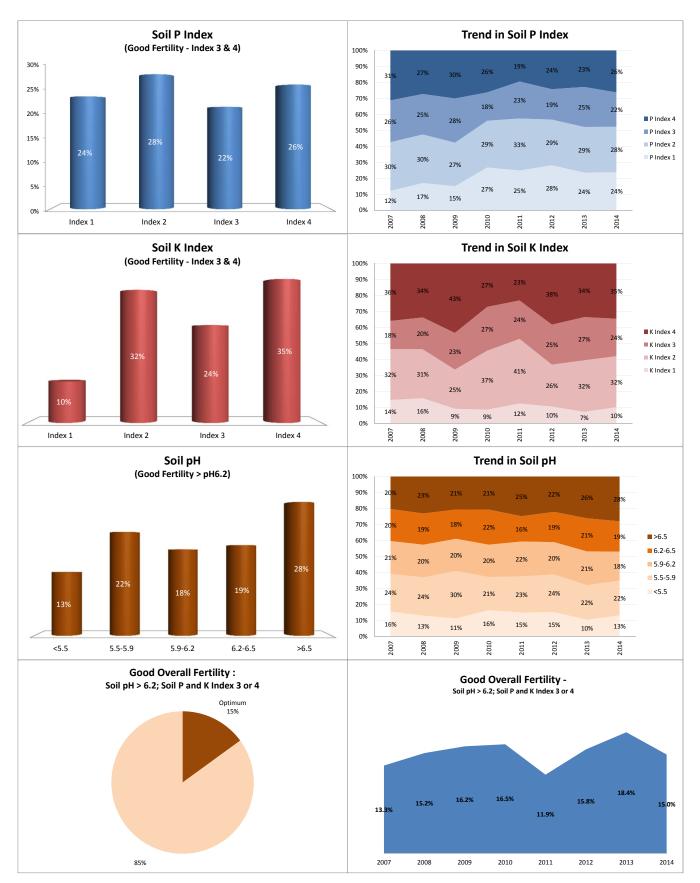
Overall

- 15% of soils tested achieved good overall fertility in 2014.
- 47% of soils have a pH of greater than 6.2 (National 35%)
- 52% of samples were below optimum Soil P (Index 1 or 2). A slight decline in soil P in earlier years has stabilized since 2012
- 24% of soils are at very low P levels (Index 1) in (16% in 2008).
- Soil K have levels have stabilised
- 42% of soils are at K index 1 or 2.

- 15% of dairy samples achieved good overall status
- 33% of dairy samples had a soil pH greater than 6.2.
- 47% of dairy samples are either low or very low for P. A very sharp decline in Soil P levels from 2009 to 2012 has been reversed with steady increases since 2012.
- 37% of dairy samples are either low or very low for K
- 16% of drystock samples reach Good Overall Fertility
- 62% of drystock samples are either low or very low for P. This has been quite stable since 2009.
- 34 % of drystock are at index 1 or 2 for K.
- 46% of drystock sampled were above pH 6.2.
- 10% of tillage samples are at Good Overall Fertility
- P levels in tillage samples have been quite stable since 2007 with 50% either low or very low for P.
- 60% of tillage samples have a pH > 6.2

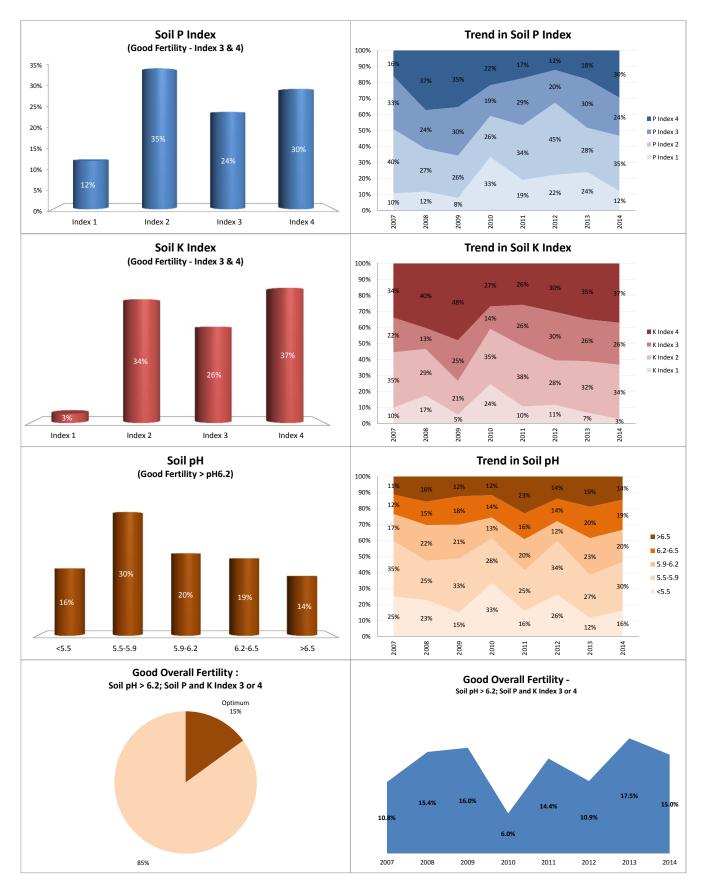


County Year Enterprise Number of Samples Louth 2014 All Farms 686



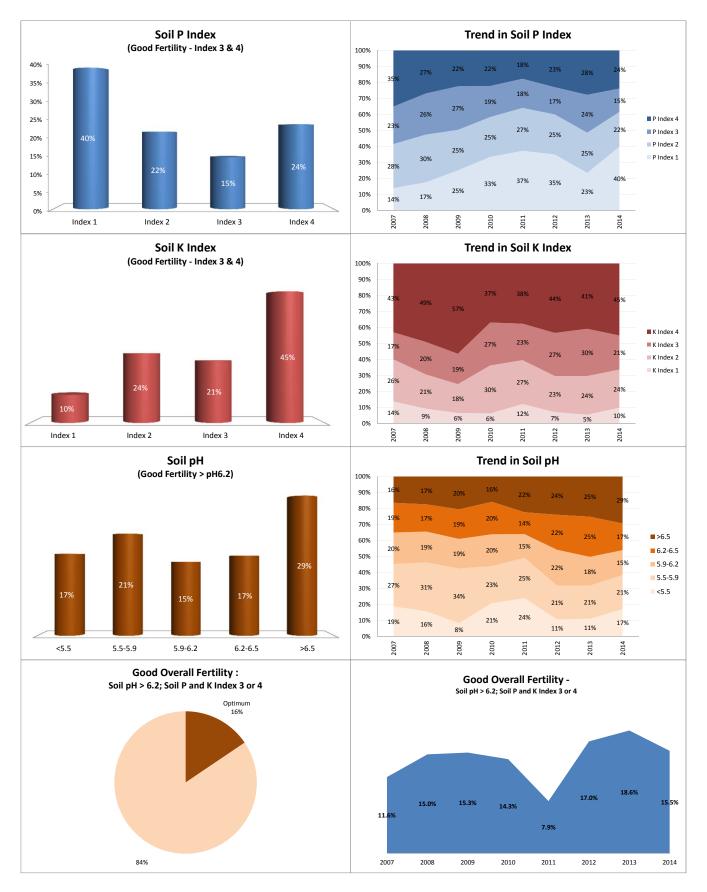


County Year Enterprise Number of Samples Louth 2014 Dairy 159



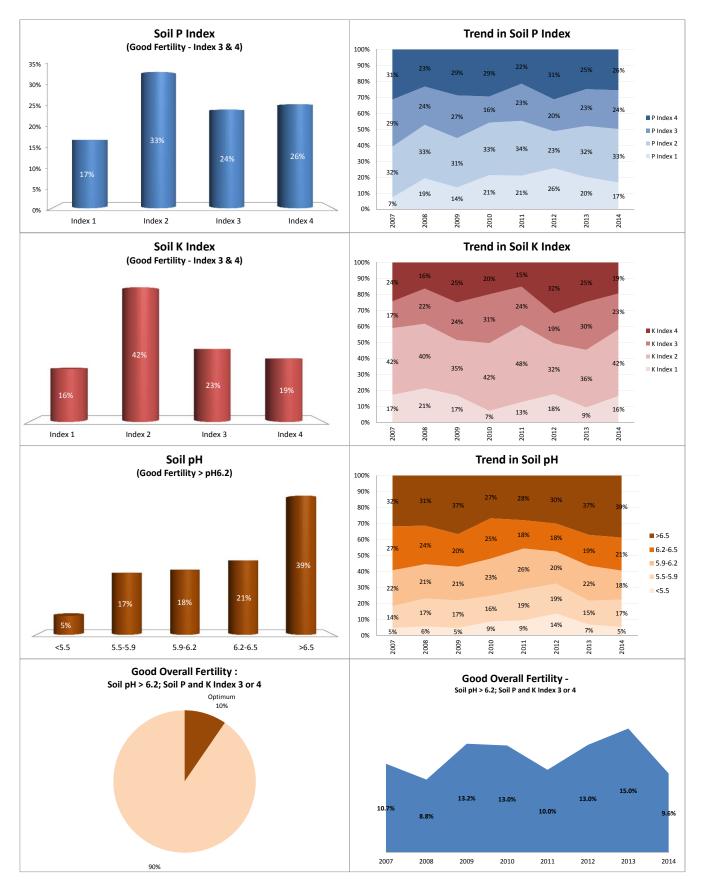


County Year Enterprise Number of Samples Louth 2014 Drystock 239





County Year Enterprise Number of Samples Louth 2014 Tillage 227



Mayo Highlights

Overall

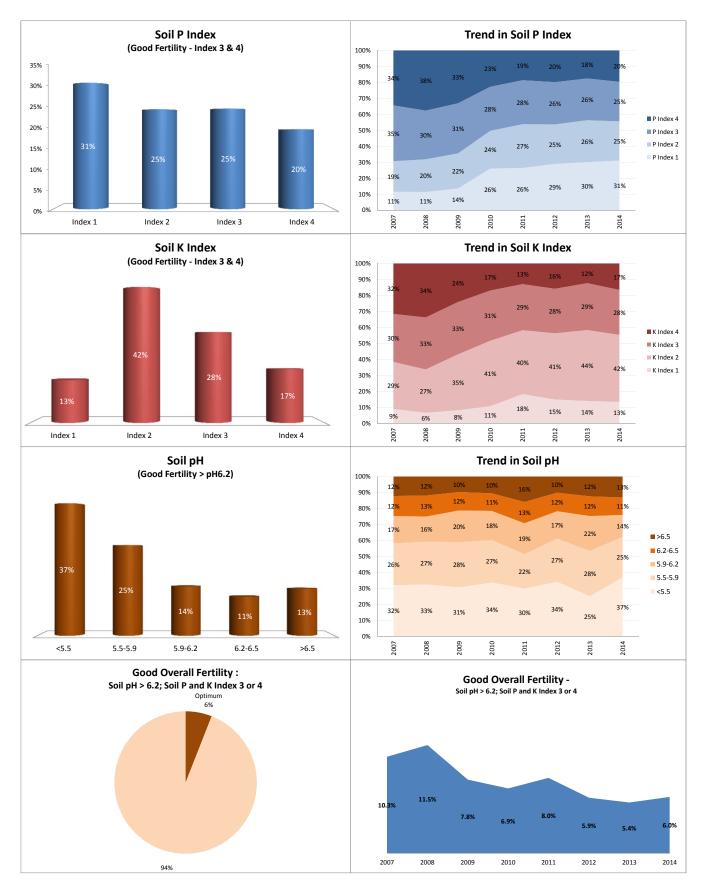
- Only 6% of soils tested achieved good overall fertility in 2014.
- 23% of soils have a pH of greater than 6.2 (National 35%)
- Soil P and K have fallen steadily between 2007 and 2011 but have stabilised from 2011 to 2014
- 56% of samples were below optimum Soil P (Index 1 or 2).
- 31% of soils are at Very Low P levels (Index 1) in (16% in 2008).
- 55% of soils are at K index 1 or 2.

Enterprise

- 12% of dairy samples achieved good overall status
- 52% of dairy samples are either low or very low for P. In particular there has been a very steep increase in the % of Index 1 soils going from 10% in the 2008 to 30% in 2014.
- 57% of dairy samples are either low or very low for K
- 6% of drystock samples reach Good Overall Fertility
- 55% of drystock samples are either low or very low for P, which is similar to dairy.
- 55% of drystock are at index 1 or 2 for K
- Soil pH is lower for drystock samples with 24% exceeding pH 6.2 as opposed to 41% of dairy samples.

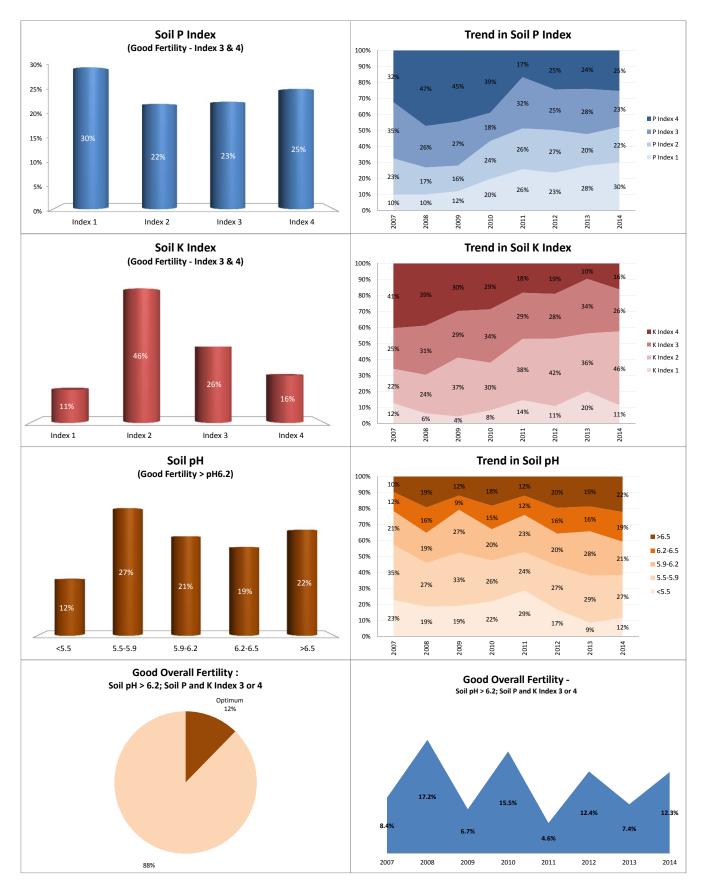


County Year Enterprise Number of Samples Mayo 2014 All Farms 2,106



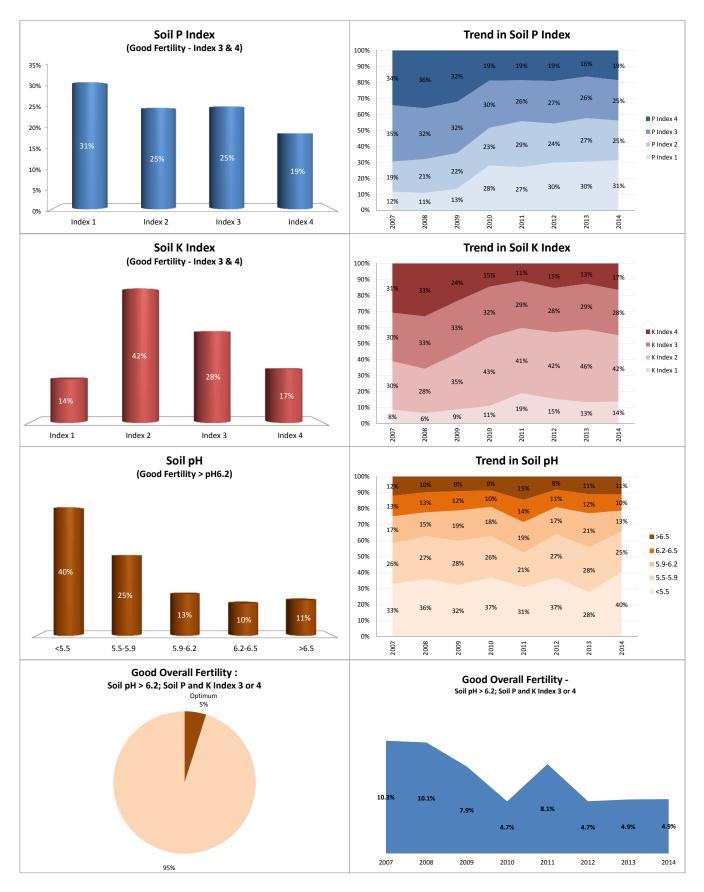


County Year Enterprise Number of Samples Mayo 2014 Dairy 221





County Year Enterprise Number of Samples Mayo 2014 Drystock 1,856



Meath Highlights

Overall

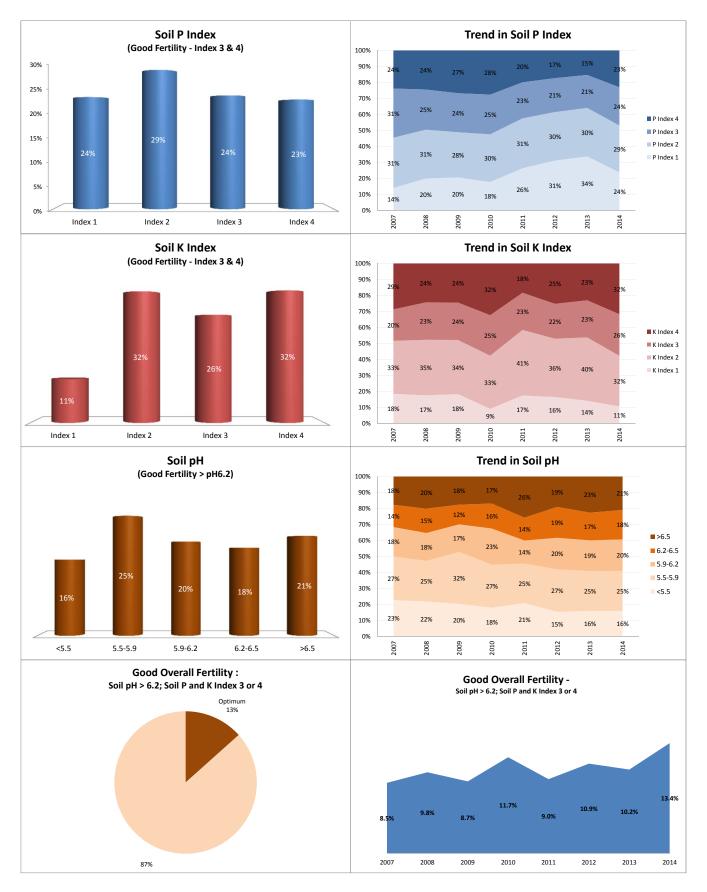
- 13% of soils tested achieved good overall fertility in 2014.
- 39% of soils have a pH of greater than 6.2 (National 35%). This has been improving gradually since 2007
- 53% of samples were below optimum Soil P (Index 1 or 2). There was a steady decline in soil P between 2007 and 2013.
- 24% of soils are at Very Low P levels (Index 1) in (14% in 2007).
- Soil K have levels have been stable since 2007
- 43% of soils are at K index 1 or 2.

Enterprise

- 16% of dairy samples achieved good overall status
- 43% of dairy samples had a soil pH greater than 6.2.
- 47% of dairy samples are either low or very low for P. A decline in Soil P levels from 2009 to 2013 has been halted.
- 40% of dairy samples are either low or very low for K
- 9% of drystock samples reach Good Overall Fertility
- 63% of drystock samples are either low or very low for P. This has been increasing steadily since 2007.
- 44 % of drystock are at index 1 or 2 for K.
- 31% of drystock sampled were above pH 6.2.
- Only 6% of tillage samples reach Good Overall Fertility
- P levels in tillage samples have been dropped since 2007 with 60% either low or very low for P.
- 50% of tillage samples have a pH > 6.2
- 51 % of tillage samples are at index 1 or 2 for K.

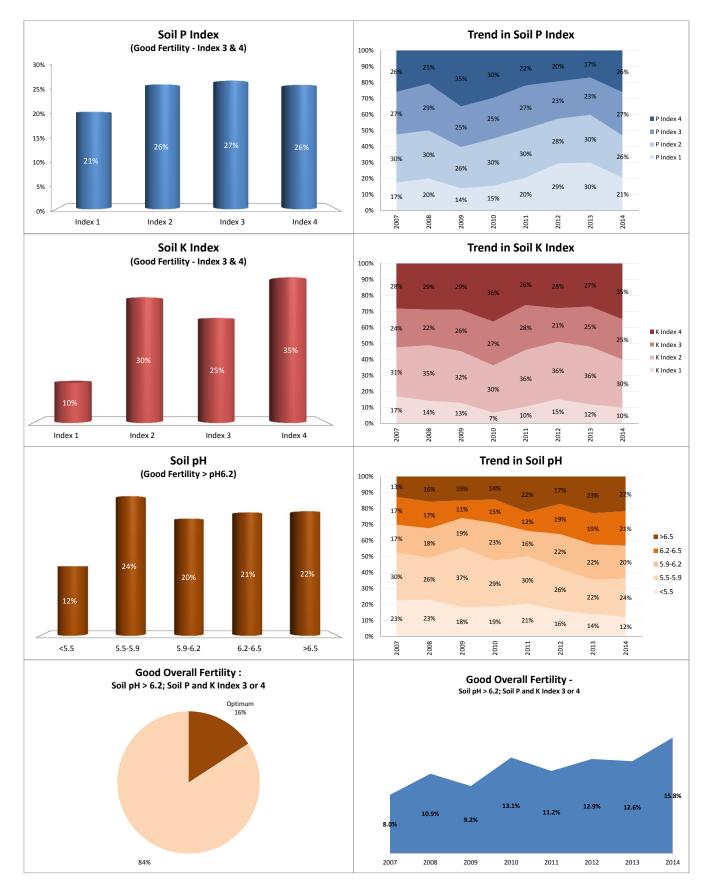


County Year Enterprise Number of Samples Meath 2014 All Farms 1,715



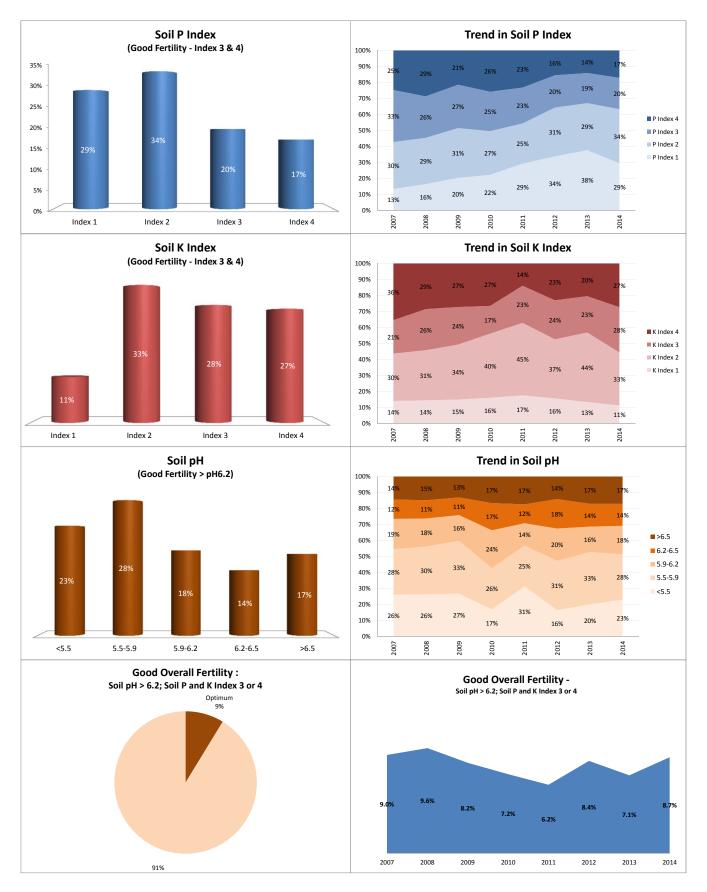


County Year Enterprise Number of Samples Meath 2014 Dairy 1,024



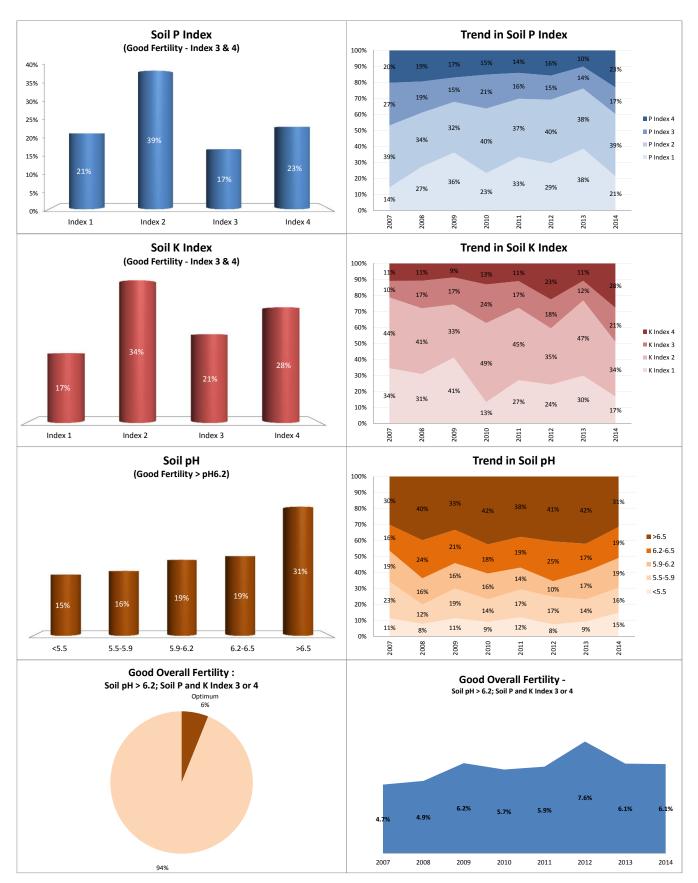


County Year Enterprise Number of Samples Meath 2014 Drystock 543





County Year Enterprise Number of Samples Meath 2014 Tillage 108



Monaghan Highlights

Overall

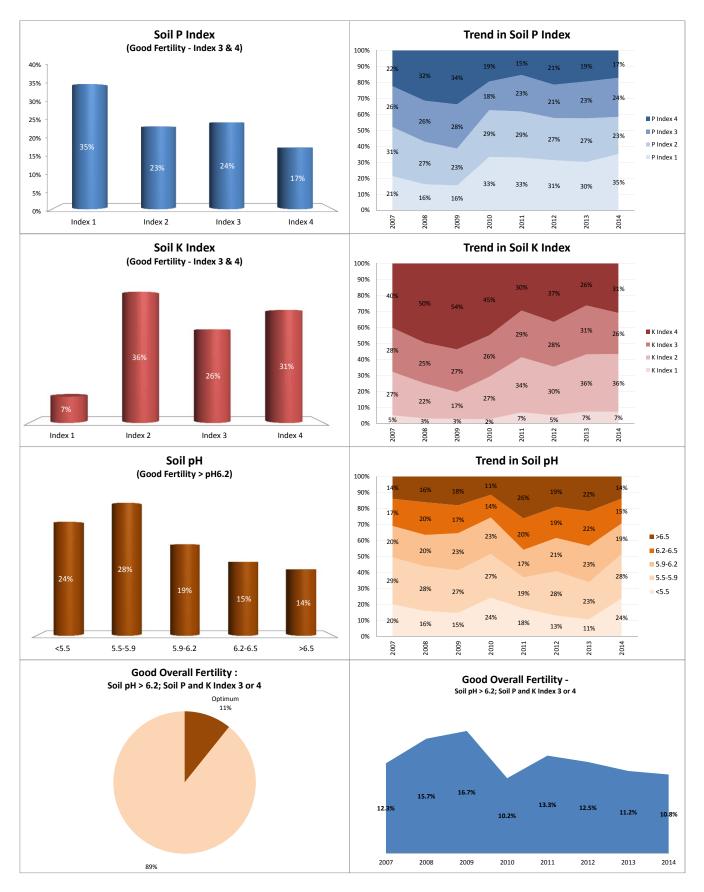
- 11% of soils tested achieved good overall fertility in 2014
- 29% of soils have a pH of greater than 6.2 (National 35%)
- The falls in soil P which took place between 2009 and 2010 has halted and stabalised in the last 4 years.
- 58% of samples were below optimum Soil P (Index 1 or 2).
- 1/3 of soils are at Very Low P levels (Index 1) in (16% in 2008).
- 43% of soils are at K index 1 or 2. Only 7% at index 1.
- K levels have stabilised in the last 4 years.

Enterprise (NB Soil Sample Numbers Low)

- 13% of dairy samples achieved good overall status
- 55% of dairy samples are either low or very low for P
- Soil P levels on dairy have been on an improving trend since 2011 having dropped rapidly from 2009 to 2011.
- Only 8% of drystock samples are at good overall fertility status.
- 63% of drystock samples are either low or very low for P
- Low pH was evident for all enterprises. pH has improved gradually on all enterprise in 2011 and 2012 but has declined since

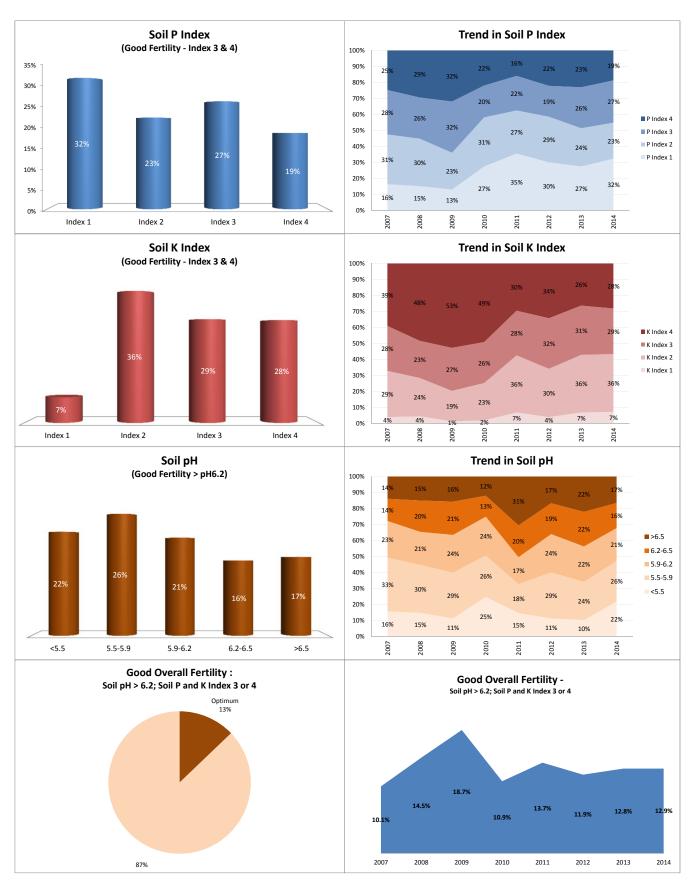


County Year Enterprise Number of Samples Monaghan 2014 All Farms 680



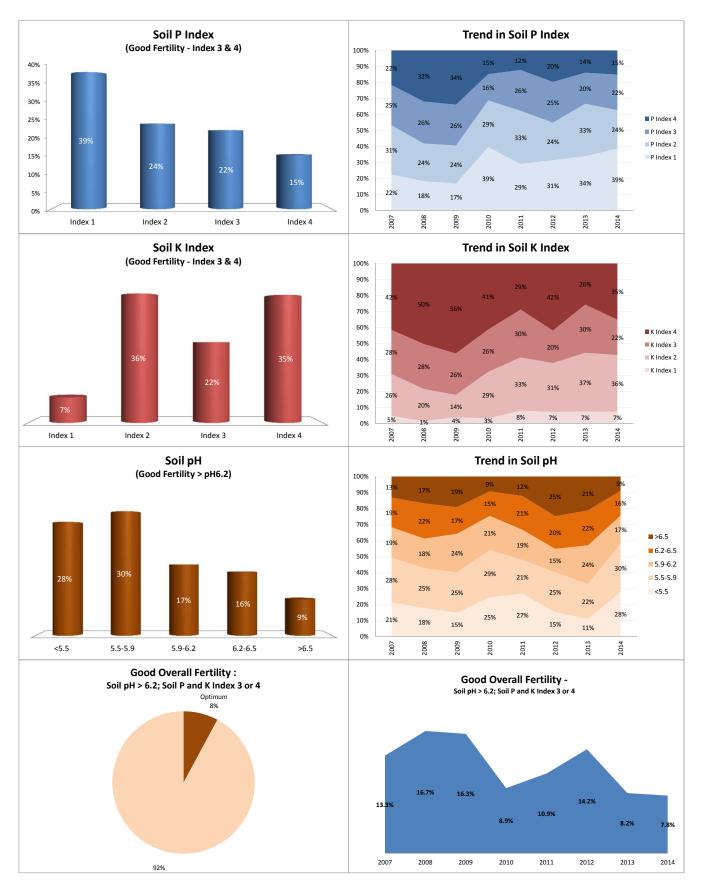


County Year Enterprise Number of Samples Monaghan 2014 Dairy 400





County Year Enterprise Number of Samples Monaghan 2014 Drystock 270



Offaly Highlights

Overall

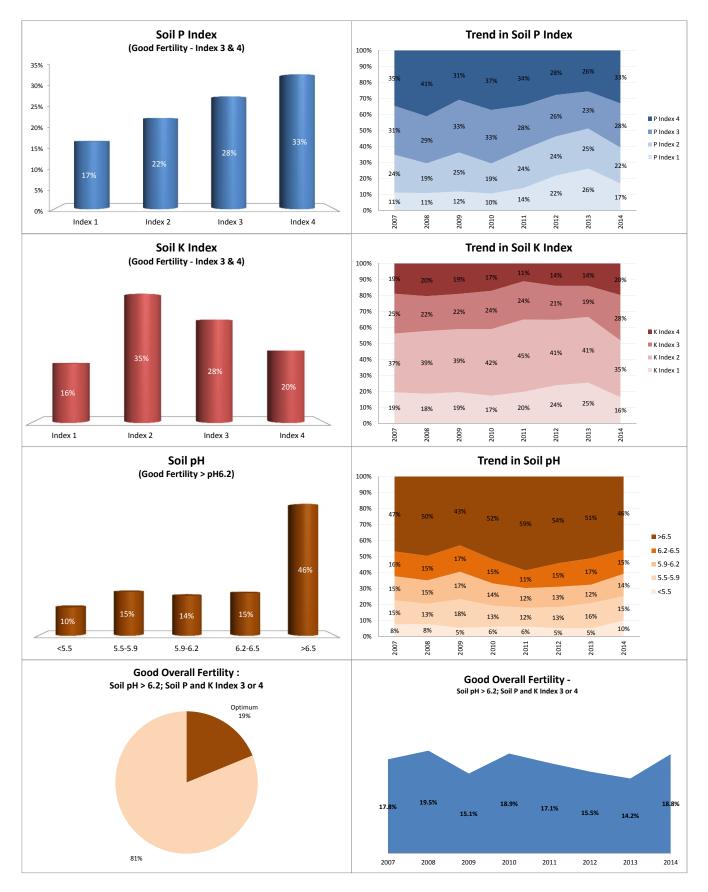
- 19% of soils tested achieved good overall fertility in 2014.
- 61% of soils have a pH of greater than 6.2 (National 35%)
- Soil P and K fell gradually from 2008 to 2013 but seem to have stabilized or increased slightly since then.
- 39% of samples were below optimum Soil P (Index 1 or 2).
- 51% of soils are at K index 1 or 2. K levels have been very low with two thirds of samples between 2012 and 2013 at index 1 or 2.

Enterprise

- 21% of dairy samples achieved good overall status
- Soil P levels have fallen steadily from a very high base but remain relatively good with almost 60% of samples in index 3 and 4 in the 2012 to 2014 period.
- 45% of dairy samples are either low or very low for K in 2014. However, in previous 3 years the low K was in excess of 60%
- 64% of dairy samples have a pH of greater than 6.2
- 18% of drystock samples reach Good Overall Fertility
- 42% of drystock samples are either low or very low for P. This has declined slightly since 2009.
- 53 % of drystock are at index 1 or 2 for K.
- 58% of drystock samples were above pH 6.2.

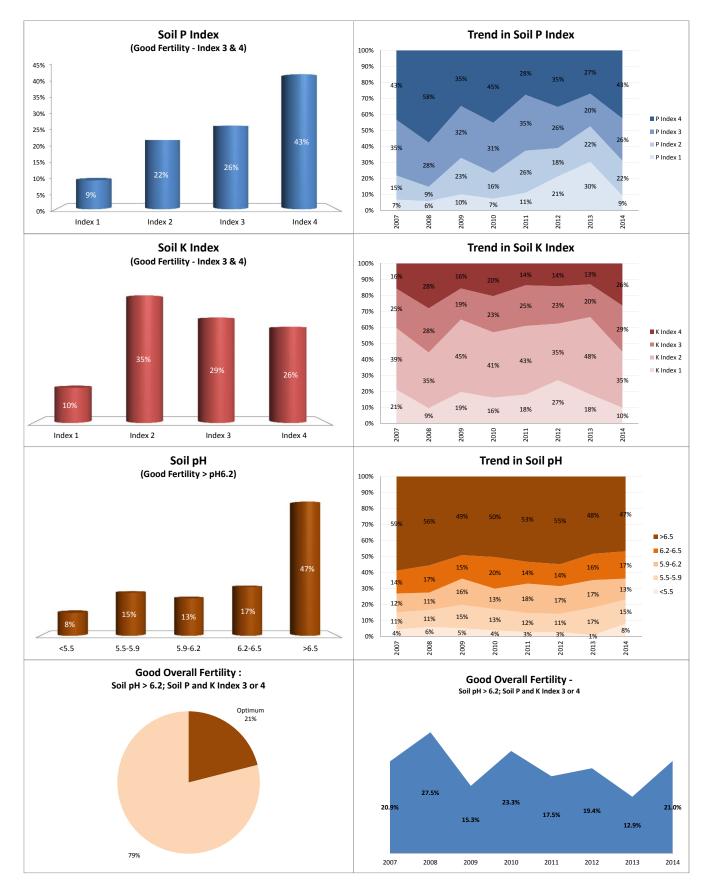


County Year Enterprise Number of Samples Offaly 2014 All Farms 736



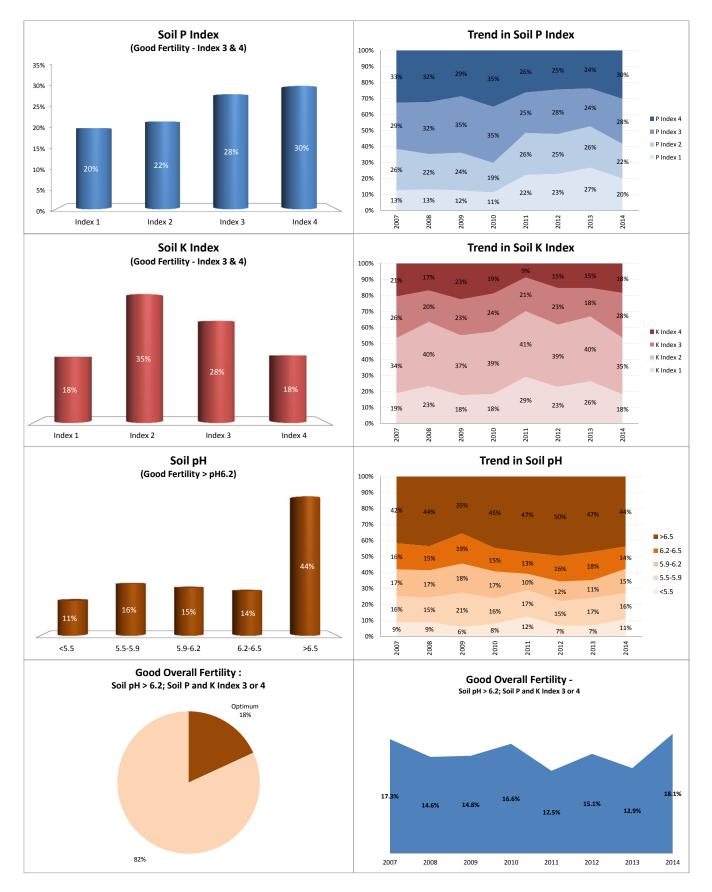


County Year Enterprise Number of Samples Offaly 2014 Dairy 197





County Year Enterprise Number of Samples Offaly 2014 Drystock 492



Roscommon Highlights

Overall

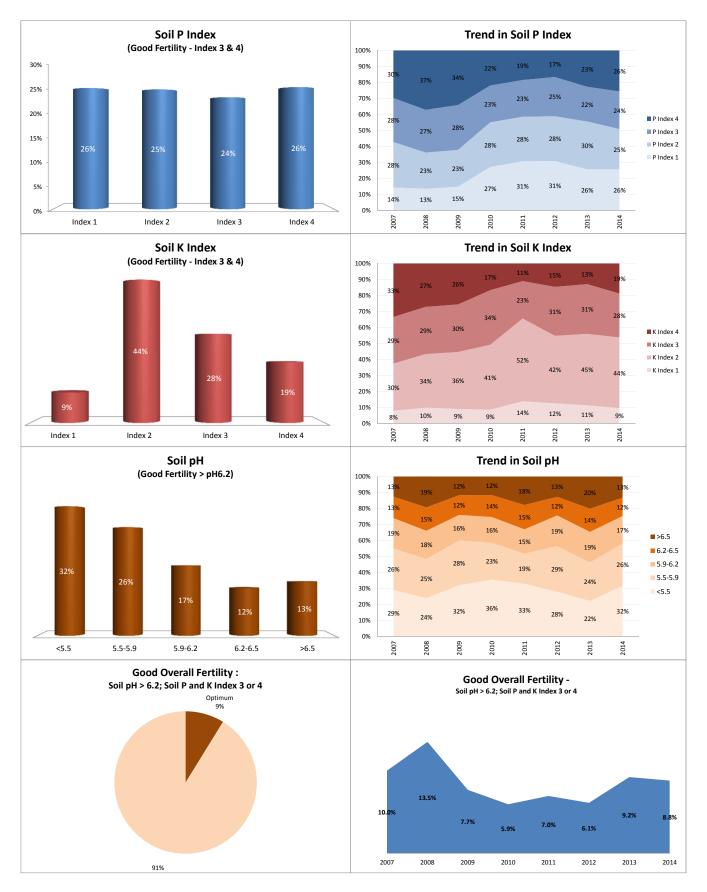
- 9% of soils tested achieved good overall fertility in 2014.
- 25% of soils have a pH of greater than 6.2 (National 35%)
- Soil P and K have fallen steadily between 2007 and 2011 but have stabilised from 2011 to 2014
- 51% of samples were below optimum Soil P (Index 1 or 2).
- 26% of soils are at very low P levels.
- 53% of soils are at K index 1 or 2.

Enterprise (Small no of dairy samples)

- Only 7% of dairy samples achieved good overall status
- Soil P and K Indices have been falling steadily in dairy samples since 2008
- 65% of dairy samples are either low or very low for P.
- 66% of dairy samples are either low or very low for K
- 9% of drystock samples reach Good Overall Fertility
- 48% of drystock samples are either low or very low for P.
- 52% of drystock are at index 1 or 2 for K
- Soil pH is low for drystock samples with 25% exceeding pH 6.2.

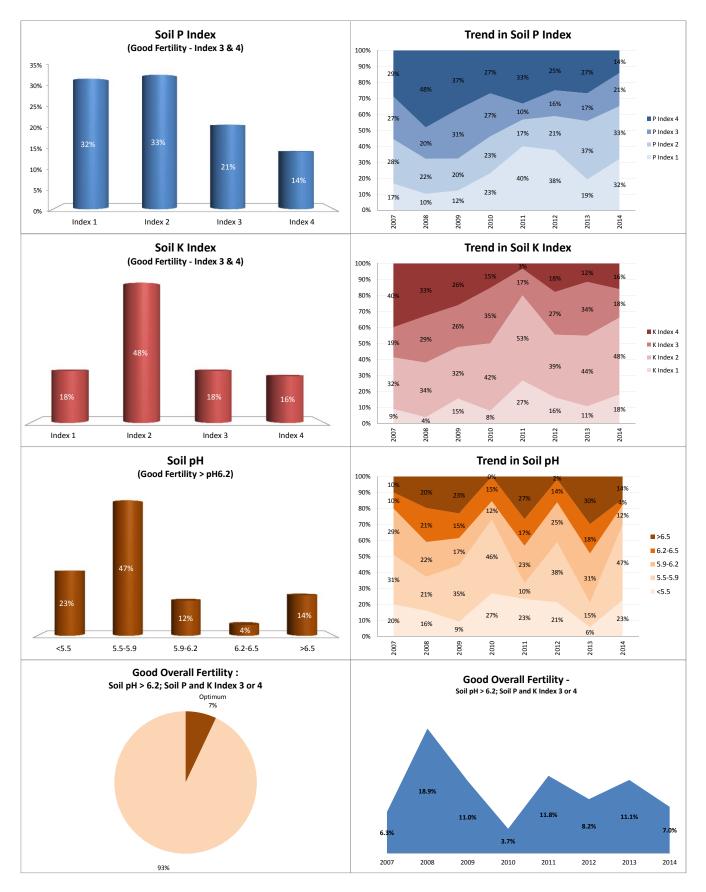


County Year Enterprise Number of Samples Roscommon 2014 All Farms 1,035



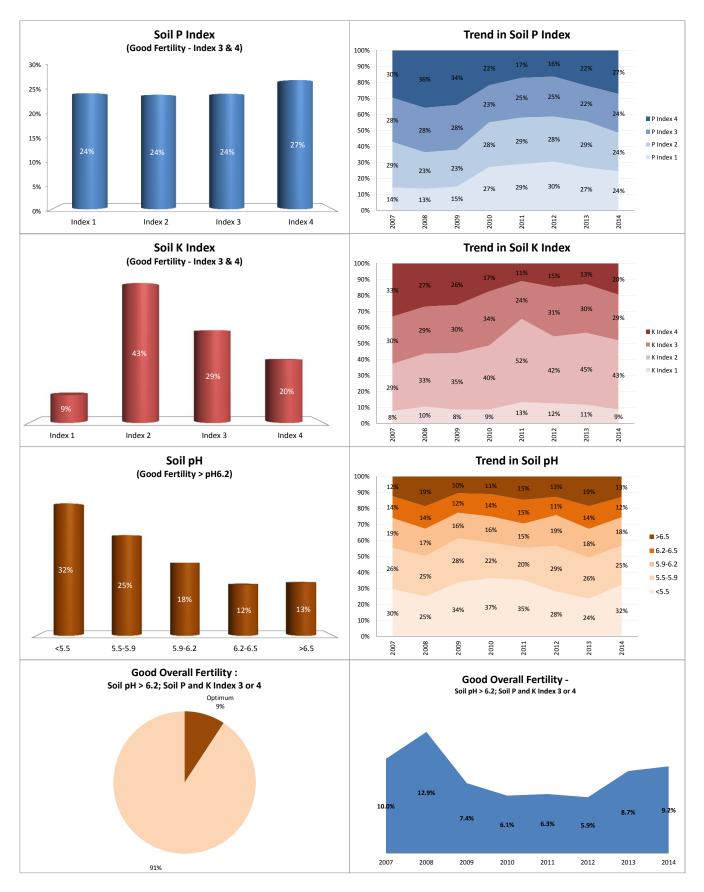


County Year Enterprise Number of Samples Roscommon 2014 Dairy 106





County Year Enterprise Number of Samples Roscommon 2014 Drystock 905



Sligo Highlights

Overall

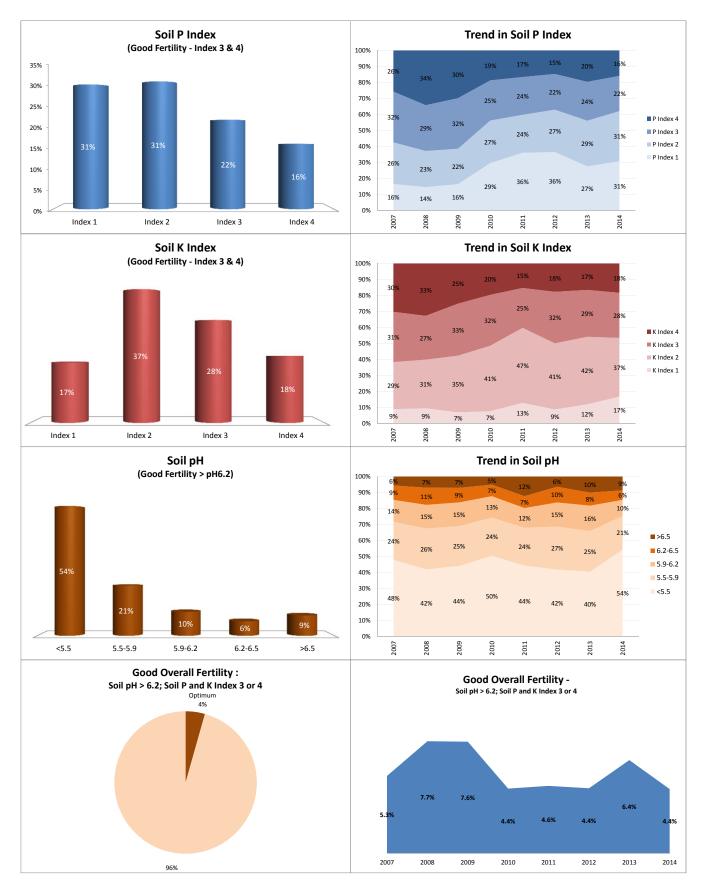
- Only 4% of soils tested achieved good overall fertility in 2014.
- Only 15% of soils have a pH of greater than 6.2 (National 35%)
- Soil P has fallen steadily since 2008.
- 62% of samples were below optimum Soil P (Index 1 or 2).
- 31% of soils are at Very Low P levels.
- 54% of soils are at K index 1 or 2. K levels in soil samples has been falling gradually since 2007

Enterprise (Small no of dairy samples)

- 8% of dairy samples achieved good overall status
- Soil P and K Indices in dairy samples have been falling rapidly between 2009 and 2011 but have increased since then.
- 64% of dairy samples are either low or very low for P.
- Only 21% of dairy samples have a pH in excess of 6.2
- 4% of drystock samples reach Good Overall Fertility
- 61% of drystock samples are either low or very low for P.
- 55% of drystock are at index 1 or 2 for K
- Soil pH is low for drystock samples with 14% exceeding pH 6.2.



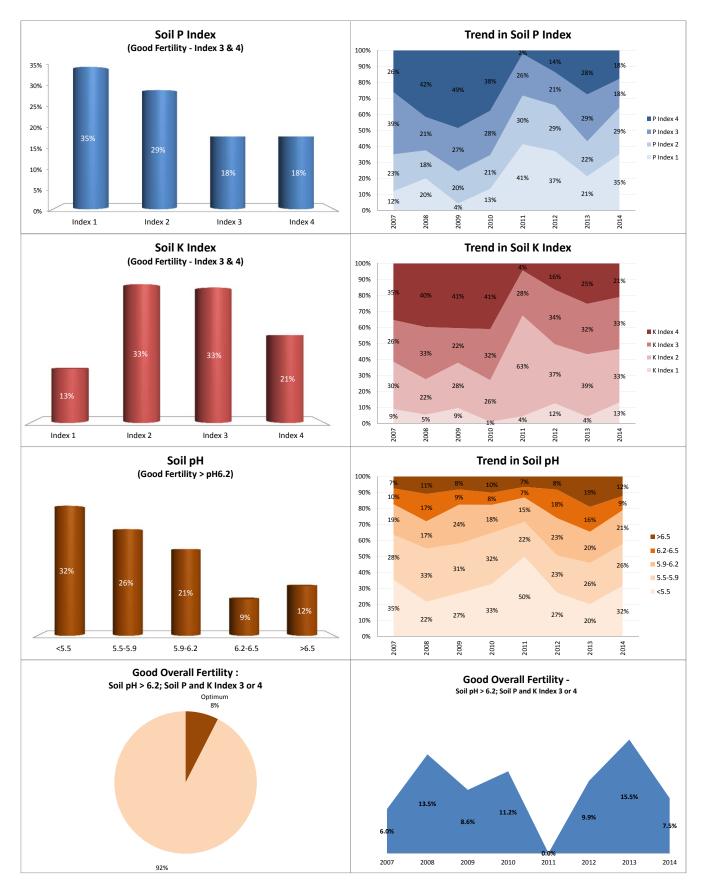
County Year Enterprise Number of Samples Sligo 2014 All Farms 806





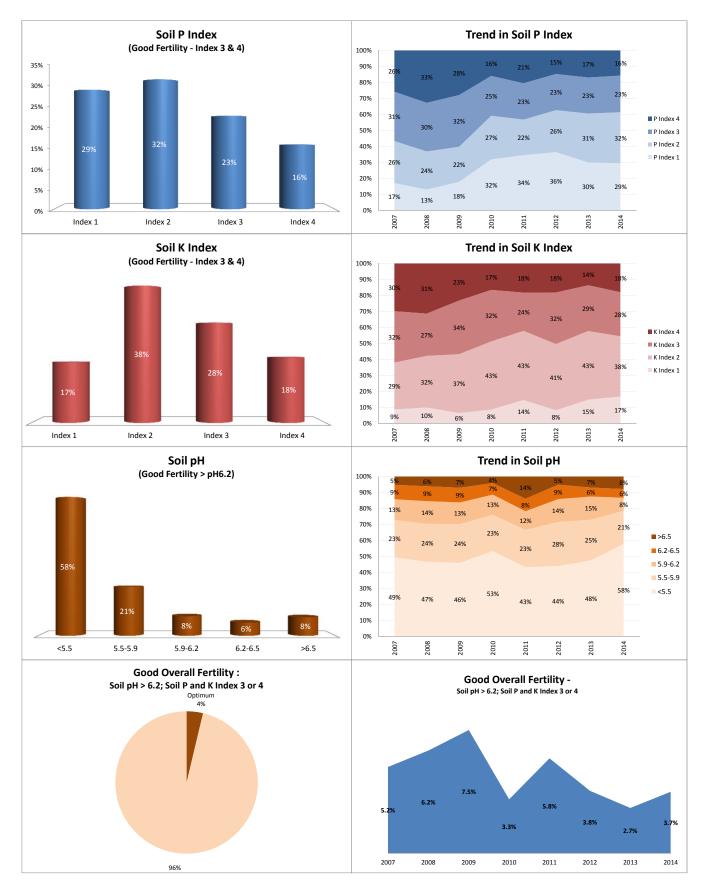
County Year Enterprise Number of Samples

| Sligo |
|-------|
| 2014 |
| Dairy |
| 123 |





County Year Enterprise Number of Samples Sligo 2014 Drystock 671



Tipperary Highlights

Overall

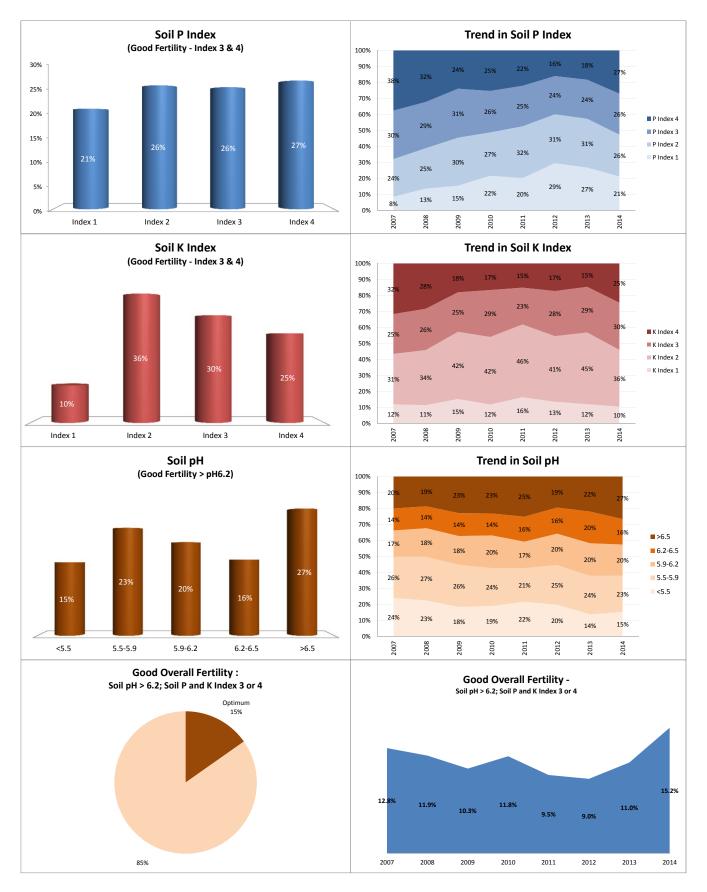
- 15% of soils tested achieved good overall fertility in 2014. This figure has been rising steadily since 2012
- 43% of soils have a pH of greater than 6.2 (National 35%). There has been a gradual improvement since 2008
- Soil P levels decreased steadily in samples between 2007 and 2012 but have increased since then. A sharp increase has been noted in Index 4 samples
- 47% of samples were below optimum Soil P (Index 1 or 2).
- 21% of soils are at Very Low P levels (Index 1) in (16% in 2008).
- 46% of soils are at K index 1 or 2. Falls in K in samples between 2007 and 2011 have reversed.

Enterprise

- 13% of dairy samples achieved good overall status
- 40% of soils have a pH of greater than 6.2, a gradual improvement since 2007 on both dairy and drystock farms.
- 45% of dairy samples are either low or very low for P. The steady decline to 2012 has reversed.
- 45% of dairy samples are either low or very low for K
- 13% of drystock samples reach Good Overall Fertility
- 51% of drystock samples are either low or very low for P. The falls have been more gradual than on dairy farms.
- 50 % of drystock are at index 1 or 2 for K.
- P levels in Tillage samples declined between 2007 and 2012 but have improved since then.
- K levels in tillage samples have improved gradually from a low base with 58% currently at index 3 or 4.
- 61% of tillage samples have a pH > 6.2

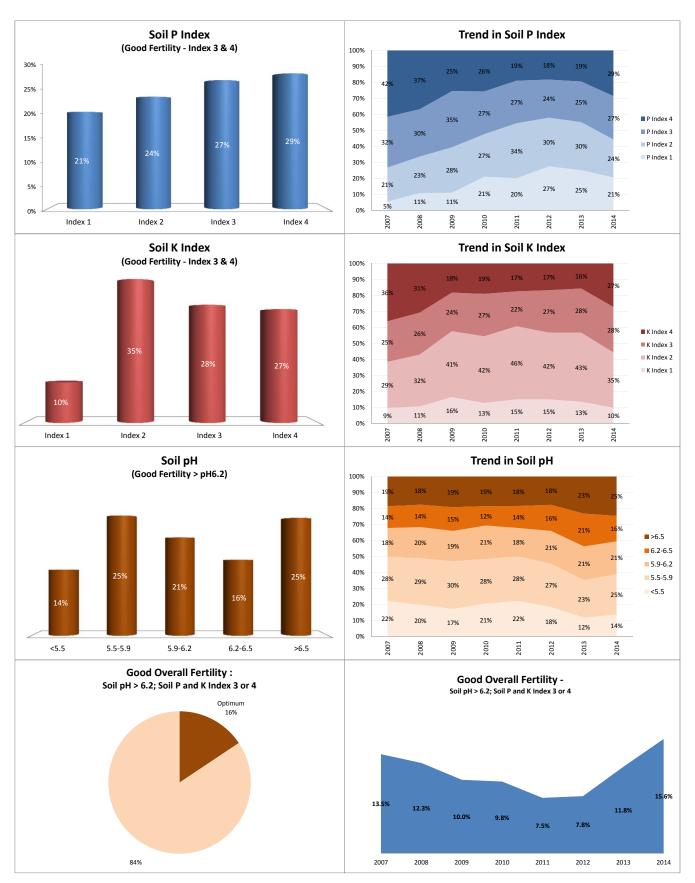


County Year Enterprise Number of Samples Tipperary 2014 All Farms 3,153



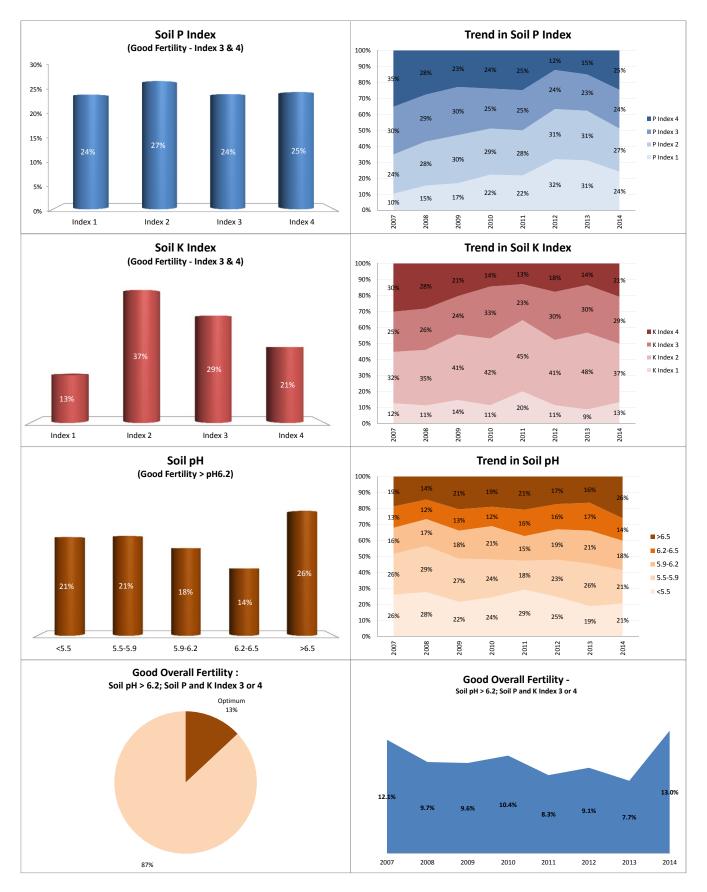


County Year Enterprise Number of Samples Tipperary 2014 Dairy 1,814



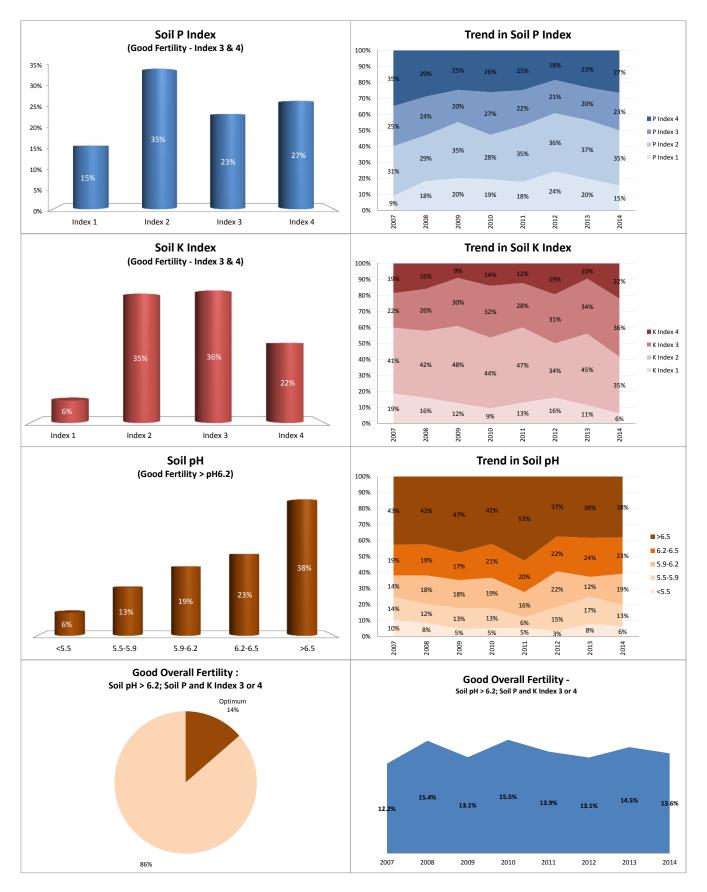


County Year Enterprise Number of Samples Tipperary 2014 Drystock 953





County Year Enterprise Number of Samples Tipperary 2014 Tillage 342



Waterford Highlights

Overall (Note Small number of samples in 2009-2011 period)

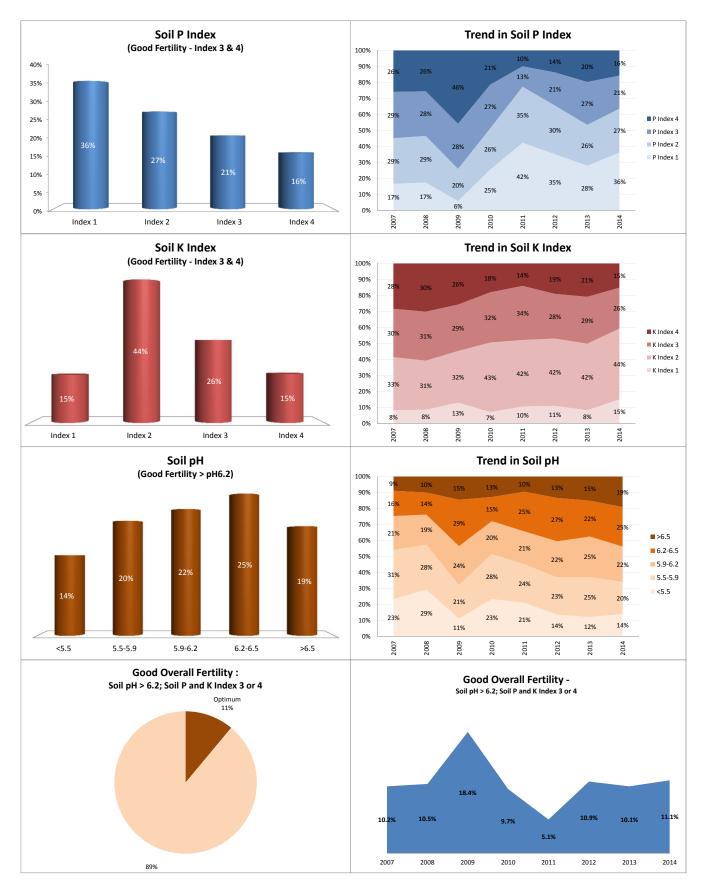
- 11% of soils tested achieved good overall fertility in 2014. Soil fertility has improved a little in the last three years
- 44% of soils have a pH of greater than 6.2 (National 35%). There has been a steady improvement since 2007.
- The dramatic falls in soil P which took place between 2009 and 2011 was halted with small improvements since then
- 63% of samples were below optimum Soil P (Index 1 or 2). This figure was 46% in 2007/2008
- 36% of soils are at Very Low P levels (Index 1) in (17% in 2008).
- 59% of soils are at K index 1 or 2.
- Soil K levels have fallen gradually between 2007 and 2014.

Enterprise

- 9% of dairy samples achieved good overall status
- 42% of soils have a pH of greater than 6.2, a gradual improvement since 2007 on both dairy and drystock farms.
- At 68%, more than 2/3 of dairy samples are either low or very low for P.
- 63% of dairy samples are either low or very low for K
- 14% of drystock samples reach Good Overall Fertility
- 54% of drystock samples are either low or very low for P. This has been fairly stable since 2007.
- 61 % of drystock are at index 1 or 2 for K.

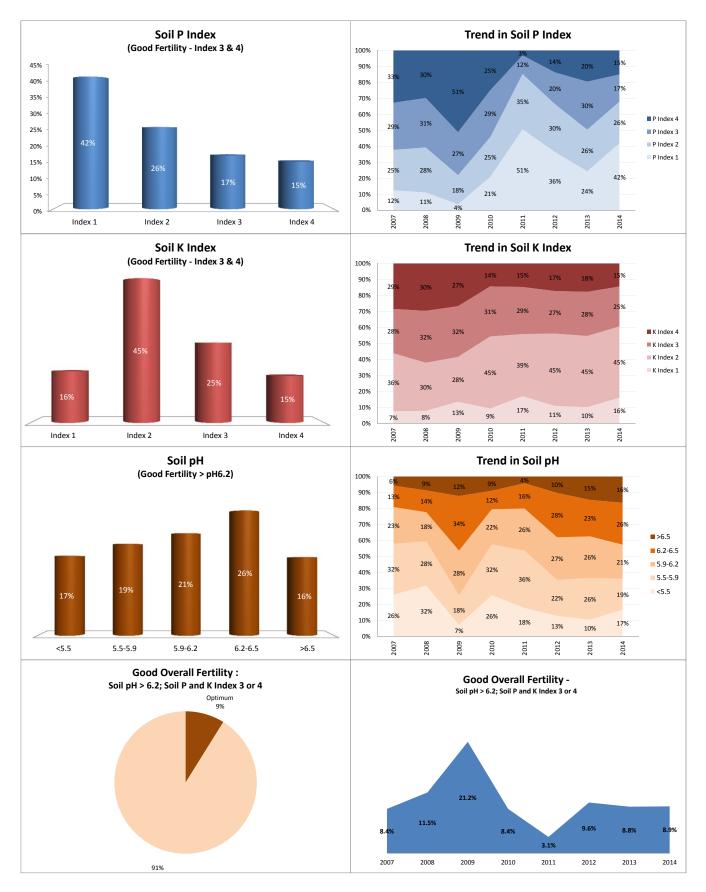


County Year Enterprise Number of Samples Waterford 2014 All Farms 627



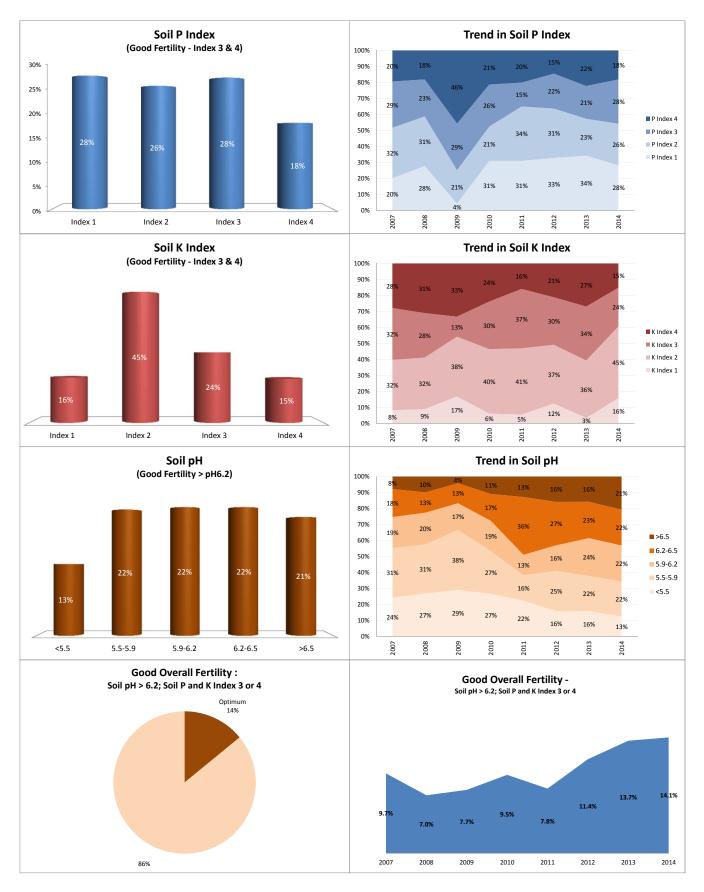


County Year Enterprise Number of Samples Waterford 2014 Dairy 358





County Year Enterprise Number of Samples Waterford 2014 Drystock 231



Westmeath Highlights

Overall

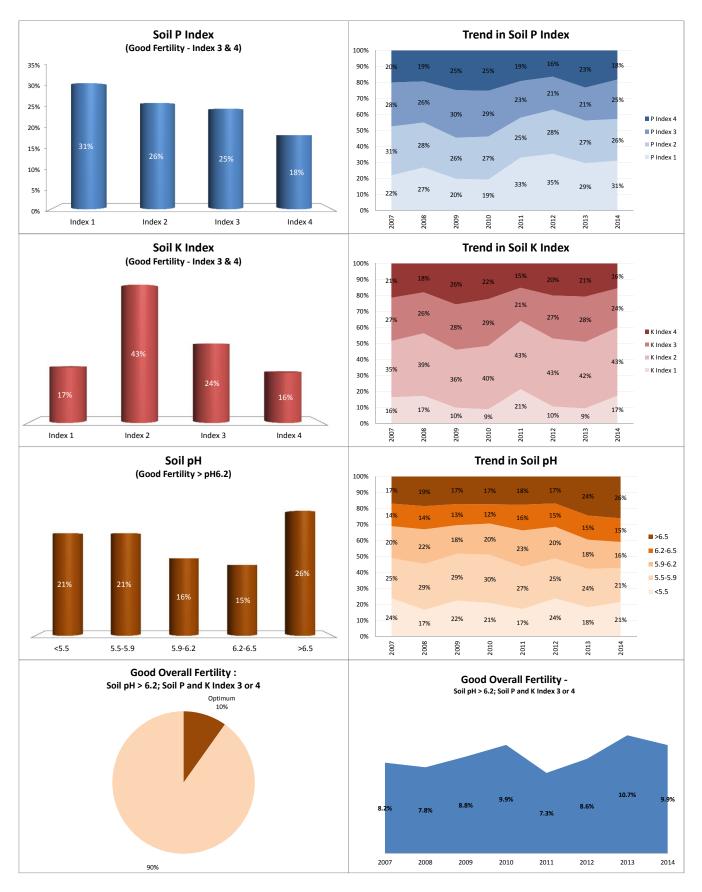
- 10% of soils tested achieved good overall fertility in 2014. Fertility levels have fallen gradually from a relatively low base.
- 41% of soils have a pH of greater than 6.2 (National 35%)
- Soil P and K fell gradually from 2009 to 2012 but have stabilized or increased slightly since then.
- 57% of samples were below optimum Soil P (Index 1 or 2).
- 60% of soils are at K index 1 or 2. K levels have increased since 2011.

Enterprise

- 13% of dairy samples achieved good overall status
- pH in dairy samples has consistently improved. 50% of dairy samples were above pH 6.2.
- 51% of dairy samples are either low or very low for P.
- 60% of dairy samples are either low or very low for K
- Only 7% of drystock samples reach Good Overall Fertility
- 65% of drystock samples are either low or very low for P. Levels have continued to fall since 2009.
- 59% of drystock are at index 1 or 2 for K.
- 32% of drystock samples were above pH 6.2.

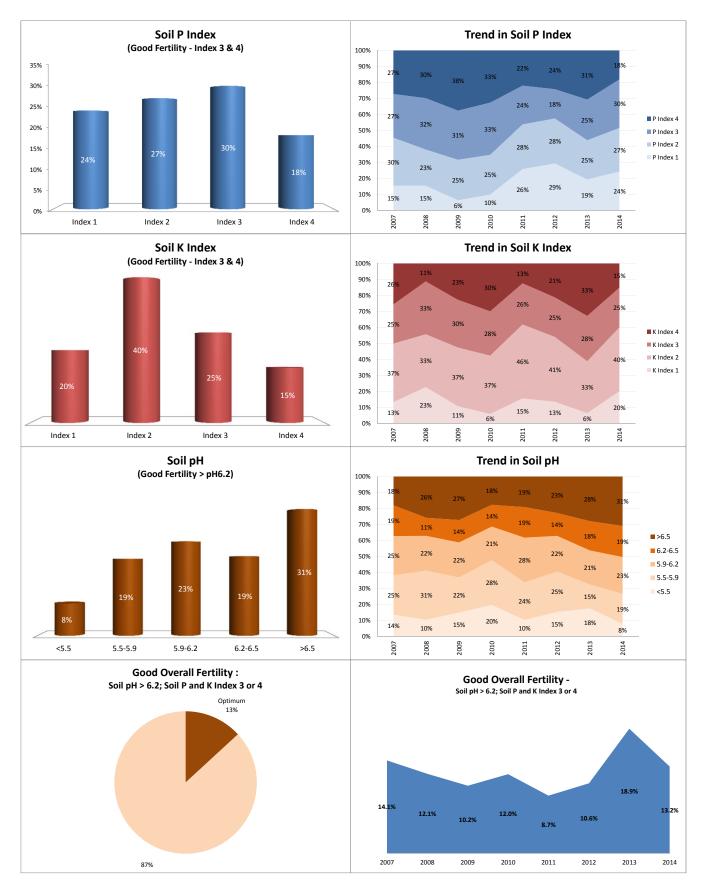


County Year Enterprise Number of Samples Westmeath 2014 All Farms 494



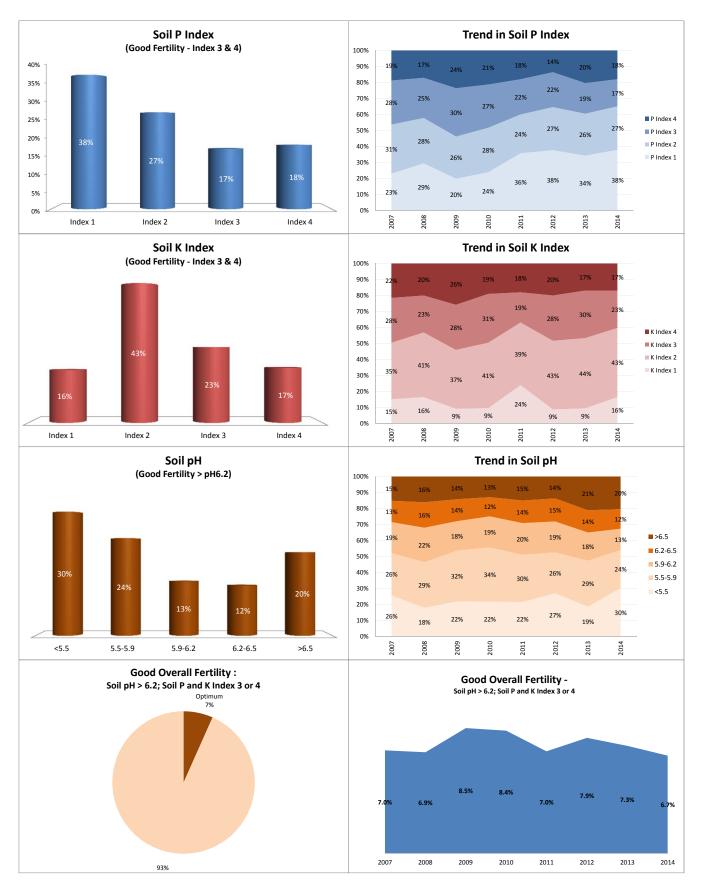


County Year Enterprise Number of Samples Westmeath
2014
Dairy
165





County Year Enterprise Number of Samples Westmeath 2014 Drystock 294



Wexford Highlights

Overall

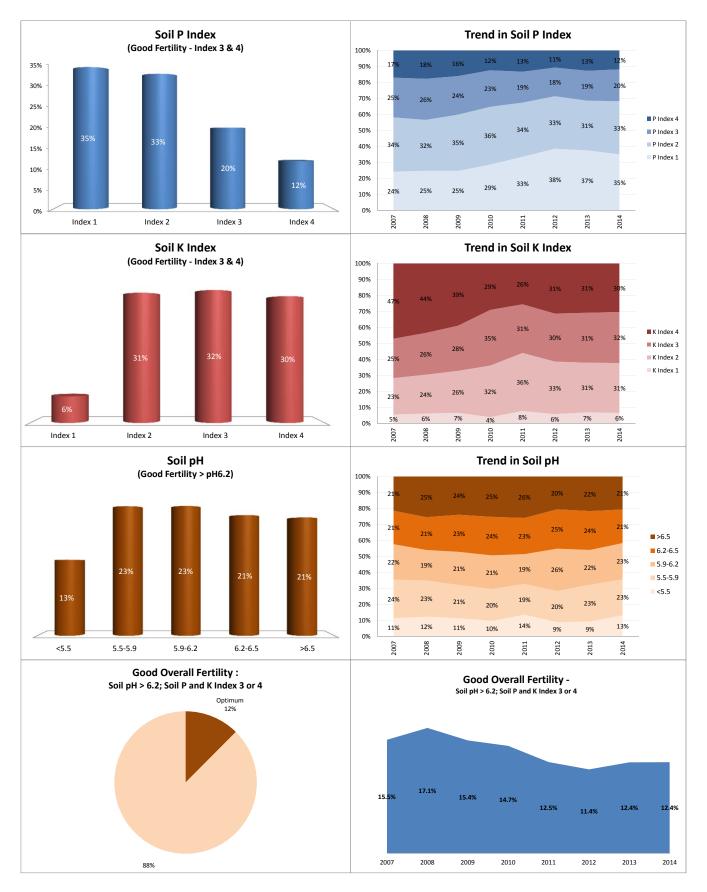
- 12% of soils tested achieved good overall fertility in 2014. This figure has been declining steadily since 2008
- 32% of soils have a pH of greater than 6.2 (National 35%).
- 70% of samples were below optimum Soil P (Index 1 or 2).
- 37% % of soils are at Very Low P levels (Index 1)
- Soil P levels in samples declined between 2008 and 2011 and have remained fairly stable since then.
- 40% of soils are at K index 1 or 2.

Enterprise

- 14% of dairy samples achieved good overall status
- 42% of dairy samples have a pH of greater than 6.2
- 70% of dairy samples are either low or very low for P.
- 40% of dairy samples are either low or very low for K
- 14% of drystock Samples reach Good Overall Fertility
- 66% of drystock samples are either low or very low for P. This has been quite stable since 2007.
- 37 % of drystock are at index 1 or 2 for K.
- 42% of drystock sampled were above pH 6.2.
- P levels in Tillage samples have been declined gradually since 2007 with 68% of samples at either low or very low status.
- K level in tillage samples have improved gradually having fallen between 2008 and 2011. 66% currently at index 3 or 4.
- 54% of tillage samples have a pH > 6.2

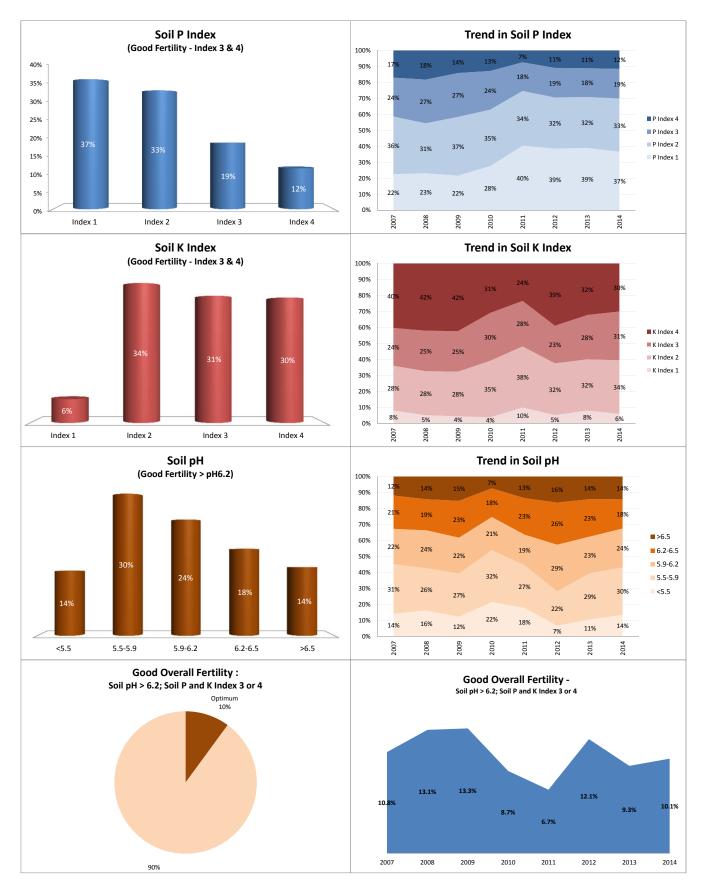


County Year Enterprise Number of Samples Wexford 2014 All Farms 2,931



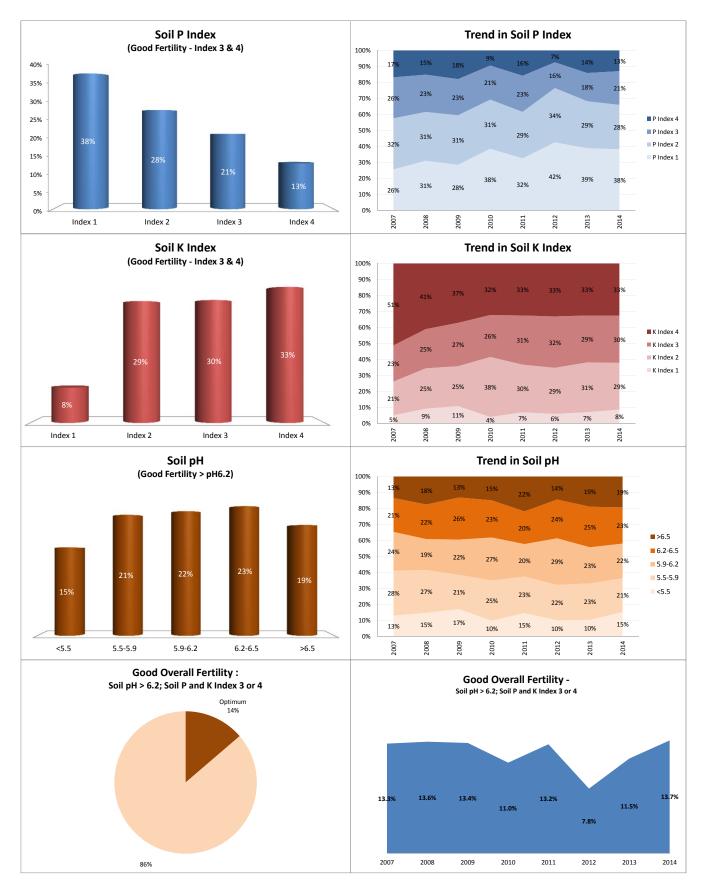


County Year Enterprise Number of Samples Wexford 2014 Dairy 1,241



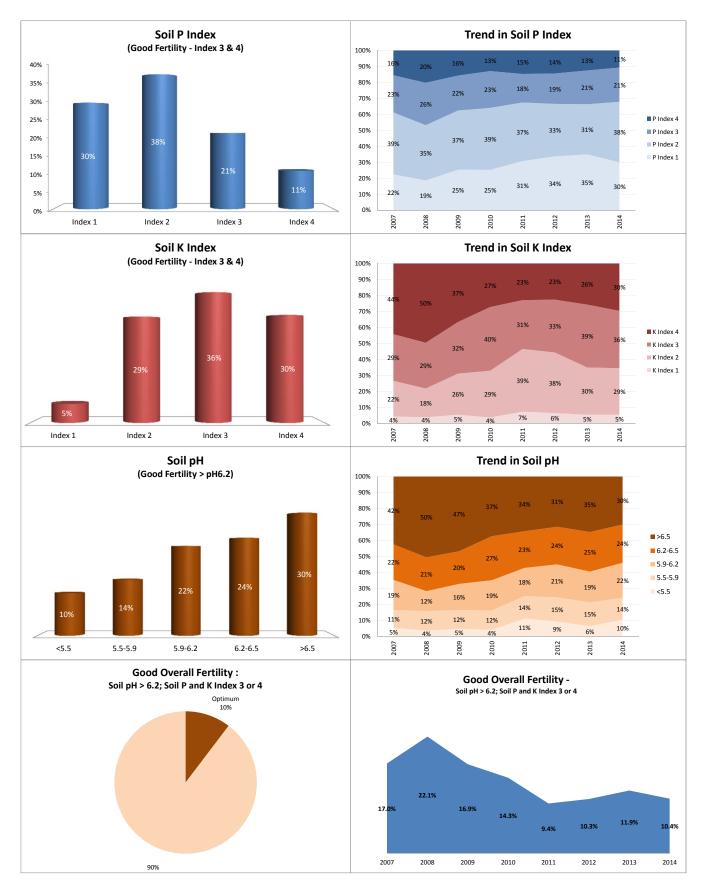


County Year Enterprise Number of Samples Wexford 2014 Drystock 790





County Year Enterprise Number of Samples Wexford 2014 Tillage 863



Wicklow Highlights

Overall

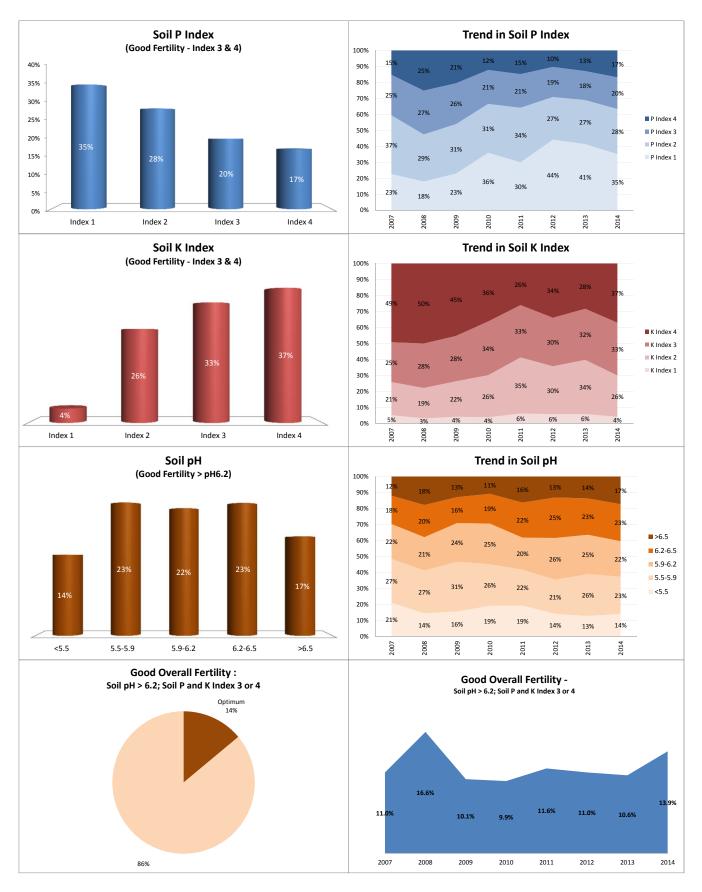
- 14% of soils tested achieved good overall fertility in 2014.
- 40% of soils have a pH of greater than 6.2 (National 35%)
- Soil P and K have fallen steadily between 2008 and 2012 but seem to have stabilised or improved slightly in 2013 and 2014
- 63% of samples were below optimum Soil P (Index 1 or 2).
- 35% of soils are at Very Low P levels (Index 1) in (18% in 2008).
- 70% of soils are at K index 3 or 4.

Enterprise

- 17% of dairy samples achieved good overall status
- 58% of dairy samples are either low or very low for P. There has been a very sharp decline in Soil P levels. This seems to have stopped in 2014
- 72% of dairy samples are at K index 3 or 4
- 12% of drystock samples reach Good Overall Fertility
- 74% of drystock samples are either low or very low for P. Levels dropped between 2008 and 2012 but have since stabilised.
- Only 28 % of drystock are at index 1 or 2 for K.
- 42% and 39% of dairy and drystock sampled were above pH 6.2.
- Only 7%% of Tillage samples reach Good Overall Fertility
- P levels in tillage samples fell gradually from a low base between 2008 and 2013 but have stabilised.
- K level in tillage samples declined between 2009 and 2011 but have stabilised. 58% are currently at index 3 or 4.
- 45% of tillage samples have a pH > 6.2

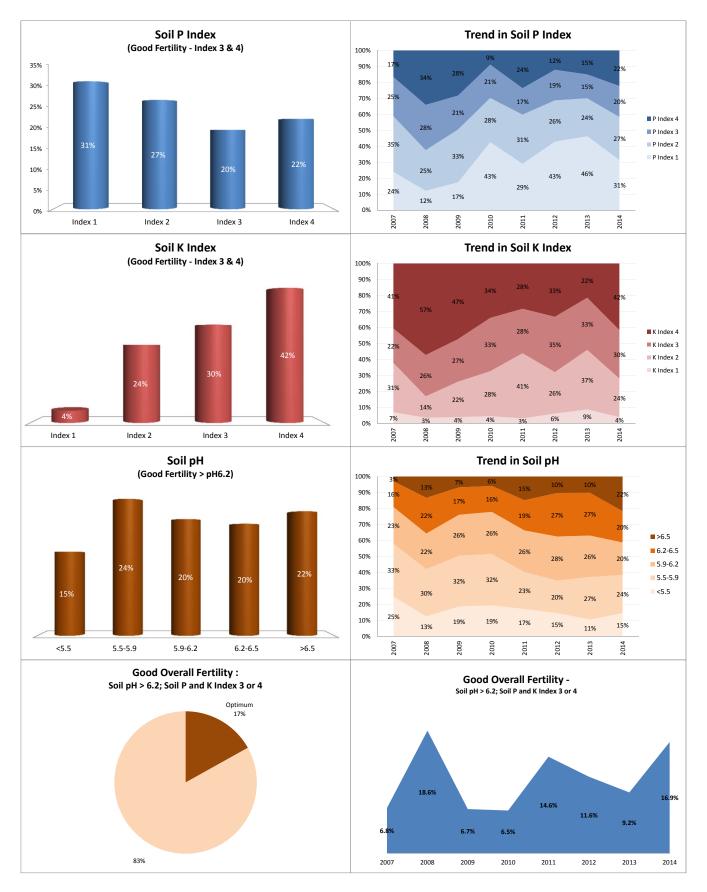


County Year Enterprise Number of Samples Wicklow 2014 All Farms 1,322



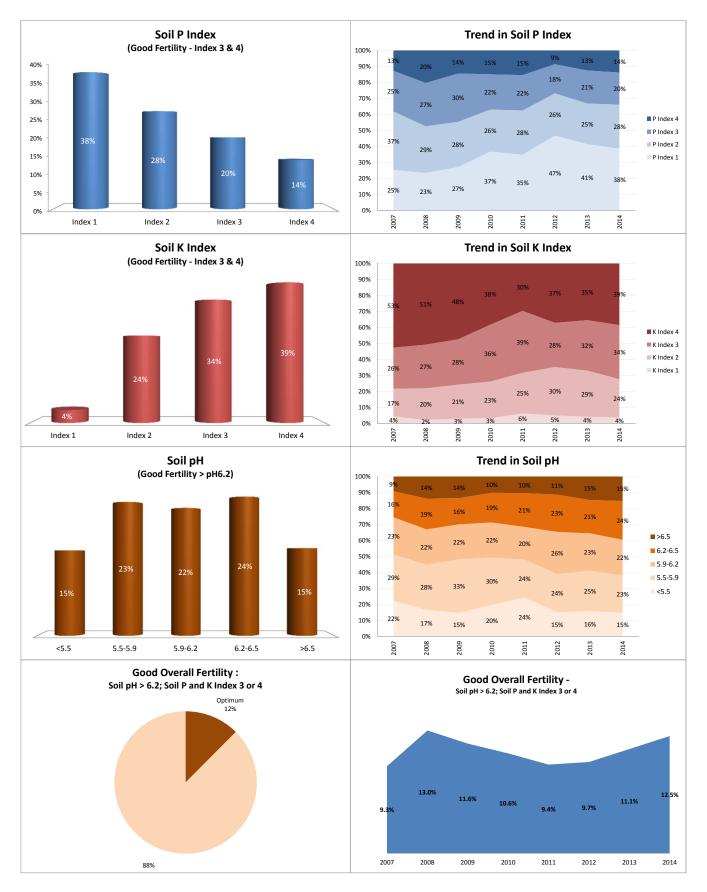


County Year Enterprise Number of Samples Wicklow 2014 Dairy 369





County Year Enterprise Number of Samples Wicklow 2014 Drystock 759





County Year Enterprise Number of Samples Wicklow 2014 Tillage 157

