10th WORLD AVOCADO CONGRESS

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Optimum leaf sample size for nutritional diagnosis of subtropical rainfed Hass orchards

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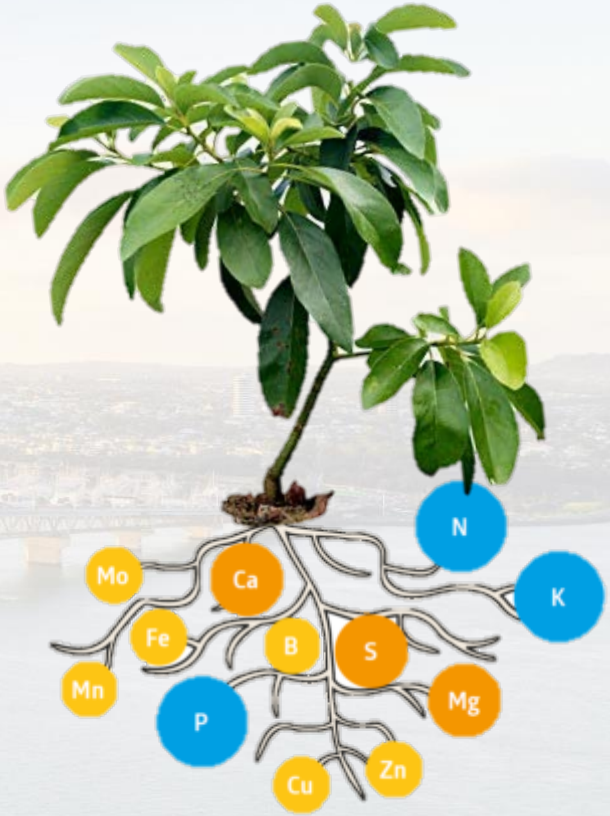
Introduction

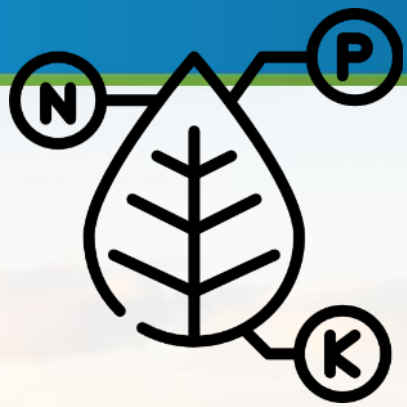
- Brazil is the 7th largest grower of avocados in the world
- The increase in global demand for avocados is now boosting the fruit in Brazil

Introduction

- The nutritional management is one of the main strategies to improve yield of the crop in Brazil
- Performing an accurate diagnosis is the most critical stage for efficient nutritional management
  - Soil analysis
  - Leaf analysis



Introduction



- A crucial step in a good foliar analysis: <u>the sampling</u>

Represent the area

Provide reliable results

Be viable

Statistical analysis

Number of leaves and trees to be sampled

Material and methods

- Determine the ideal leaf sample size for nutritional diagnosis of the avocado ‘Hass’.

30x

4

Middle third canopy

Non-fruiting summer branch

4 different sides of the tree

Sent to a laboratory for analysis

Material and methods

Estimate the parameters of an infinite population to a desired level of precision

THOMPSON (1992)

$$n = \frac{(t^2 . s^2)}{(d^2 . m^2)}$$

Student's distribution at 5%;

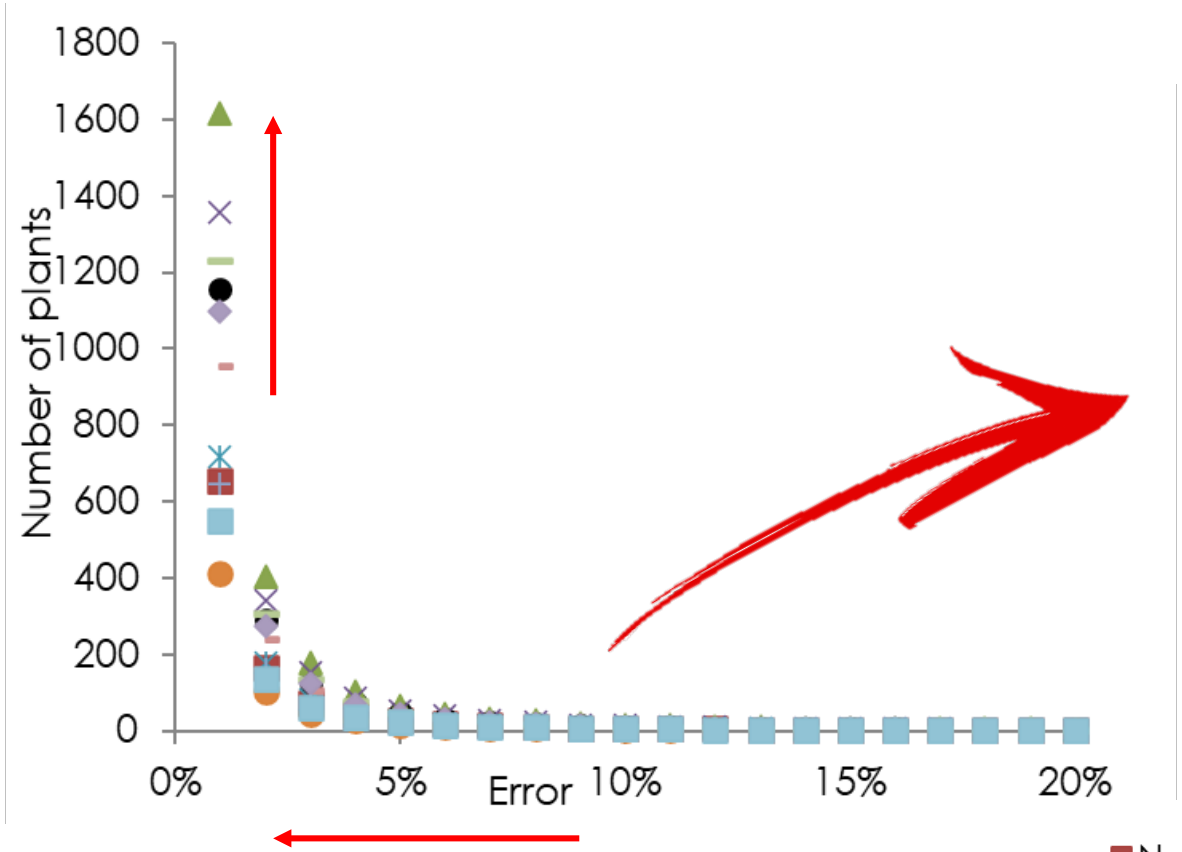
Variance;

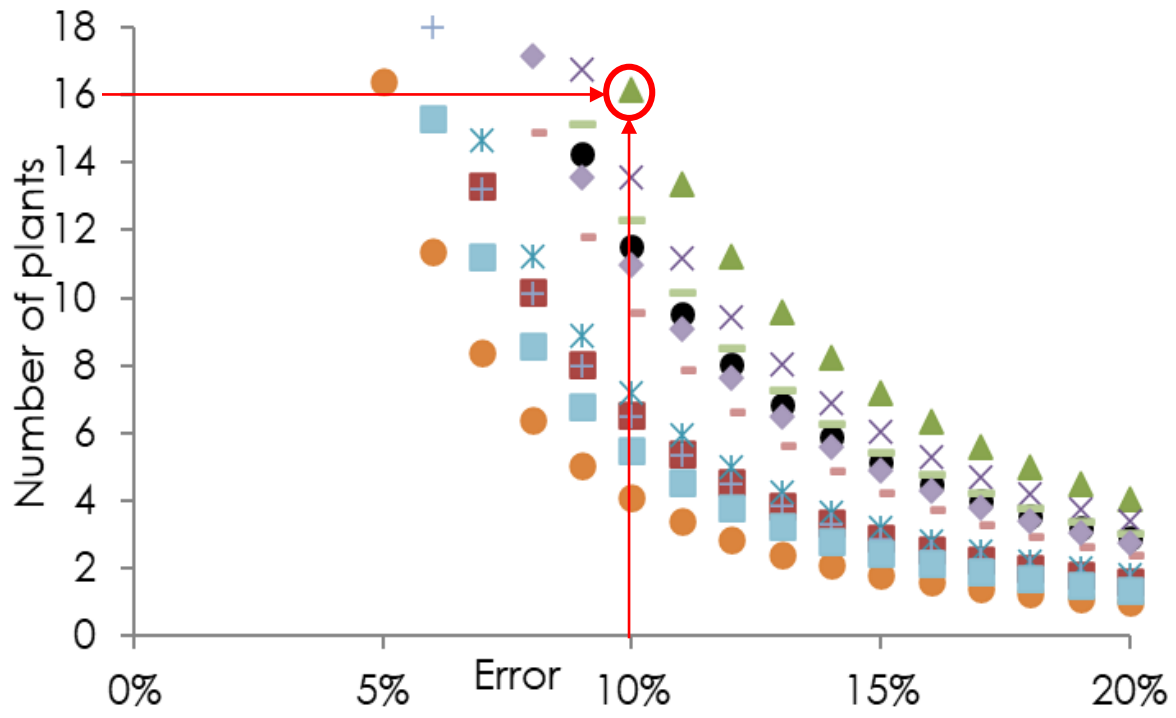
Sample mean

Error

Error ranged from 1 to 20%

Results and discussion



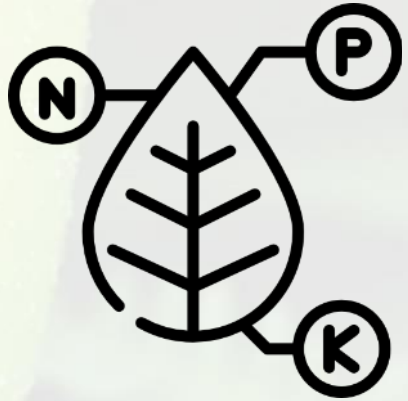


N
P
K
Ca
Mg
S
B
Cu
Fe
Mn
Zn

Conclusions

- The calculated ideal leaf sample size, for macro and micronutrients, is 4 diagnostic leaves per plant, from 16 plants (assuming 10% error)

- The nutrient with the greatest variability was K



Questions

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