



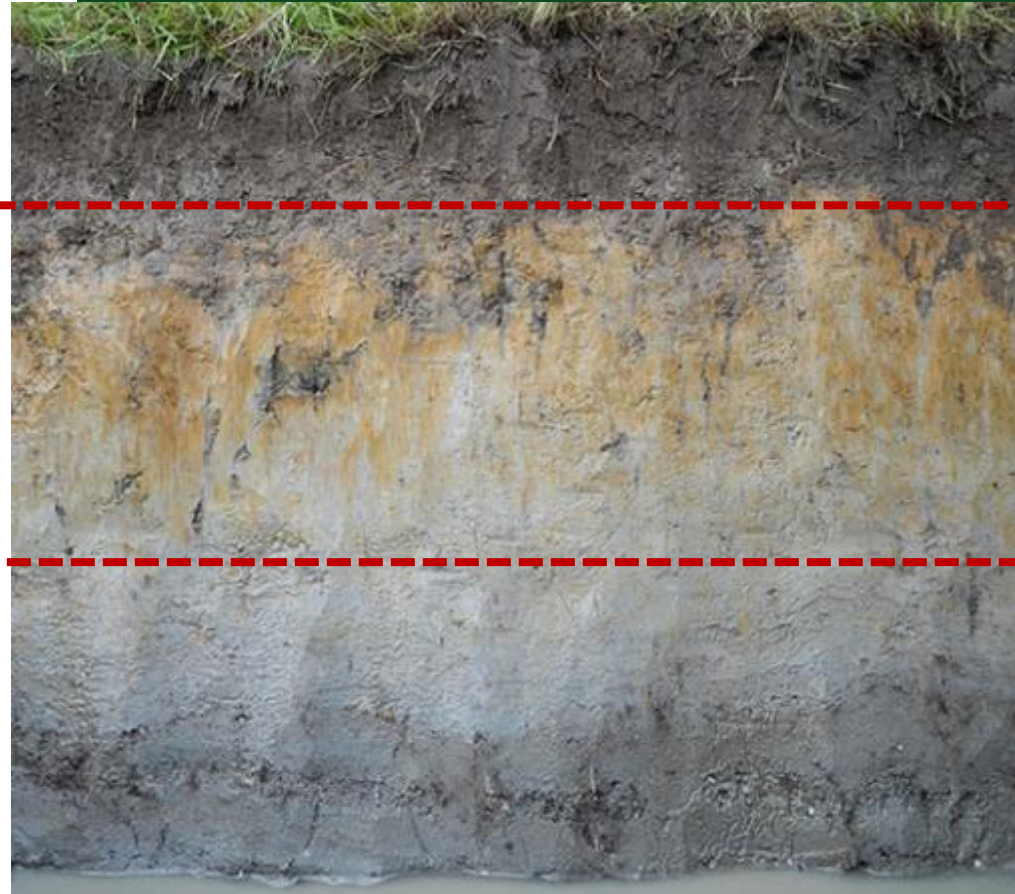
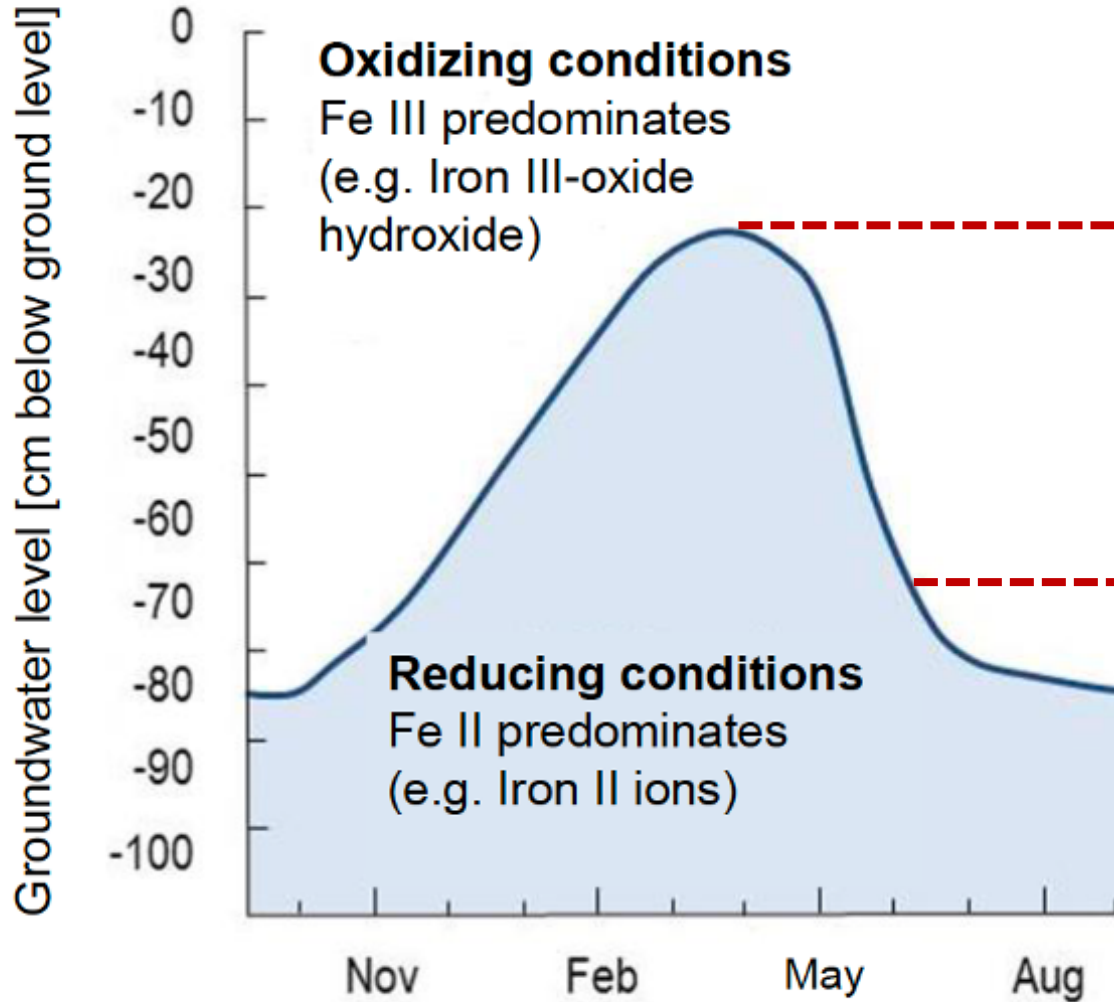
Technovation

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Discussing the relationship between soil physical properties and the yield potential of avocado: commercial results from four continents

Marnus Ferreira

DEGREE OF SOIL SATURATION



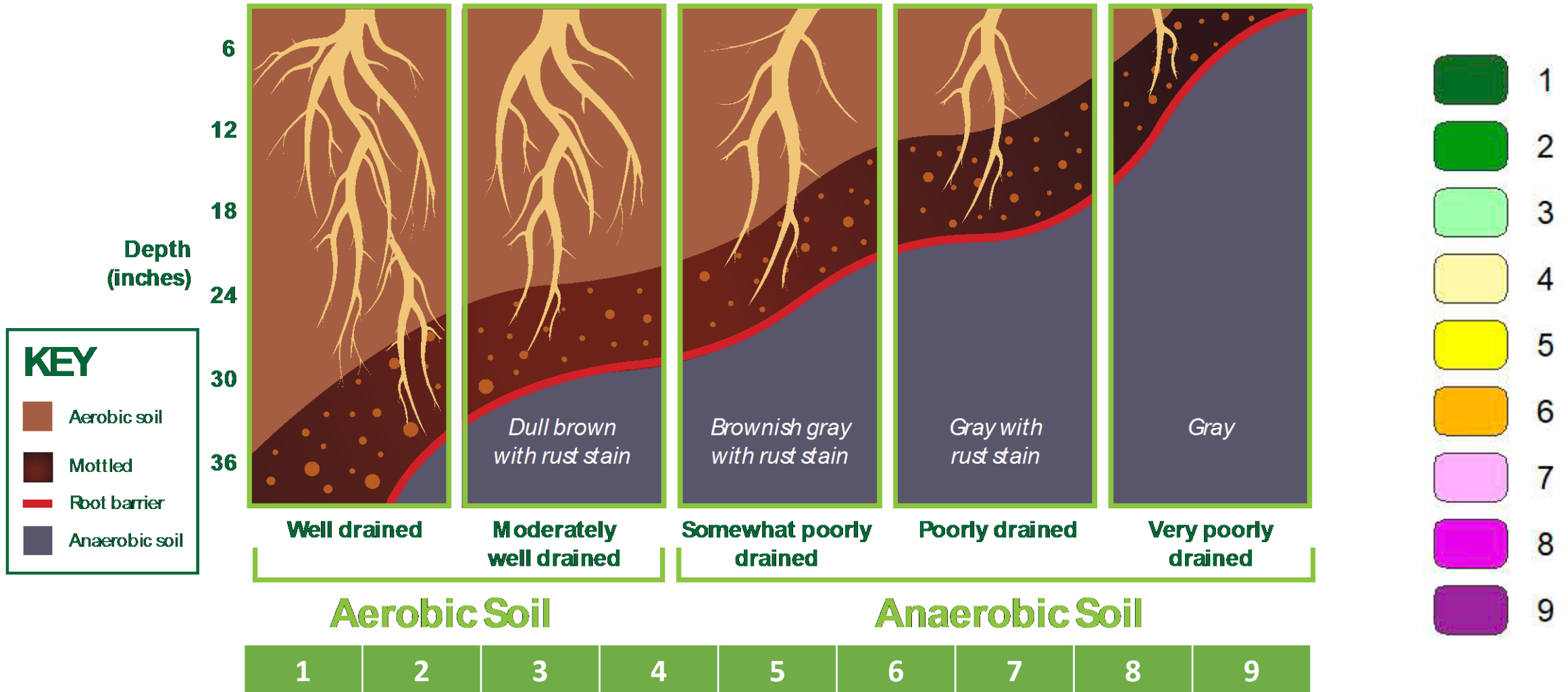
Modified from Bubaum

DEGREE OF SOIL SATURATION - IMPACT ON ROOTS



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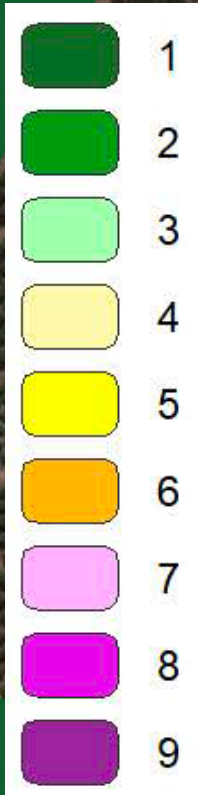
RELATIONSHIP BETWEEN SOIL SATURATION AND TREE HEALTH



EARLY INDICATORS – EARLY INTERVENTION OPPORTUNITY



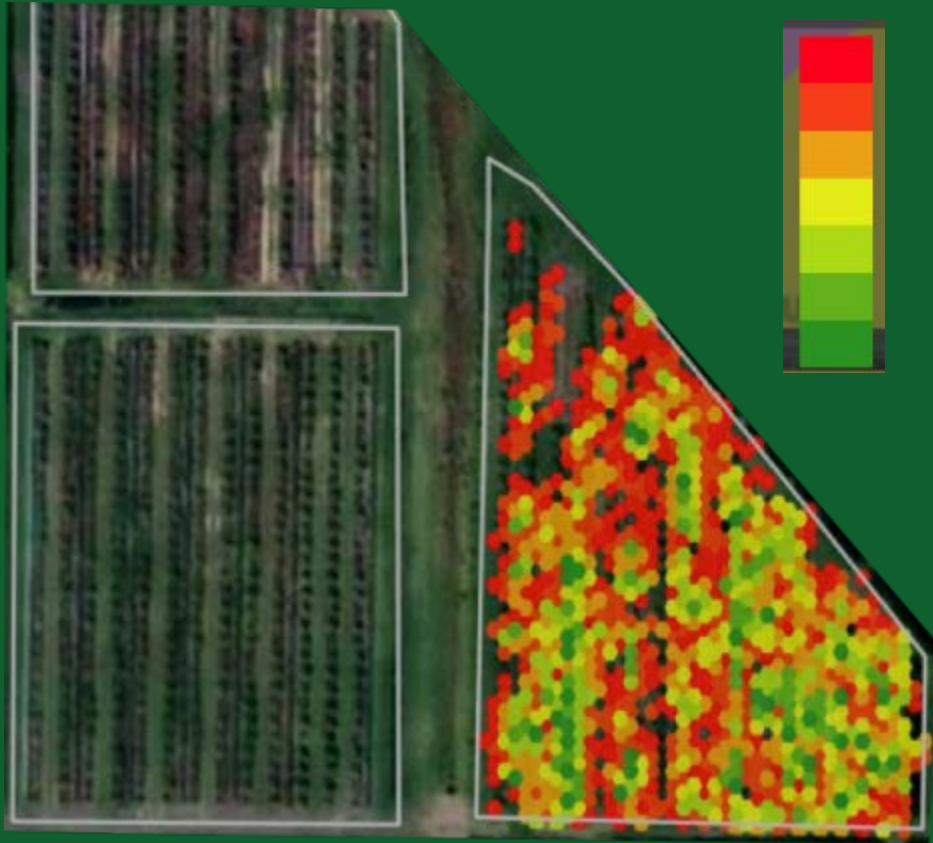
UNDERLYING STRESS DUE TO UNFAVOURABLE SOIL CONDITIONS – CA, USA



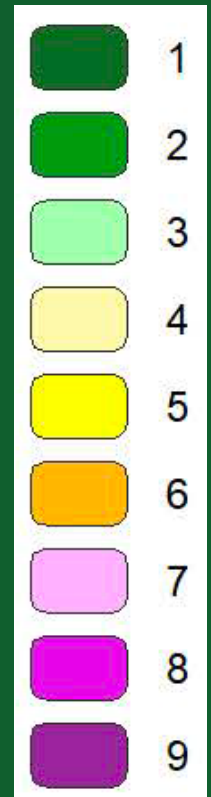
- California, USA
 - 10+ year old
 - Underlying stress due to soil salinity
 - 2018
- Strong winds for
...n and fruit
...mediately
...tic event
...ntly in
... underlying

Free Trial
Created by Paint S

YIELD RESPONSE TO SOIL SATURATION – NZ



SATURATED
SOILS



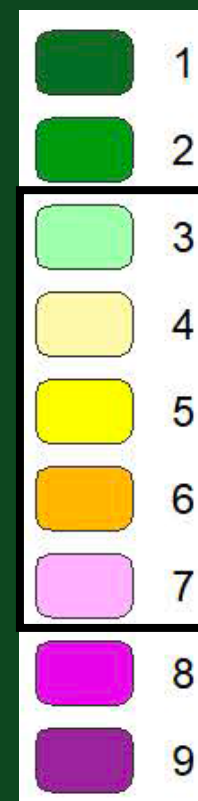
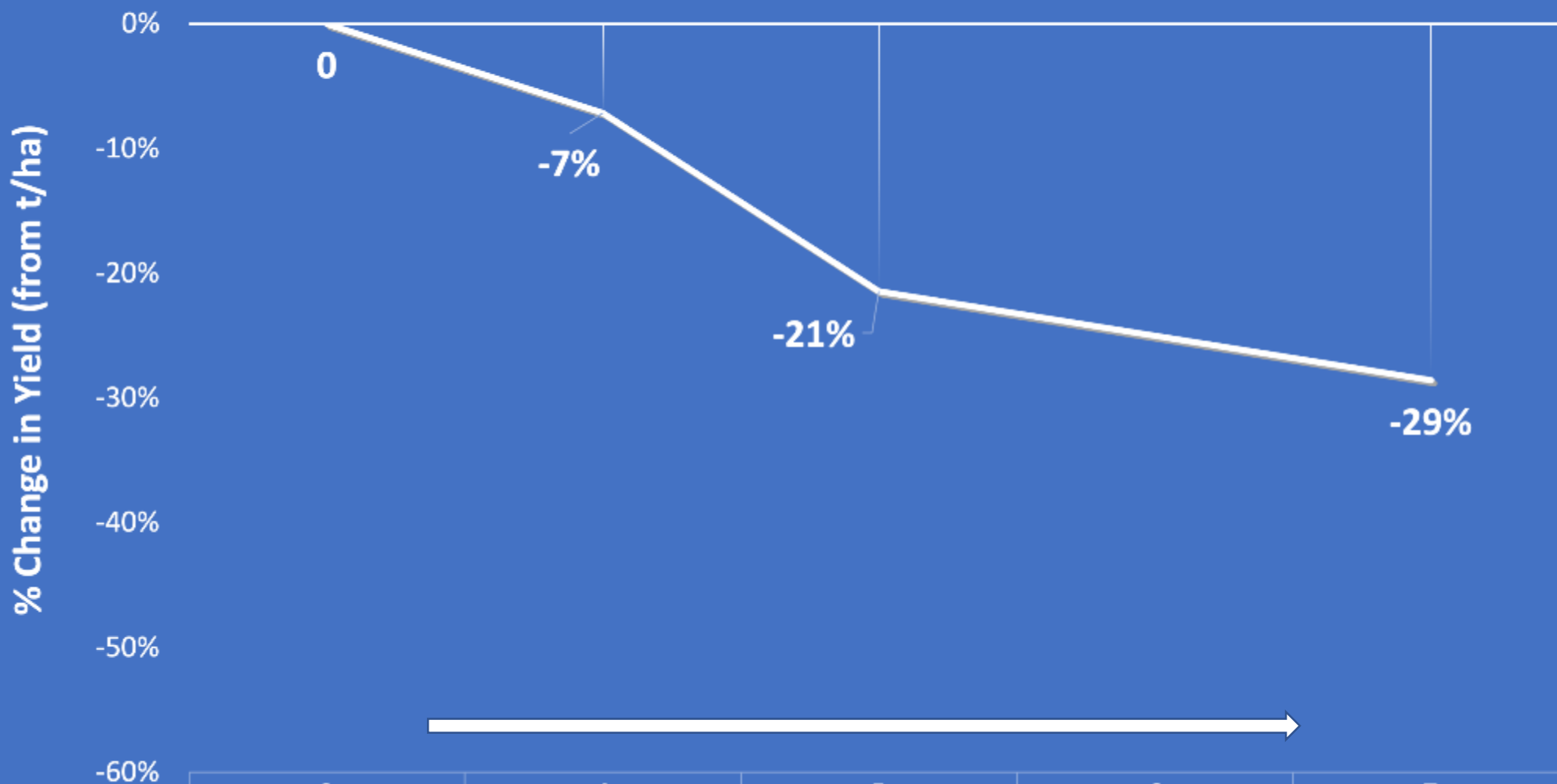
RELATIONSHIP BETWEEN SOIL SATURATION AND YIELD



NZ orchard

— Mean Yield

Increasing levels of saturation 



— Mean Yield

3

4

5

6

7

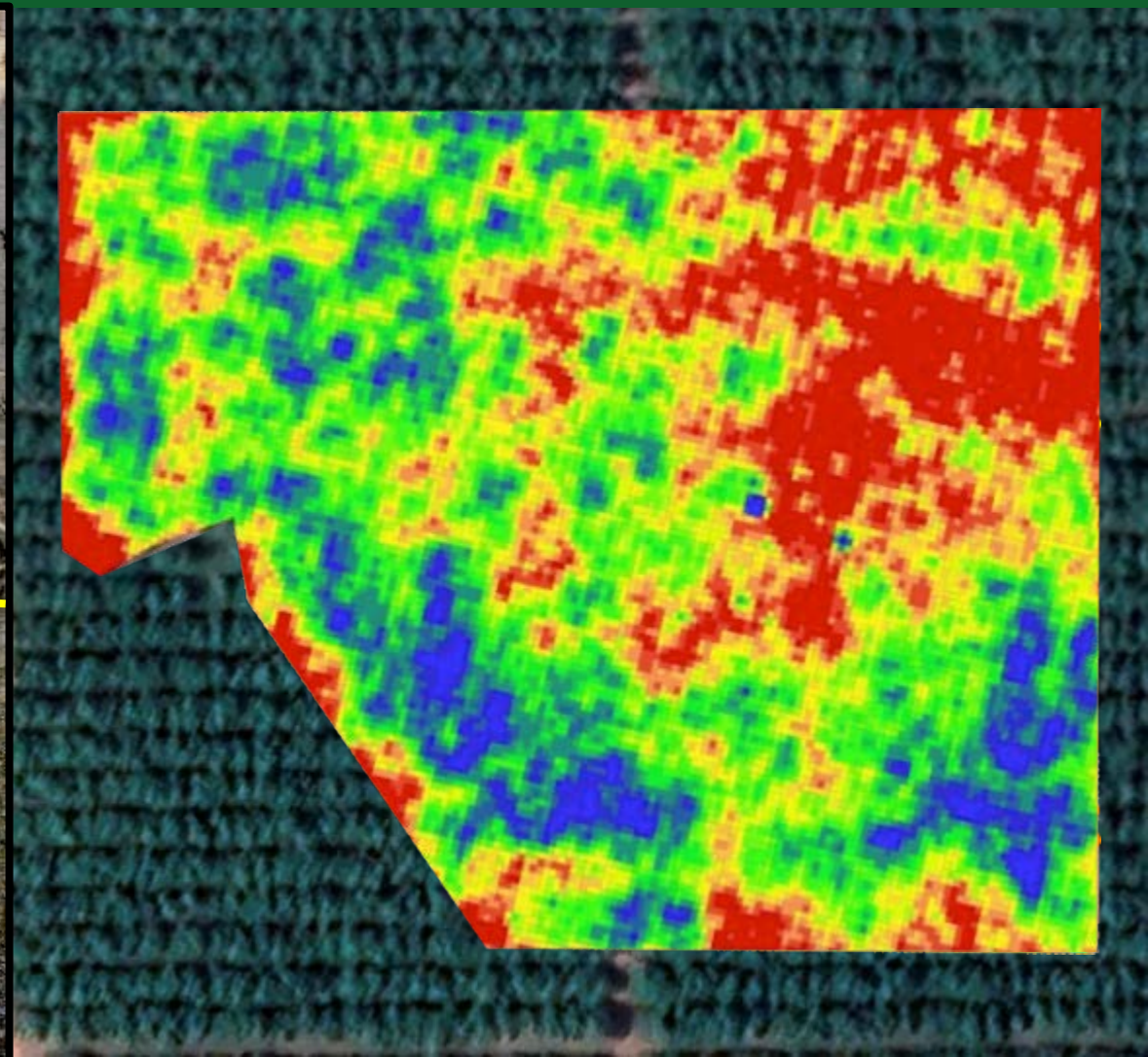
0

-7%

-21%

-29%

RELATIONSHIP BETWEEN SOIL DEPTH LIMITATIONS AND YIELD - RSA



INTERVENTIONS

2 TAKE AWAYS

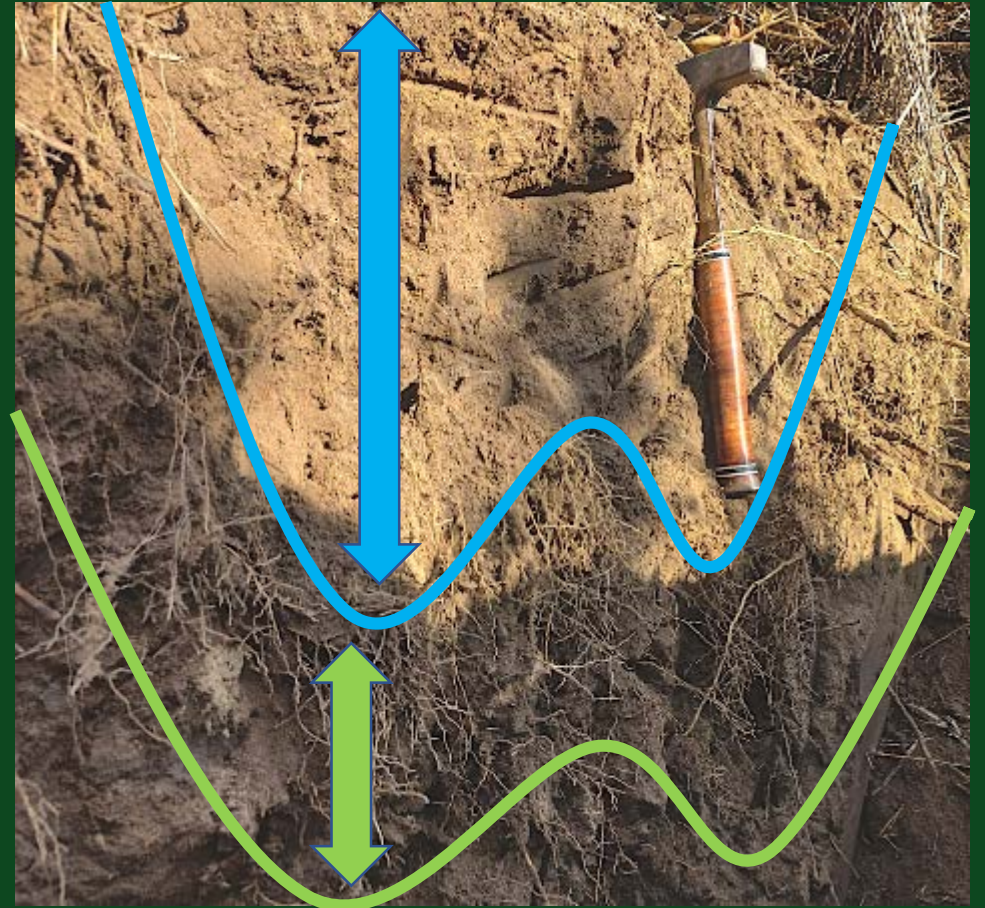
- UNDERSTAND YOUR SOILS
- MANAGE ACCORDINGLY

- NEW DEVELOPMENTS
 - Intervene on poor soils prior to planting
 - Correct soil preparation according to soil limitations
 - Irrigation layout

- EXISTING ORCHARDS
 - Drainage – correct type, spacing & depth
 - Irrigation strategy and zoning

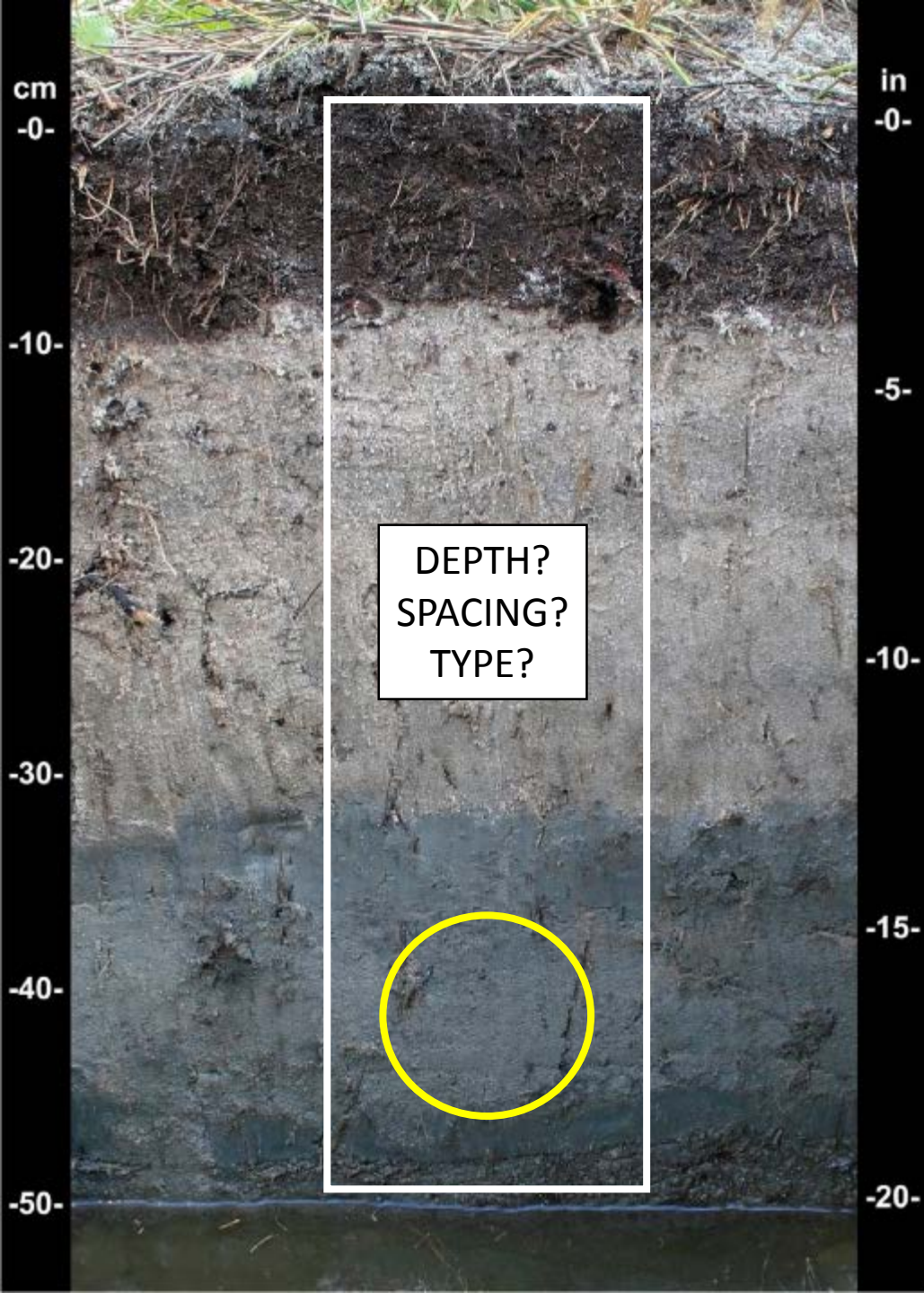
EXISTING ORCHARDS

How to intervene?



DRAINAGE

- Drainage + change in irrigation strategy



in
-0-
-5-
-10-
-15-
-20-



WHAT IS NEXT? - HOW TO MONITOR THE CHANGE

- Monitor change in soil conditions by measuring soil microbial activity
- Monitor change in plant/root response by measuring root carbohydrate levels



CARBOHYDRATE
DETERMINATION

ITEST™ MICROLIFE 





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**KIA ORA
MUCHAS GRACIAS
THANK YOU
DANKIE**