Aerial Approach to Inventory Management for Container and Field Nursery Production

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Ground view

85 meters/279 ft
35 meters/115 ft
60 meters/197 ft
85 meters/279 ft
Tree Counting

Step One: Original image

Step Two: Image with training set
Tree Counting

Step Three: Supervised training settings

Step Four: Run supervised learning
Tree Counting

Step Five: Supervised learning results

Step Six: Learning results converted to points
Tree Counting

Step Seven: Number of counted points
Tree Counting Nursery

Nursery trees  Black pots
Tree Counting

Larger block area with count

Count for larger area
Tree Counting

Count runs together only gives one count when it should be two.

The trees on the image run together which is the reason for wrong count.
Tree Counting

Barberry 35 Meters

Barberry after training: The results are not good. Most of the Barberry are not identified.
Tree Counting

The branches are intertwined so the results show that they all run together instead of counting individual plants.
Oil Palm Plantation (Malaysia)

NDVI-Image

Tree Counting
Diameter Estimation
Tree Counting

Xmas Tree Sheared 60M Count 127

Xmas Tree Sheared 60M Count 125
Summary

• New low-cost flying platform has a lot of potential applications in agriculture and horticulture crops
  • Small farms
• More research is needed
  • Develop tools and techniques
• Rules and regulations are not clear
• Lots of excitement among growers
• More to come
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Questions?

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