

A photograph of a prune orchard. The trees are in full bloom, with many white flowers visible. The ground is covered in green grass and some dry leaves. The sky is blue with a few white clouds. The text is overlaid on the image.

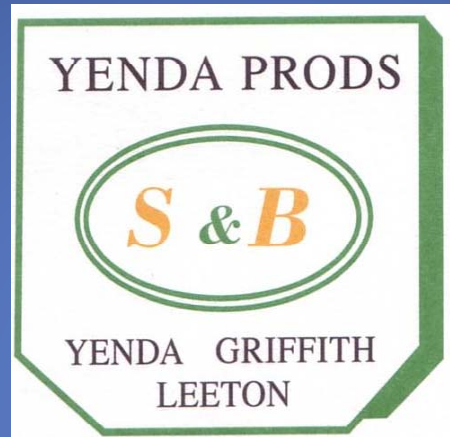
Prune Nutrition 2010

- Leaf Testing Results 2009/10;
- Comparisons between Farms & Samples;
- Post harvest Fertiliser Program;
- Spring Fertiliser Program.

Thanks

- Yenda Producers Co-op Ltd – Ann, Geoff Miller & Geoff Bray;
- MIA Prune Growers Association;
- Anne Mooney – Prune Development Officer;
- Prune Growers.

Leaf Testing 2010

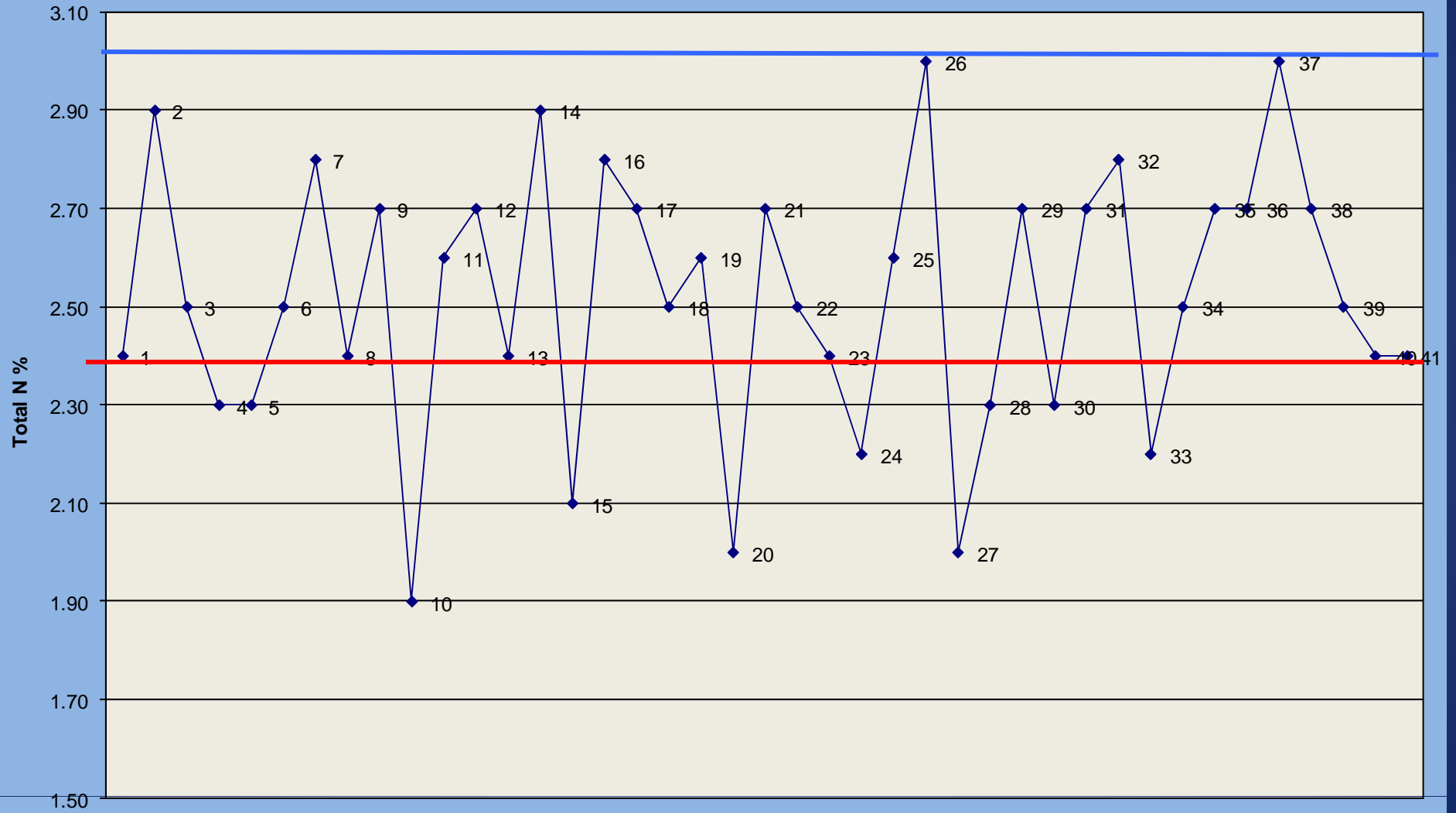


- 41 samples taken from 20 growers;
- Griffith, Yenda, Hanwood, Darlington Point & Coleambally;
- Different varieties, irrigation and soil types;

RESULTS

- Samples either taken by YPC Staff or the growers;
- Samples sent to Incitec Pivot Lab in Geelong in 3 lots, end Jan early Feb 2010;
- Each sample given a number a plotted on a graph to show range of results for each sample / grower.

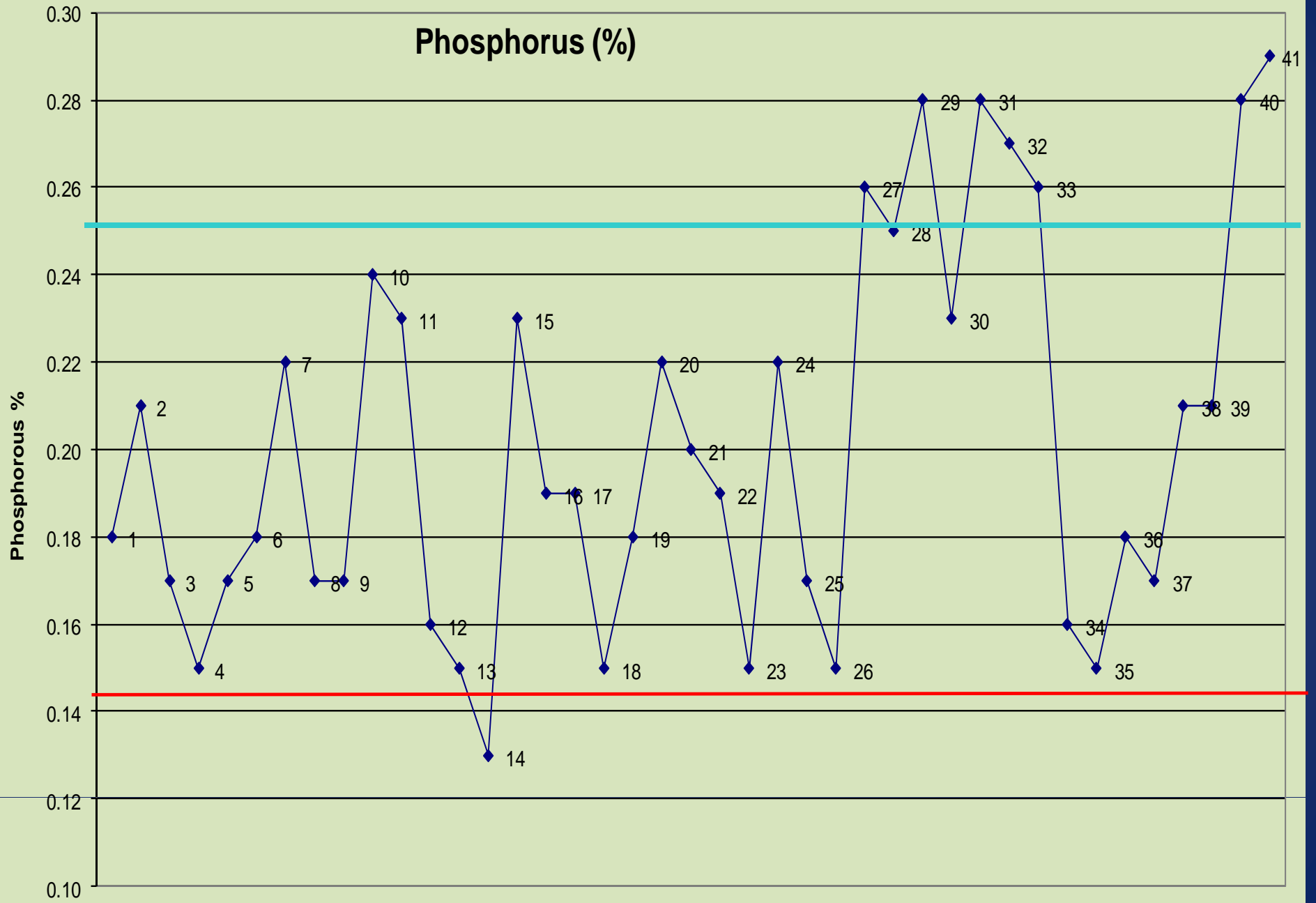
Nitrogen (%)



Nitrogen Results

- 24% of samples were below the minimum of 2.4 % (10 samples);
- The 2 samples with high N had late nitrogen applied;
- The LOW N crops all had large fruit numbers and a higher % of small fruit at harvest.
- Summer applications of N more likely to cause soft fruit & more splitting.

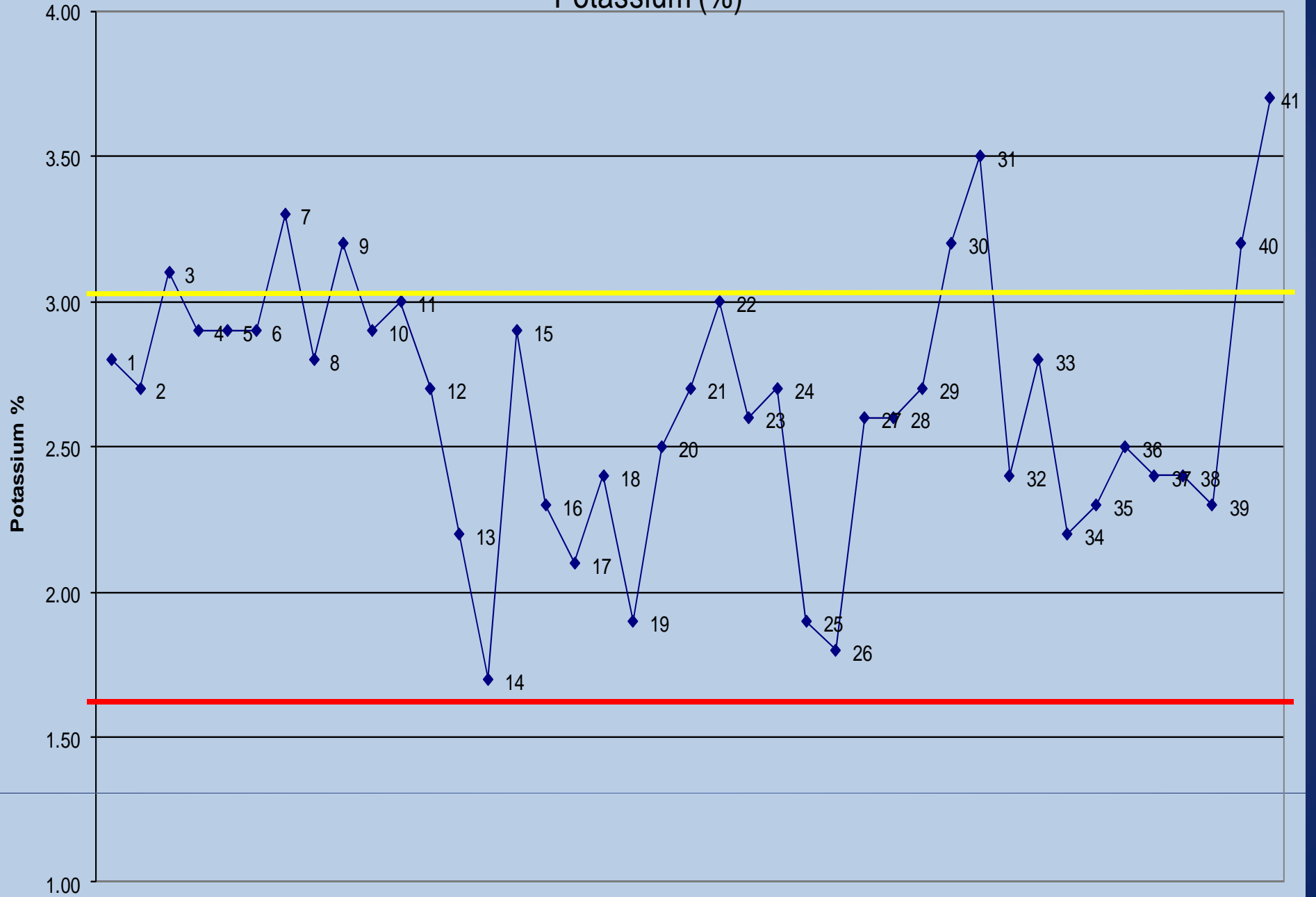
Phosphorus (%)



Phosphorus Results

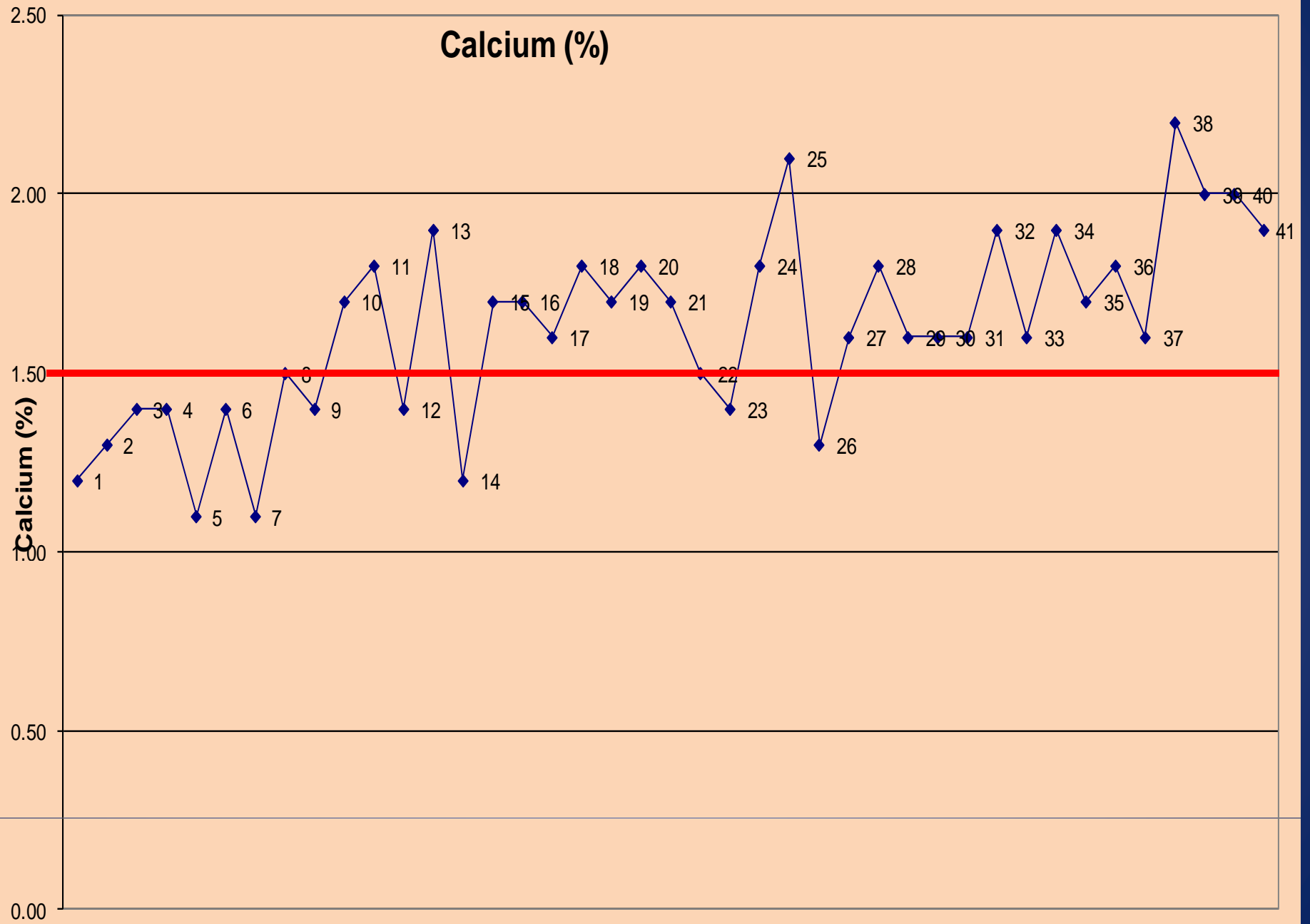
- 1 sample was below the minimum of 0.14 % and this was a block of old prunes that had just converted to Drip Irrigation and had a history of Low P;
- Samples 4, 14, 18, 25, 34 & 35 were all D'Argen variety;
- The 3 samples with high P had recent applications of P fertiliser.

Potassium (%)



Potassium Results

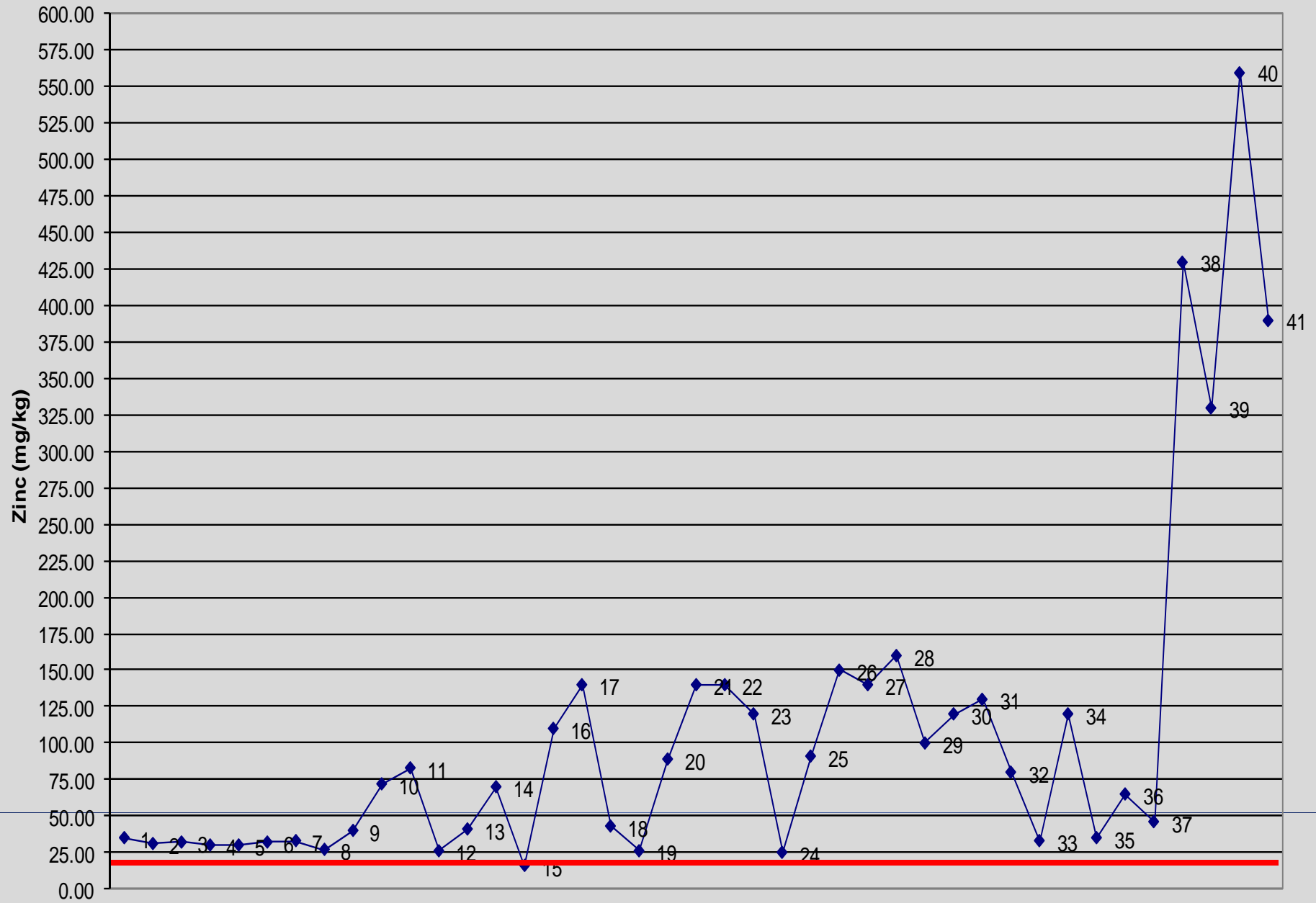
- No samples had below minimum level of K;
- 17% of samples had higher K but only 1 sample had K applied as fertigation but no response in the leaf;
- Debatable if there is any positive response to K in this region.



Calcium Results

- 29% of samples had below minimum Ca level of 1.5%;
- Some of these had Ca applied as Calcium Nitrate but a with low soil Ca or old trees;
- No samples with excessive Ca;
- Some Ca applied via irrigation water.

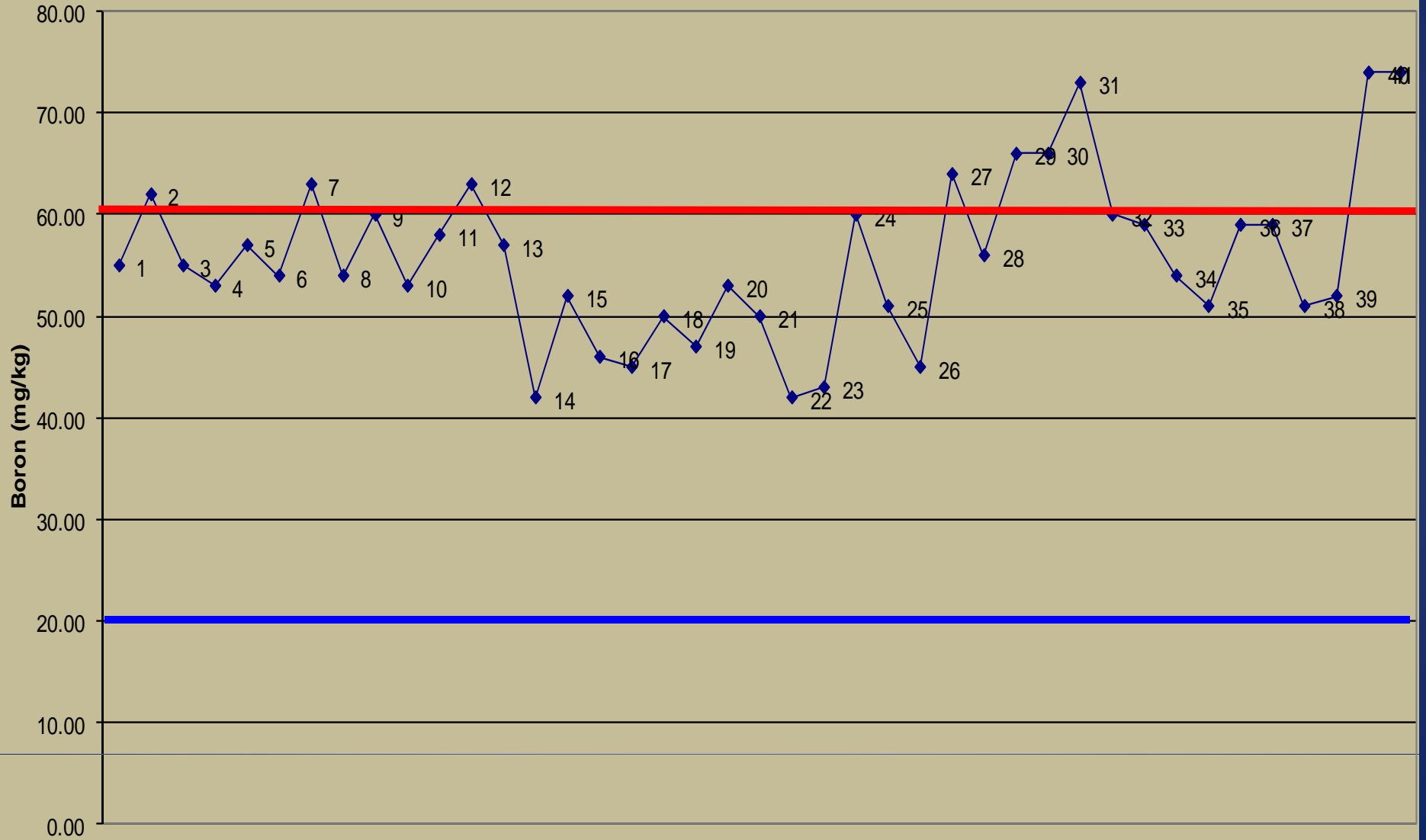
Zinc (mg/kg)



Zinc Results

- Only 1 sample had below min. level of 20 mg/kg, this crop had no Zn applied;
- Some Zinc taken up from Zineb fungicide;
- Some Zinc applied as foliar fertiliser;
- Most MIA soils are very low to deficient in Zinc.

Boron (mg/kg)



Boron Results

- No samples below minimum;
- 22% of samples exceeded the suggested max. level of 60 mg/kg.
- These were from – naturally high Bo soil levels or;
- From Tile Drained blocks where the tile drainage has been turned off & no flushing irrigations for some years.

Other Elements

- Sulfur, Magnesium, Manganese, Iron & Copper – all samples were in the adequate range. No deficient or excess levels;
- No samples showed high Sodium / Chloride levels. Indicates good irrigation management;
- 1 sample had higher Chloride – old trees on flood irrigation.

Summary

- Nitrogen and Calcium low in a significant number of samples;
- Phosphorus generally OK despite naturally low soil levels;
- Potassium, Magnesium and Trace Elements mostly OK;
- Zinc very poor in soil but most growers take action.

Fertiliser Programs

- *1. Autumn – Post Harvest*
- Nitrogen is most important, especially after a stressful season (for the trees !).
- Apply to $1/3$ to $1/2$ of total season's Nitrogen as post harvest, but not too early to cause reshooting / re-flowering.
- Annual application of 100 – 120 kg N/ha/year for fully bearing trees.

Fertiliser Programs

- *1. Autumn – Post Harvest cont.*
- Phosphorus can also be applied postharvest – solid fertiliser or via fertigation.
- Calcium can be applied as Gypsum or Lime (lime, only if low pH soil) – spread and worked in over autumn / winter.

Fertiliser Programs

- *2. Spring – Post Fruit Set*
- Nitrogen is applied from fruit set to around pit hardening, amount depends on crop load;
- Can be applied by side-dressing, spreading or fertigation;
- Best applied in regular smaller amounts;
- Calcium Nitrate (solid or liquid) is best form closer to pit hardening as the N will carry the Ca into the fruit.

Fertiliser Programs

- *2. Spring – Post Fruit Set cont.*
- Zinc and other Trace elements can be applied in early spring as a foliar spray (may be mixed with some fungicides);
- Copper, Manganese, Iron & Boron generally not needed unless testing low;
- Small amounts of N:P:K can be applied by foliar spray;
- K is probably best applied foliar at or after pit hardening.

Fertiliser Summary

- Important to apply Nitrogen in Autumn & Spring (early);
- Avoid summer applications of Nitrogen;
- Phosphorus usually applied at planting and then once every 5 or so years;
- Apply some Calcium by ground applied or foliar;
- Zinc and other Trace elements can be applied in early spring as a foliar spray Copper, Manganese, Iron & Boron generally not needed unless testing low.



104 year old prune tree in Argentina