Crucial indicators of diagnosed tree diseases were

- Pinus and Eucaluptus genera
- Nursery or field origin
- Description: discoloured or wilted
- Regions: Kwazulu Natal and Mpumalanga

FABI Integrated Plant Disease Diagnostic Clinic databases for advanced diagnostic services.

INTRO

This project deals with understanding pests and diseases amongst trees, how these change over time and how they are distributed geographically.

METHODS

1. Data collected from 1994 to 2018 (N=15084)
2. Geocoding done using Map Cite (Excel Add-ins) and Google API in R
3. Text Analysis of sample descriptions
4. Predictions done using Decision Trees, Random Forests and Linear Discriminant Analysis
5. Cross validation of models on test data

RESULTS

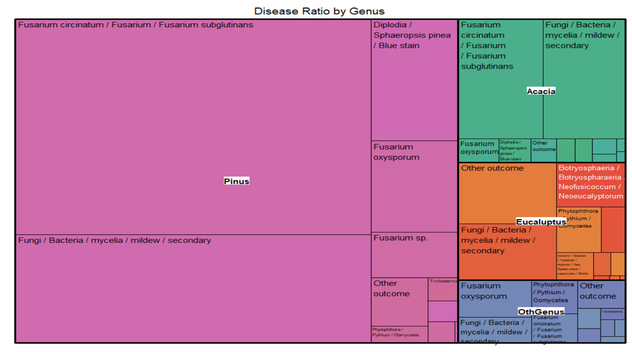
	Accuracy		Kappa	
Method	**Standard**	**Smote**	**Standard**	**Smote**
DT	0.65	0.57	0.48	0.44
RF	0.66	0.58	0.49	0.45

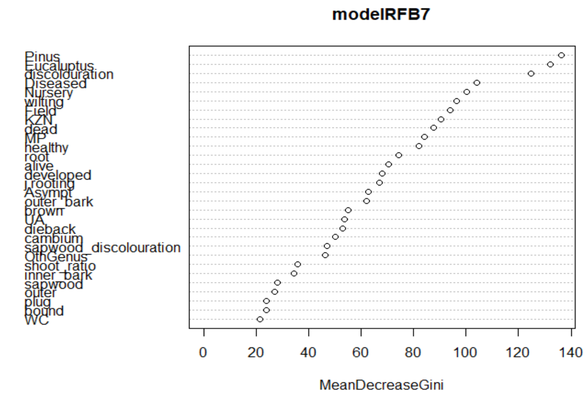
DISCUSSION

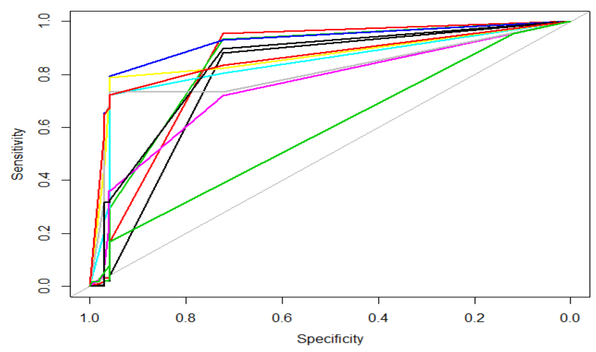
- ROC curve highlights classification for certain categories better than others
- Samples from **Kwazulu Natal** are more diseased than those from Mpumalanga and **Western Cape**
- Fusarium circinatum / Fusarium / Fusarium subglutinans represents 45% of all outcomes
- Lesser frequently diagnosed diseases is almost twice as large amongst Eucalyptus than amongst Pinus

Corne Bodenstein, Yolande Ngadoum

AMMO BAR







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