impulsionada pelo

pulse HUB DE INOVAÇÃO

AGRI HUB SPACE CONECTADO AO CAMPO

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Intelligence in Soil Diagnosis

Who we are & What we do

CROPMAN is *expanding knowledge* and *technological boundaries in soil diagnosis*, through its methodological platform that uses the most *modern and precise tools* of digital agricultural, delivering *higher efficiency in agricultural management & practices.*

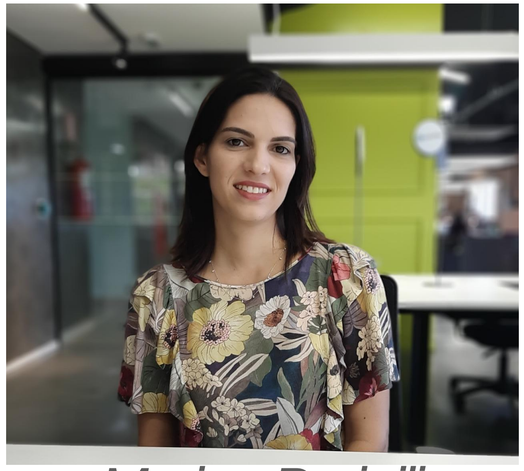
Founders

Dr. Guilherme Sanches

Oswaldo Junqueira Franco

Dr. Henrique J. Franco

Our team

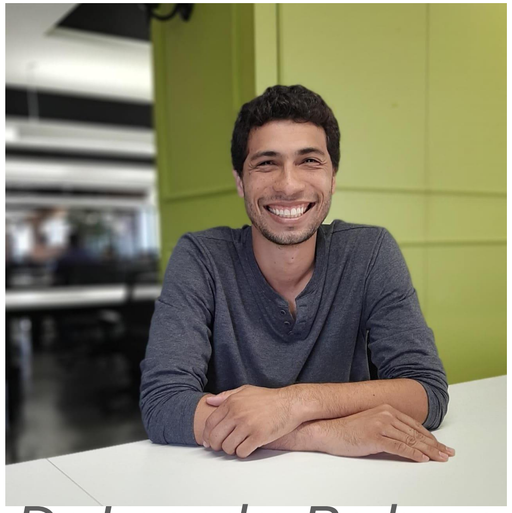


Marina Burjaili

Finance

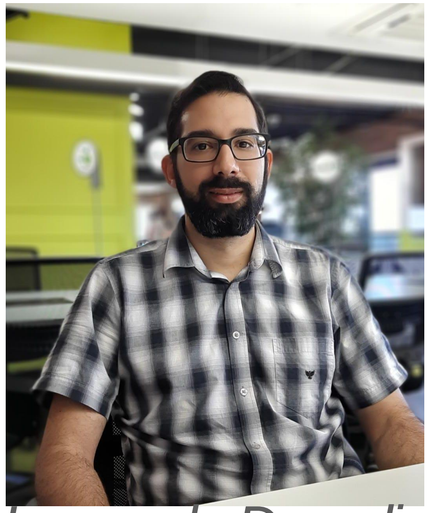
Priscila Vieira

HR manager



Dr. Leandro Barbosa

R&D



Leonardo Damalia

Data Processing

Nelson Dias

Data Gathering/Field

Partners & Clients

Over 100.000 hectares mapped in several regions & crops, in Brazil and abroad

Our Pillars

Soil & Plant Nutrition

Data Mining & Processing

Strategic & Localized Management

Value Proposition

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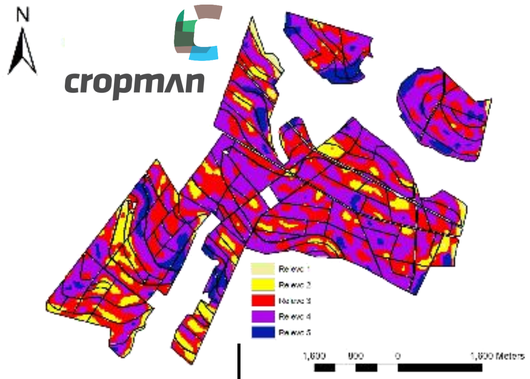
Cost Reduction & higher agronomical efficiency, through effective field management, creating conditions for productivity gains and, consequently, for income increase for farmers.

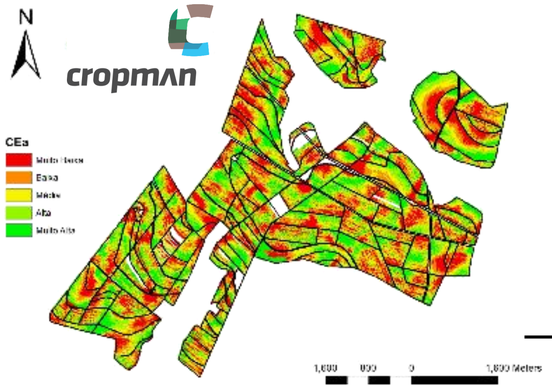
How we do it

High performance analytical capacity & yield for the creation of Permanent Field Management Zones

Landscape



Aparent Electric Conductivity Data (aEC)

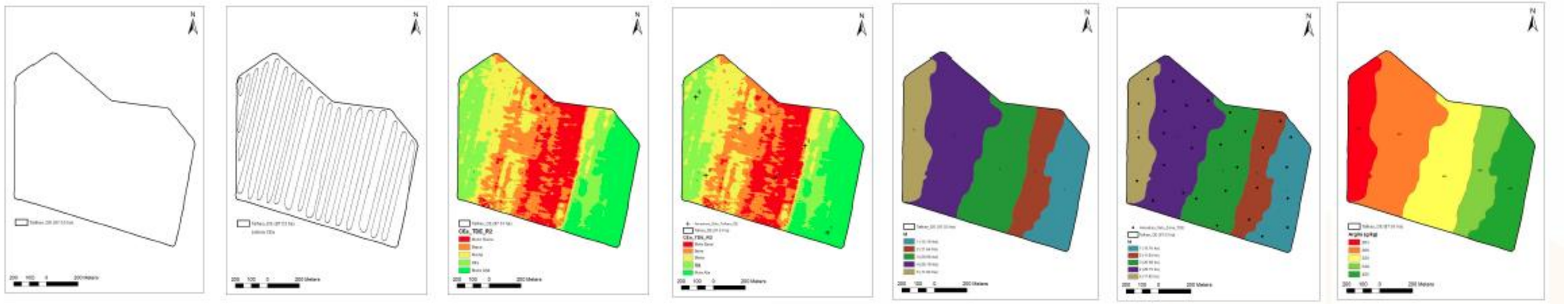


Oil & Gas Industry inspired Algorithms

Soil Samples

CROPMAN Processing

Step by step



Field sensoring ▶ *First processing (oriented grid)* ▶ *Second processing (after soil analysis)* ▶ *Delivery (Maps & shape files)*

✓***SAVINGS:*** ***60-80% reduction in the number of soil samples compared to traditional Precision;***
✓***PERMANENT MANAGEMENT ZONES:*** ***based on highly stable soil parameters;***
✓***PRECISION:*** ***Interpolation-free Zones that respect soil limits;***
✓***APLICABILITY:*** ***Soil based technology usable for all crops (sugarcane, grains, cotton, palm, etc.***

01

Permanent Management Zones

Technological Differentiation of our PMZ

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Permanent Management Zones based on ***soil parameters***

Low variation overtime

Based on soil parameters that are quite stable

Permanent Management Zones

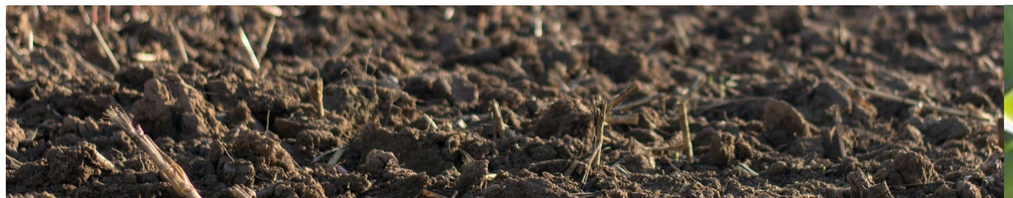
Competitors

Mutable Management Zones based on ***plant parameters***

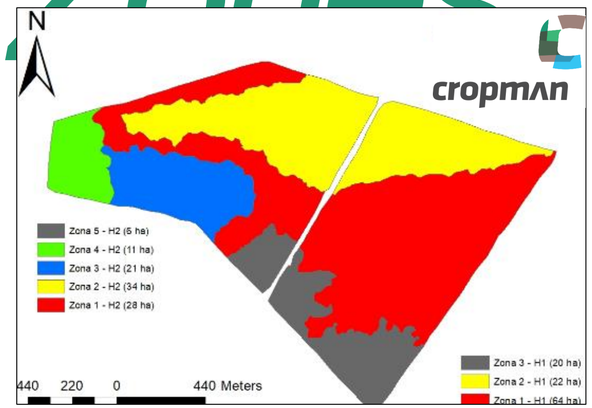
High variation overtime

Affected by factors such as plagues, plant fisiology and agricultural practices

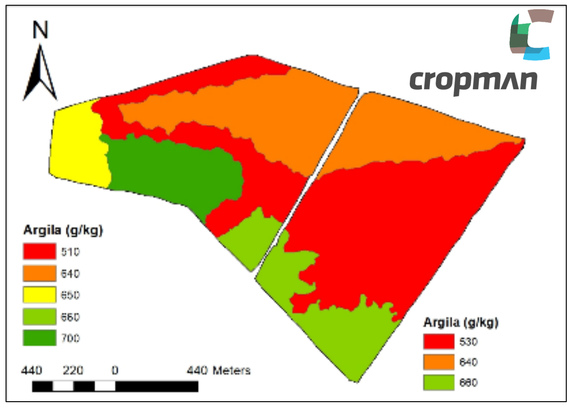
Management Zones changing all the time



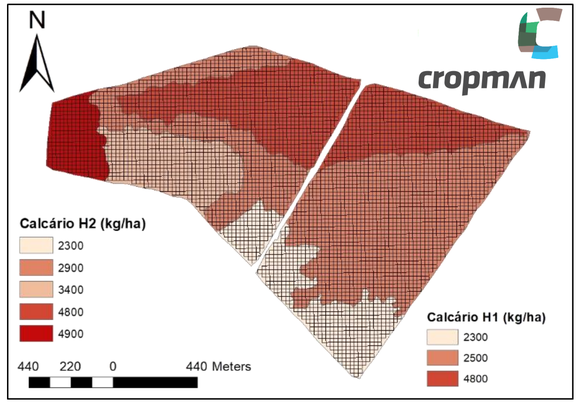
One file: Several Uses per Management Zones



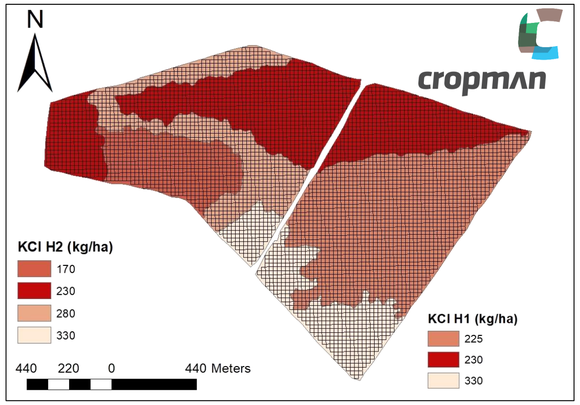
Management Zones Map



Clay content per Management Zone Map



Lime Dosage per Management Zone Map

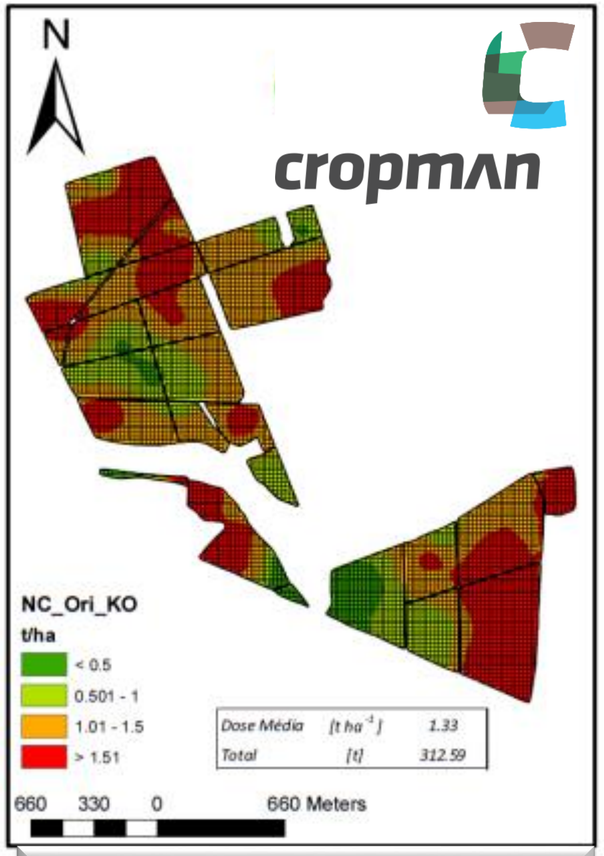


KCL dosage per Management Zone Map

Low Cost & Efficiency

Lime needs per Management Zone

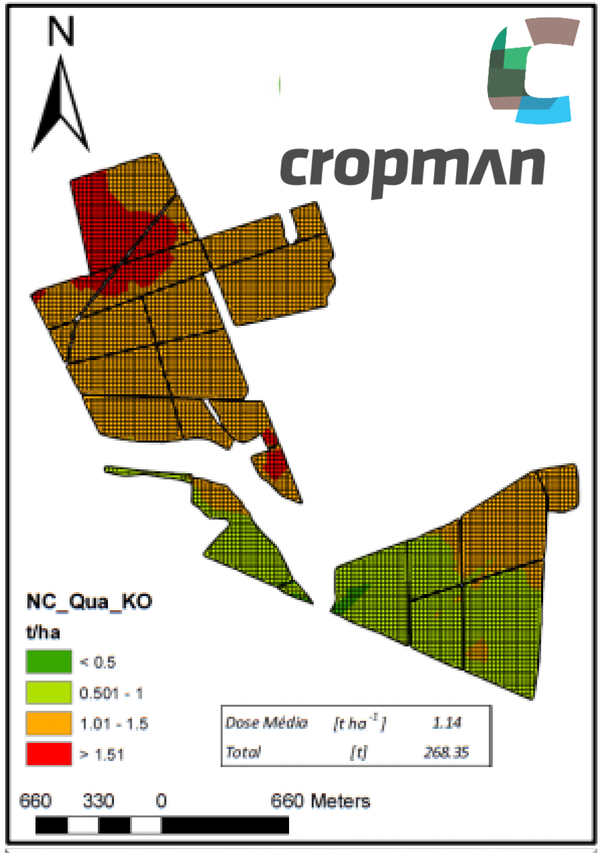
Grid 1x5ha



Avg dose= 1330 kg/ha
Total = 313 ton

56 samples

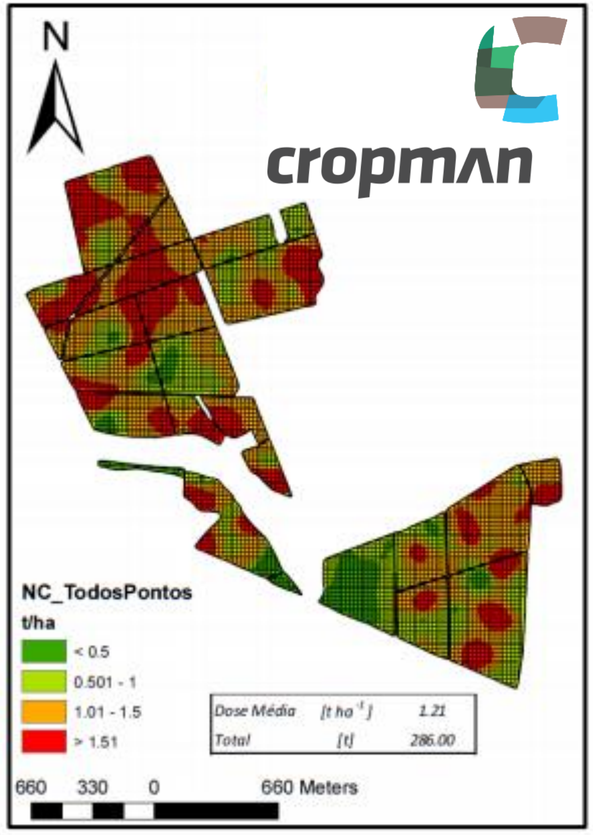
Grid 1x3ha



Avg dose= 1140 kg/ha
Total = 269 ton

78 samples

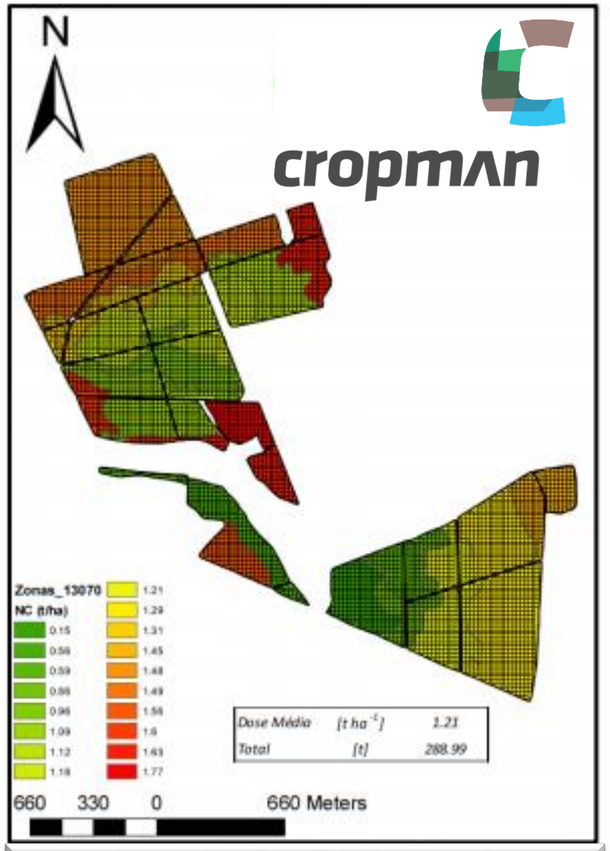
Grid 1x1,6ha



Avg dose= 1210 kg/ha
Total = 286 ton

147 samples

Management Zones



Avg dose= 1210 kg/ha
Total = 286 ton

19 samples

02

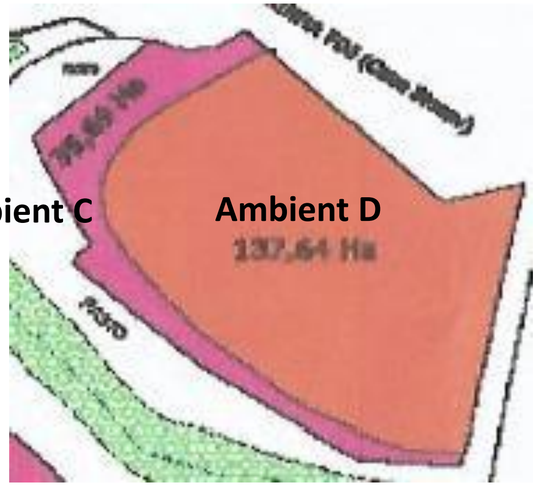
Precision in Production Ambient definition

Accuracy

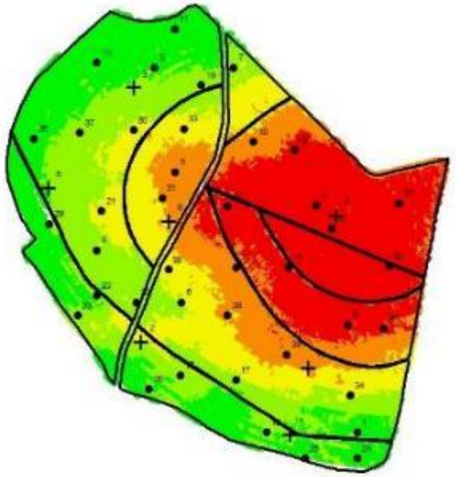
Cropman Technology

helping in soil classification and definition of production ambient for sugarcane

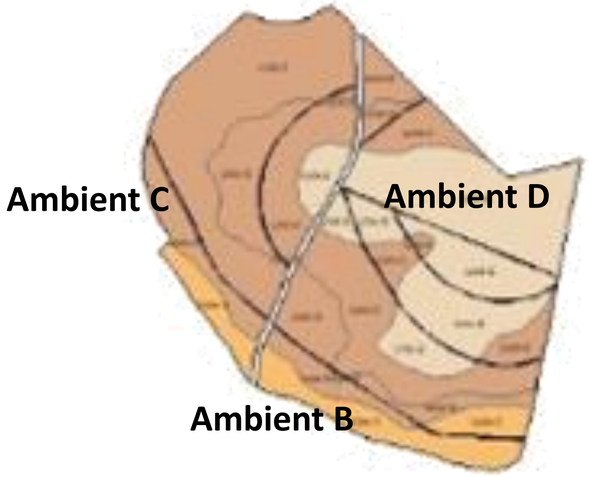
Original classification



Mapping & oriented grid (CROPMAN)

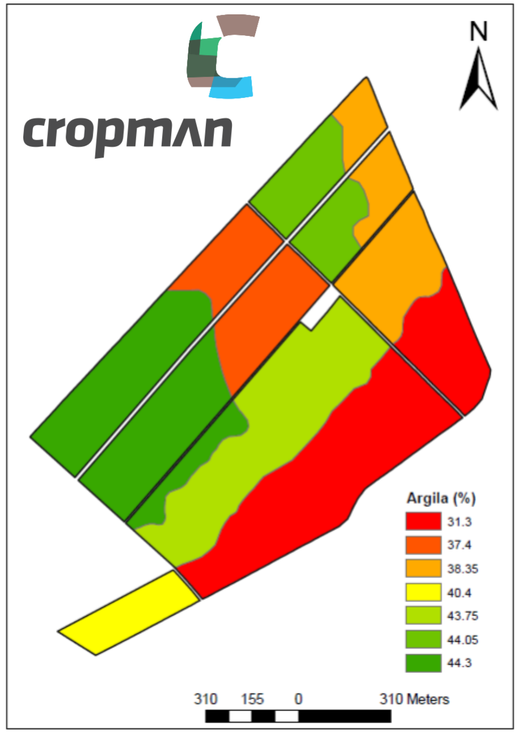


Reclassification after soil sampling & Cropman data processing



Full diagnosis

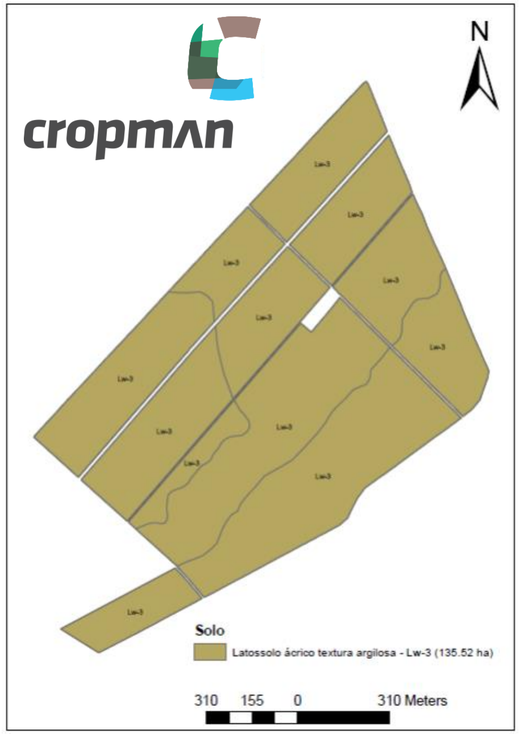
Management Zones Map
(focused on arable layer – 0-20cm)



AGRONOMICAL USES

- Management unit (localized actions)
- Fertility diagnosis
- Variable rates deployment for
  - a)Herbicides
  - b)Lime
  - c)Fertilizers

Soil Maps
(focused on Diagnosys Horizon – 80-100cm)



AGRONOMICAL USES

- Variety allocation
- Sawing & harvest seasons
- Systematization
- Soil Conservancy

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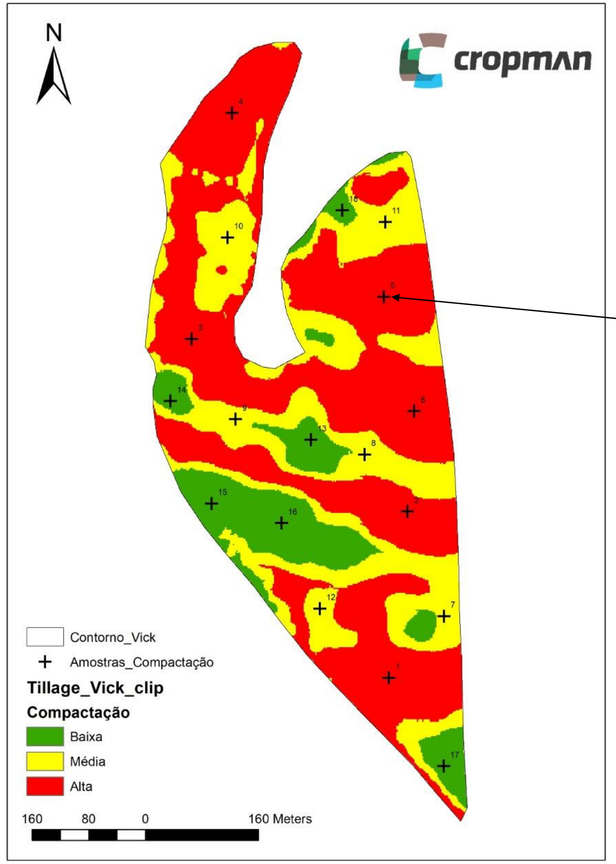
03

Soil Compaction Maps

Methodology

- Field sensoring for data collection in 4 different depths;
- Data processing for the creation of compaction maps;
- Field protocol to confirm compaction in soil profile;



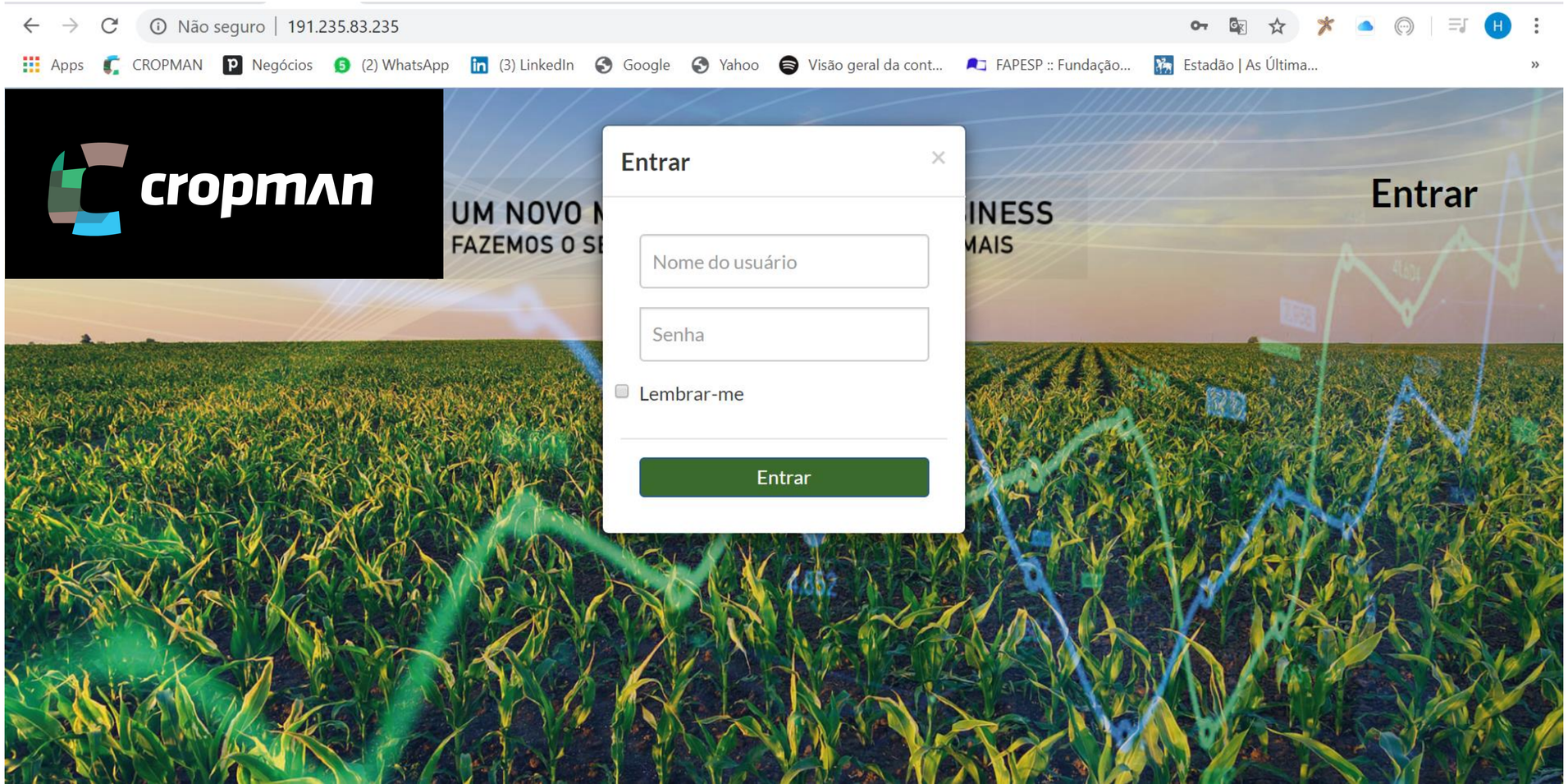
Checkpoints

- Subsoiling costs: BRL 250,00/ha
- 1/3 of area not compacted
- ***SAVING: BRL 82,50/ha***

04

Digital platform

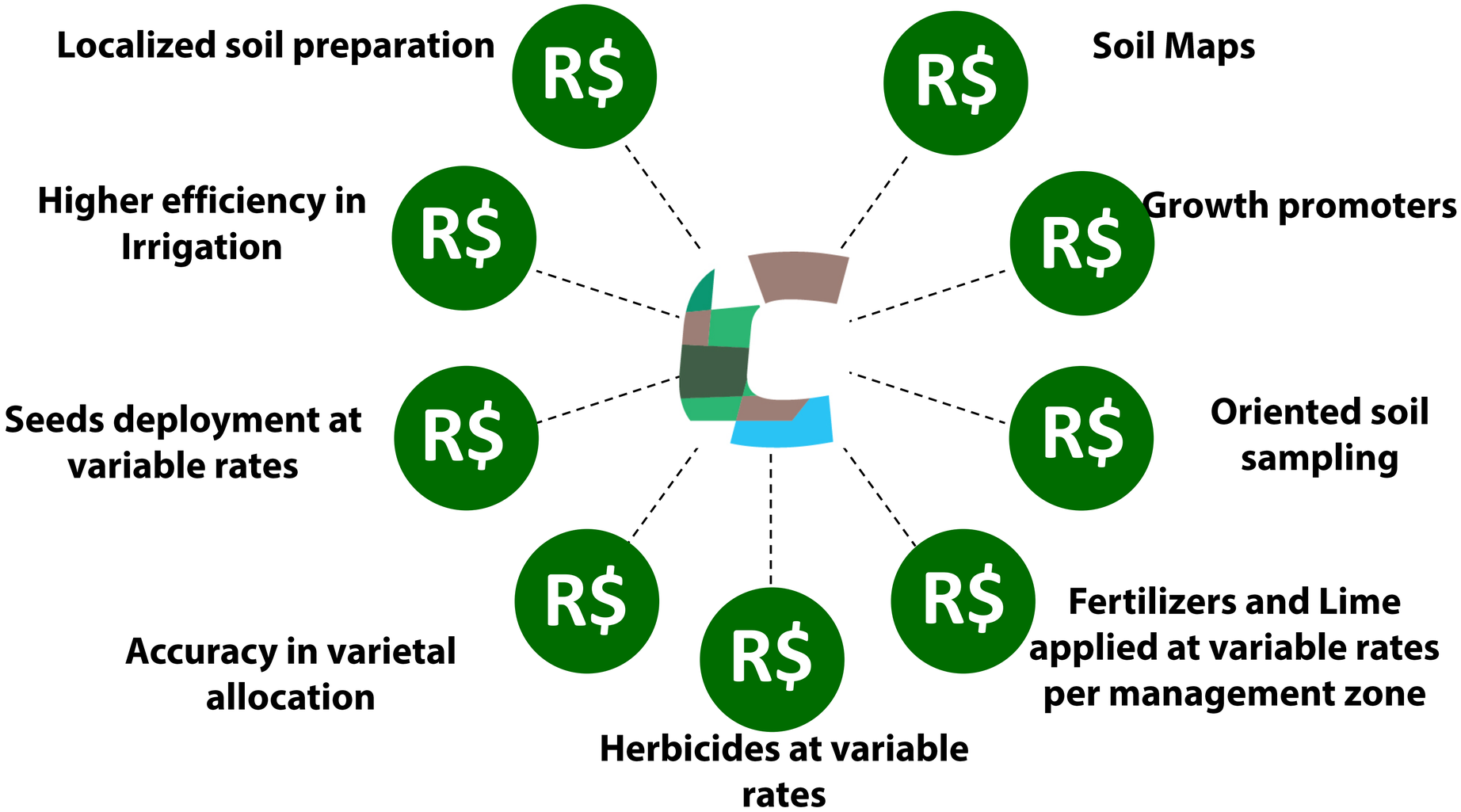
Friendly Digital Platform & API



05

Conclusions

Several agronomic uses



Deliverables

In one single workflow

1) Permanent Management Zones Map

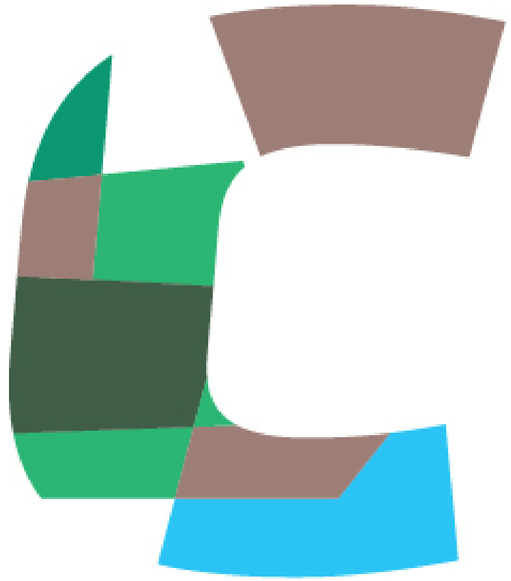
2) Clay, Organic Matter & CEC Maps per Zone

3) Permanent sampling points per Management Zone

4) Soil Fertility Maps per Management Zone

5) Application Maps for Fertilizers, Lime and Herbicides

6) Soil & Production Ambient Maps



7) Compaction Maps

8) Compaction Management Maps

Thank you

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CROPMAN work tools and support use the most advanced means & technology for sustainable agricultural production. For us, innovation is transforming science in applied solutions for our clients. It is the opportunity to produce more using less.

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