

# Disruptors & Breakthrough Approaches

Wednesday 22 June: 13:00 – 13:55 (55 min)

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## With Speakers:



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New England



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Senior  
Manager,  
Implementation  
| Better Cotton



PESTICIDE  
ACTION  
NETWORK UK

# JIDAGO AND CELESTINE'S STORY

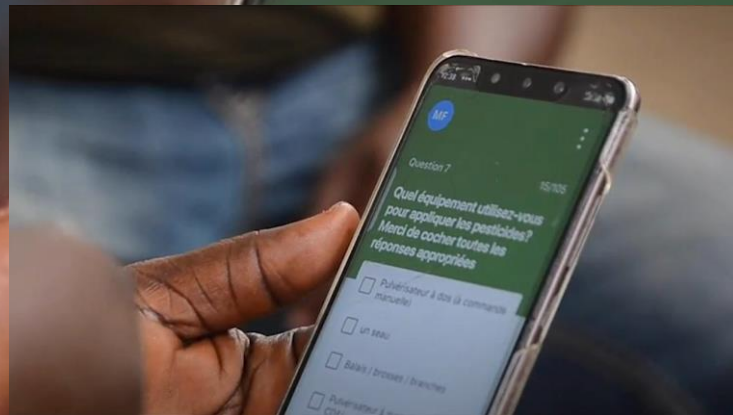
Jidago and Celestine are cotton farmers in Benin. They travelled a long way to share the story of their son's death because they want you to know about it.



# WHY ISN'T THIS PROBLEM MORE WIDELY KNOWN?



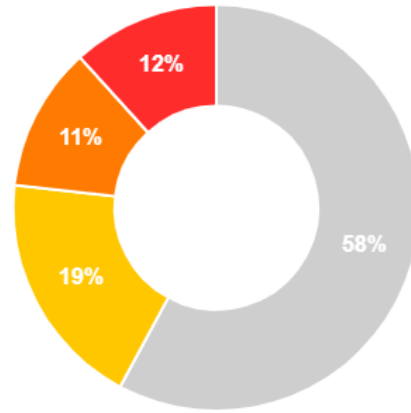
# A NEW TOOL AIMS TO ADDRESS THE PROBLEM



# RESULTS

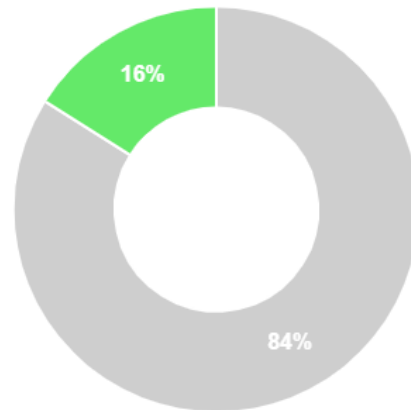
## Percentage Of People Reporting Signs And Symptoms Consistent With Acute Pesticide Poisoning

Gender: ALL



- Severe  
261 answers
- Moderate  
256 answers
- Mild  
422 answers

- No signs and symptoms  
1289 answers



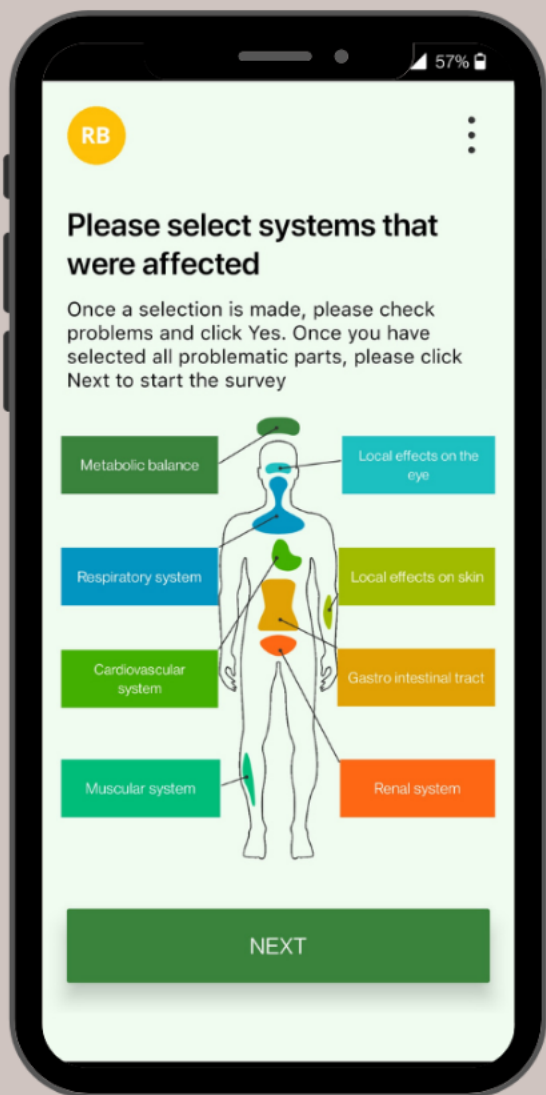
- Received medical assistance for reported signs and symptoms of acute pesticide poisoning  
357 answers

- No medical assistance received for signs and symptoms of acute pesticide poisoning. All respondents included  
1871 answers

# HOW DOES THIS INFORMATION HELP?

- Identifies Highly Hazardous Pesticides (HHPs) linked to acute pesticide poisoning
- Identifies high risk practices
- Identifies high risk groups
- Demonstrate impact





Please do pick up our card or drop us a line for more information:

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# Breakthrough Approach: The key to impact at Scale



**Shendvan, Akkalkuwa, Nandurbar (MH-India)**



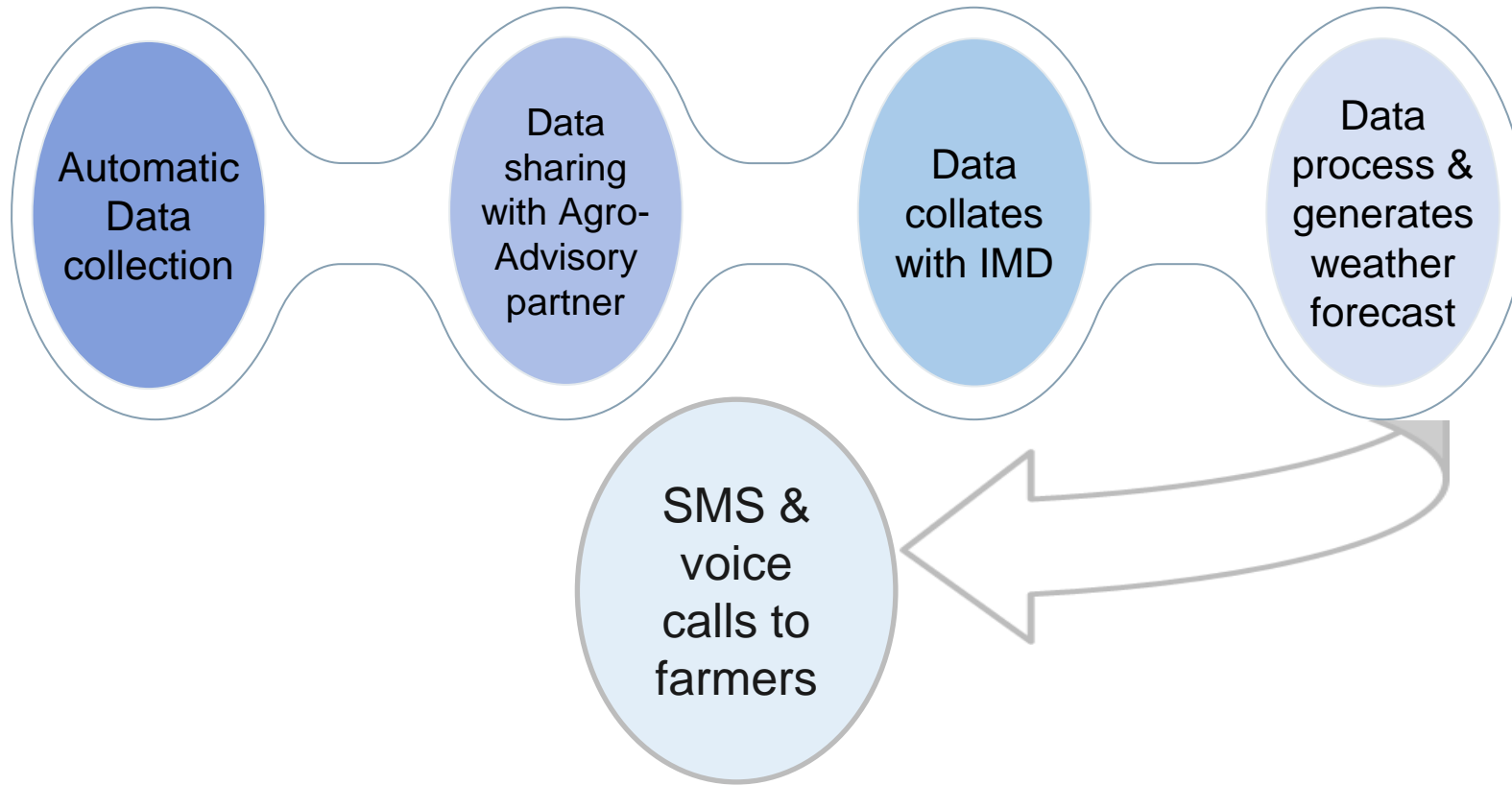
**Sunil Saindane**  
Project Manager – BCI  
Lupin Human Welfare & Research Foundation

# Need of Automatic weather station

- Vulnerable to the impacts of climate change (Ref. study ICAR 2020-21)
- Worst socio-economic situations (Ref. Cotton 2040 study)
- Extreme weather events



# How AWS works?



# Project Stakeholders



Thanks!



SHOT ON MI A1  
MI DUAL CAMERA



**better  
cotton**<sup>TM</sup>  
conference 2022



**ABRAPA**

ASSOCIAÇÃO BRASILEIRA DOS PRODUTORES DE ALGODÃO



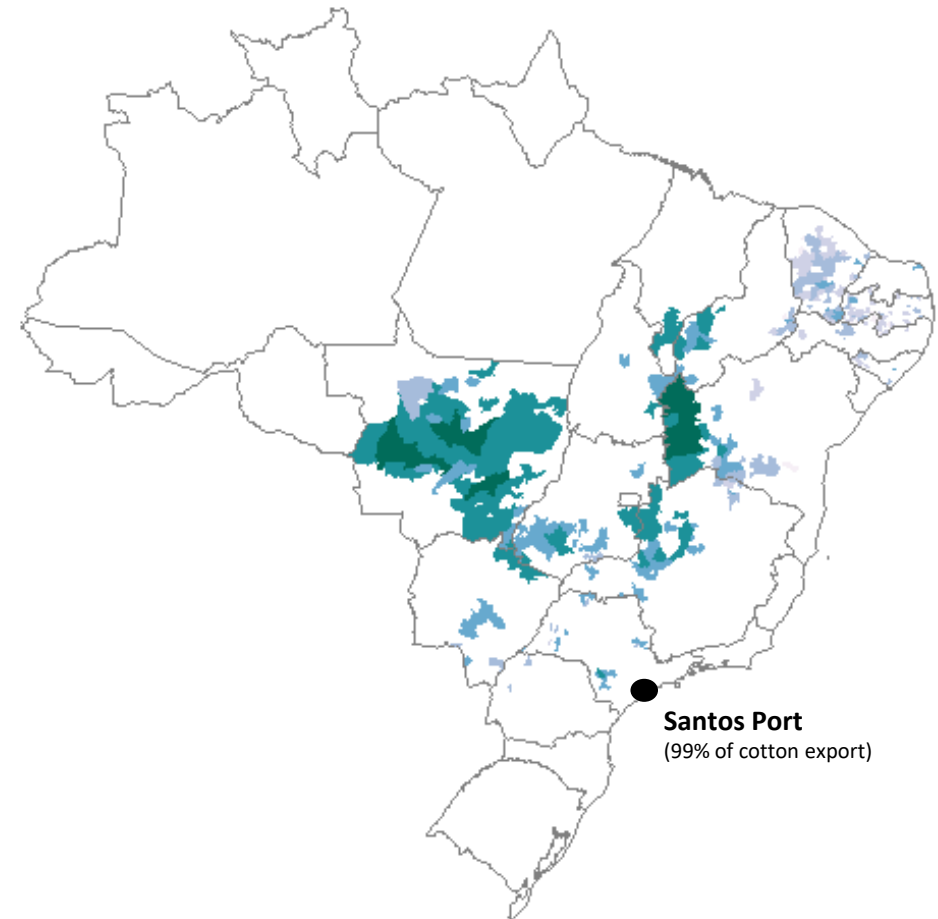
**Cotton  
Brazil**

growing for a better future



## Cotton Producing Regions in Brazil

1. **92% of cotton area is rainfed**
2. **95% is in the Cerrado Biome** (It is not in the Amazon Forest!)
3. **60% second crop** (after soybeans in the same crop season)
4. **Second biggest world cotton export**
5. **Fourth biggest world cotton producer**
6. **Professional, Large farm context** (3.000 ha avg.)
7. **Avg Yield 1.800 kg per hectare** (128% above world Yield Average)
8. **84% of total cotton production within ABR sustainability program**



## Brazil/Cotton | Biological Control (introduction of natural enemies)

Integrated management of cotton pests and diseases is a basic requirement in **ABR protocol**

Encouraging the use of biological control within the Integrated Pest Management

Aerial and terrestrial spraying with safe transport of pesticides, correct dosages and focus on maintaining biodiversity

Focus on technologies that enable more effective application of chemicals and with the correct dosage



# Disruptors Breakthrough Approaches Session



## Brazil/Cotton | Biological Control (breeding of natural enemies)

### Regional Institutes and Foundations



Laboratório do Ima-MT, 2019



Laboratório da Amipa, 2019



## Brazil/Cotton | Biological Control (introduction of natural enemies)

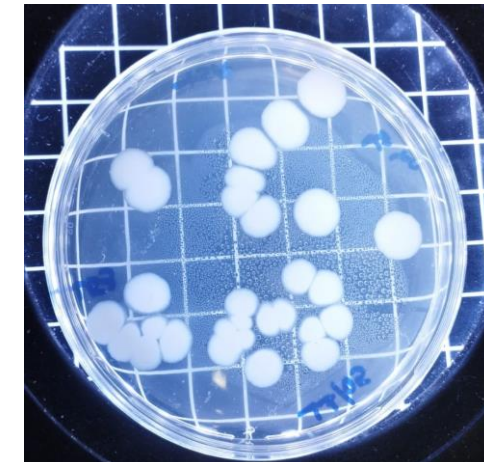
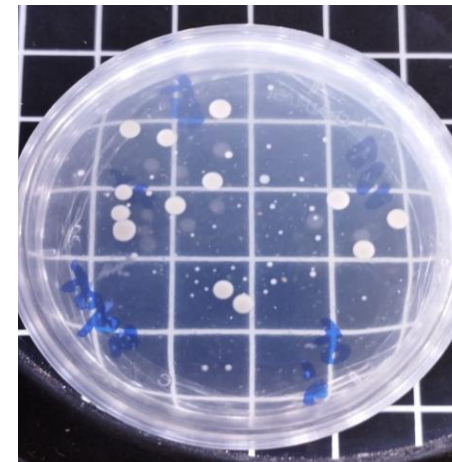
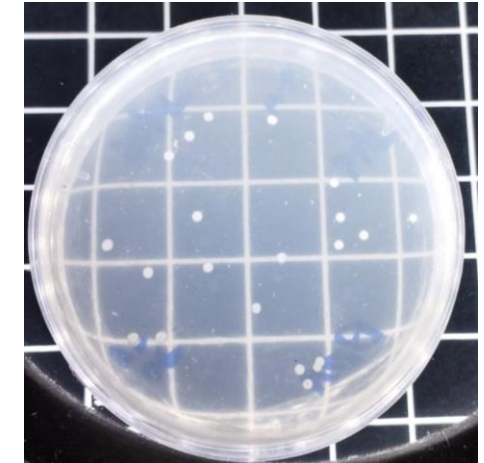
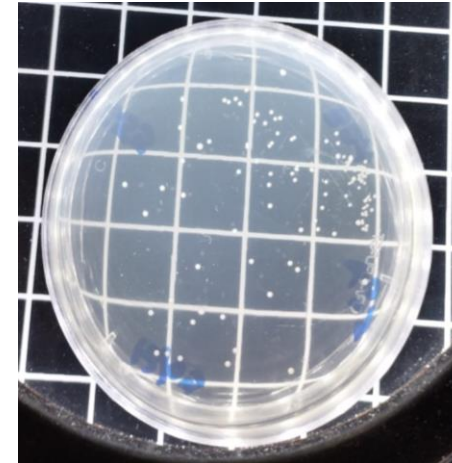
### Regional Institutes and Foundations Responsibilities:

1. Efficient evaluation of biological products for the control of insect-pests, diseases and nematodes

Quality control of biological products made on farm

2. Diagnosis and monitoring of diseases and phytonematoids

- 3.



## Brazil/Cotton | Biological Control (introduction of natural enemies)

### Good results in control of nematodes (*M. incognita*)

• 5 years of research in a region with:

- 350 000 ha of cotton
- 600 000 tons of lint by year

#### Benefits:

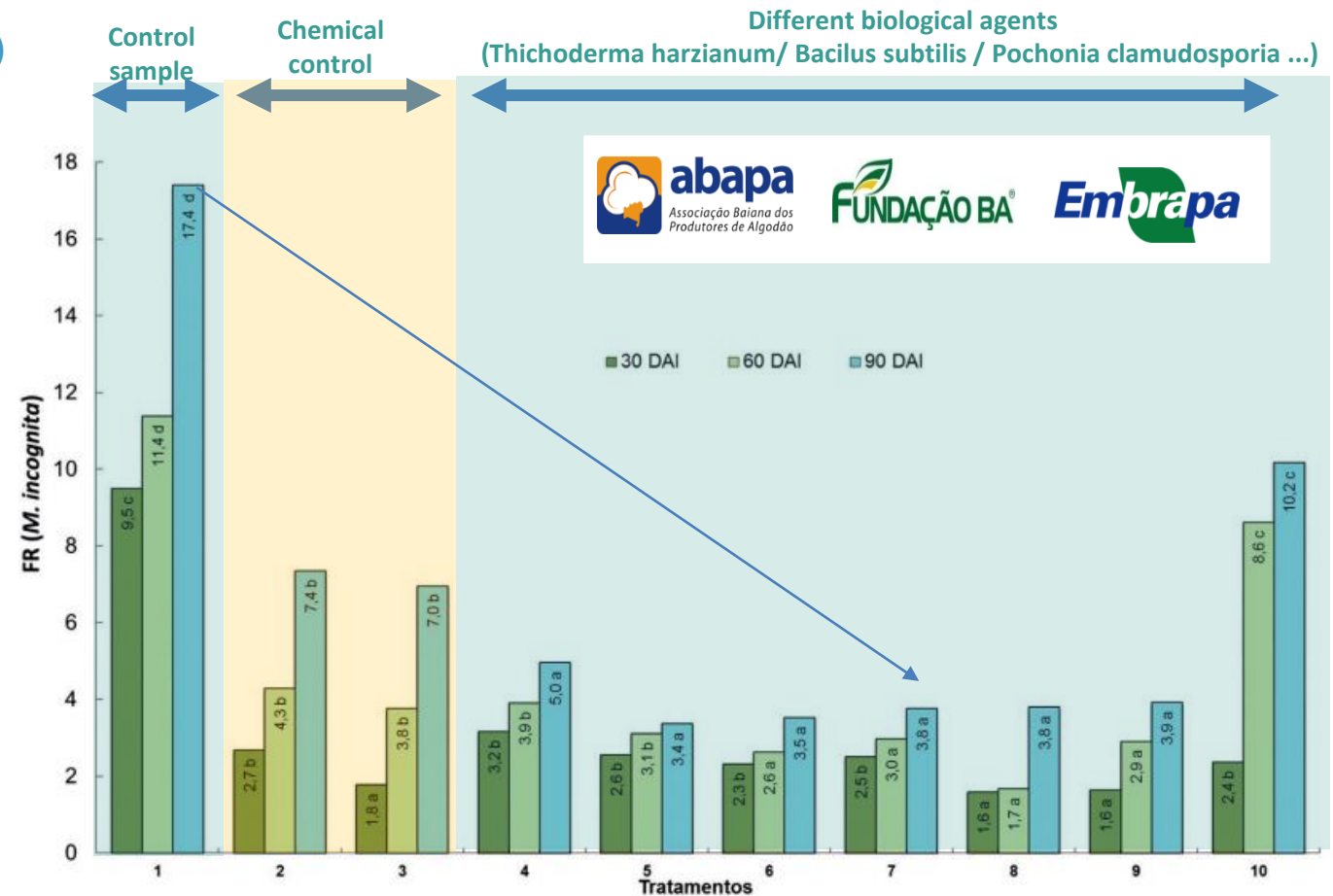
#### 1. Lower use of HHPS:

- [Cyantraniliprole](#)
- [Thiamethoxam](#)
- [Abamectin](#)
- [Fluensulfone](#)

#### 2. Soil health improvement

#### 3. Higher Cotton Yields

#### 4. Lower costs for cotton producers



## Brazil/Cotton | Biological Control (introduction of natural enemies)

Brazilian Government launched the National Program for Biobased Agricultural Inputs in 2020

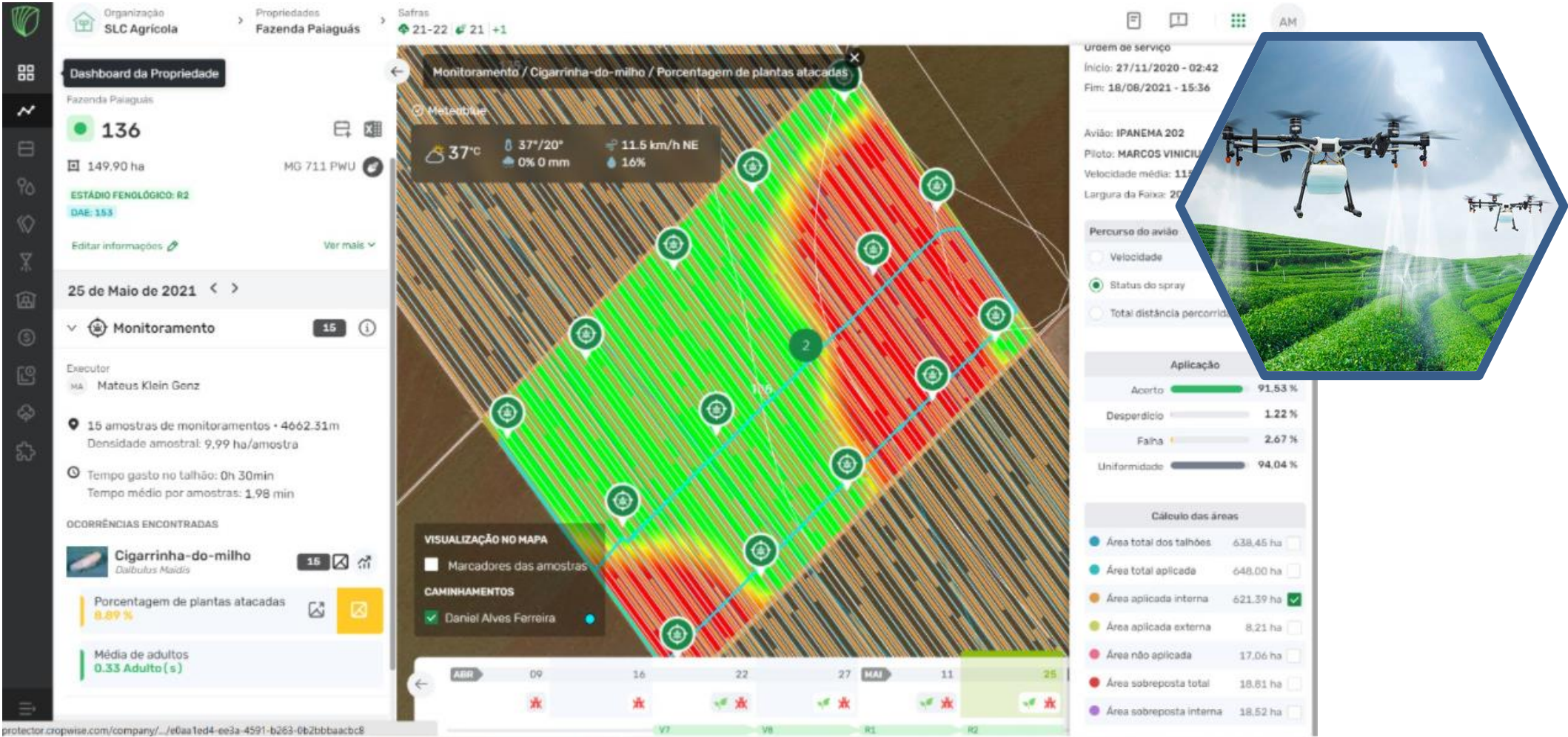
Biological control adopted in 23 million ha adopted (Soybeans, cotton and Sugarcane)  
Estimation: 350.000 kg of chemical pesticides substitution



Source: MAPA (2022)



## BI Platforms for monitoring pest population with Drone intelligence

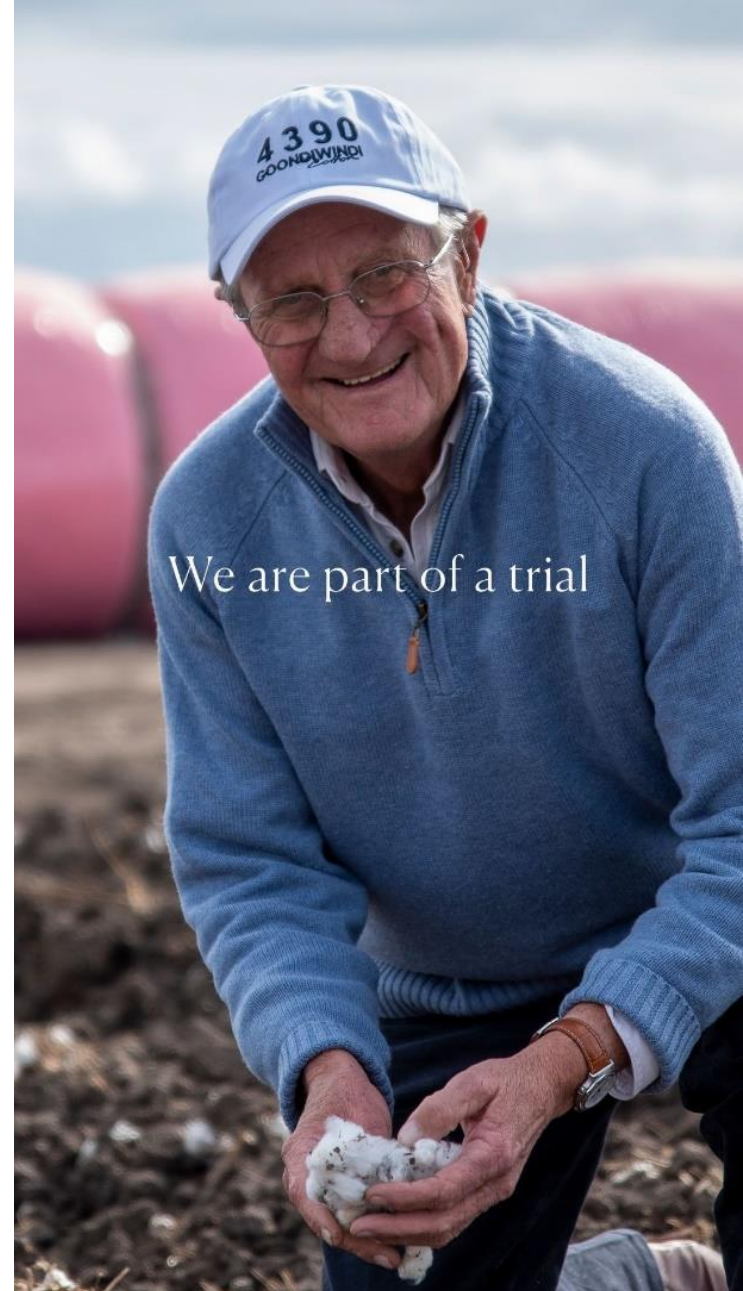
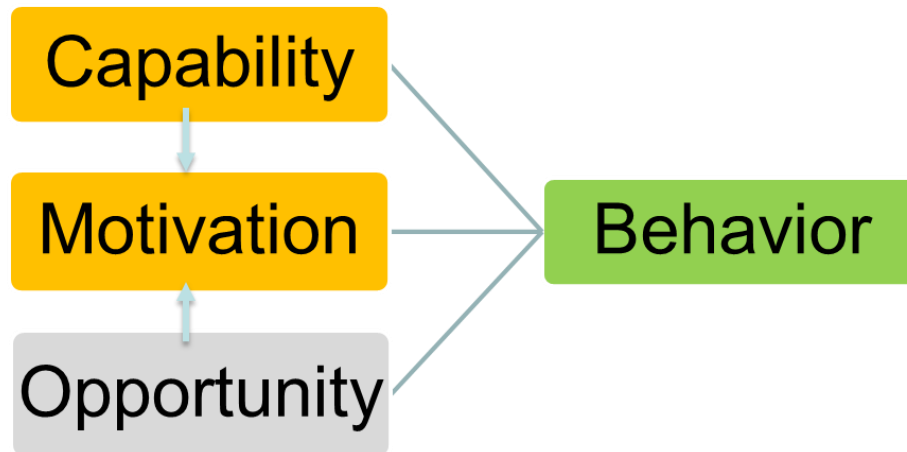


The screenshot displays a comprehensive dashboard for drone-based pest monitoring. The central focus is a heatmap of a field, where colors range from green (low pest density) to red (high pest density). A flight path is overlaid on the field, with circular markers indicating specific monitoring points. A weather widget above the heatmap shows a temperature of 37°C, 0% precipitation, and a wind speed of 11.5 km/h NE. The left sidebar provides property details for 'Fazenda Paiaçuás', including a total area of 149.90 ha and a phenological stage of R2. Below this, it lists 15 monitoring points and identifies the operator as Mateus Klein Genz. A section titled 'OCORRÊNCIAS ENCONTRADAS' (Found Incidents) highlights 'Cigarrinha-do-milho' (Fall Armyworm) with a 8.89% infestation rate and an average of 0.33 adults per plant. The right sidebar details the drone flight parameters, including the aircraft 'IPANEMA 202', pilot 'MARCOS VINICIU', and flight duration from 02:42 to 15:36. It also provides a summary of application performance: 91.53% accuracy, 1.22% loss, 2.67% gaps, and 94.04% uniformity. A table at the bottom right breaks down the area calculations for the flight.

Cálculo das áreas	
Área total dos talhões	638,45 ha
Área total aplicada	648,00 ha
Área aplicada interna	621,39 ha
Área aplicada externa	8,21 ha
Área não aplicada	17,06 ha
Área sobreposta total	18,81 ha
Área sobreposta interna	18,52 ha

# Our disruptive team: Closing the loop in Goondiwindi

- Divert cotton waste from landfill
- Drought proof a rural community
- *Able and motivated, just need opportunity*



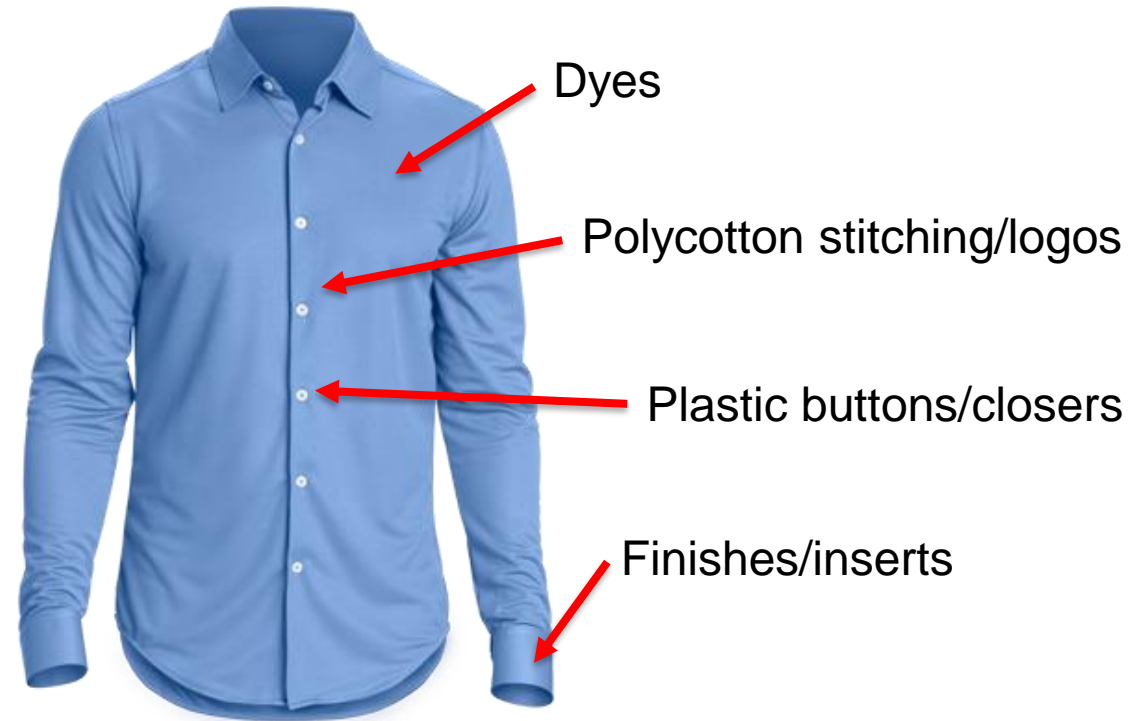
# How do we change our world?

- Collect old garments
- Recover the *waste* fabric
  - Local jobs
- Apply to the soil
- Grow the next crop



# Concerns

- Other materials
- Other contaminants
- The dyes
- Agricultural impact
- Application



# A history lesson – post industrial revolution

- Rags were part of the waste
- BUT, education needed books
- Books need paper

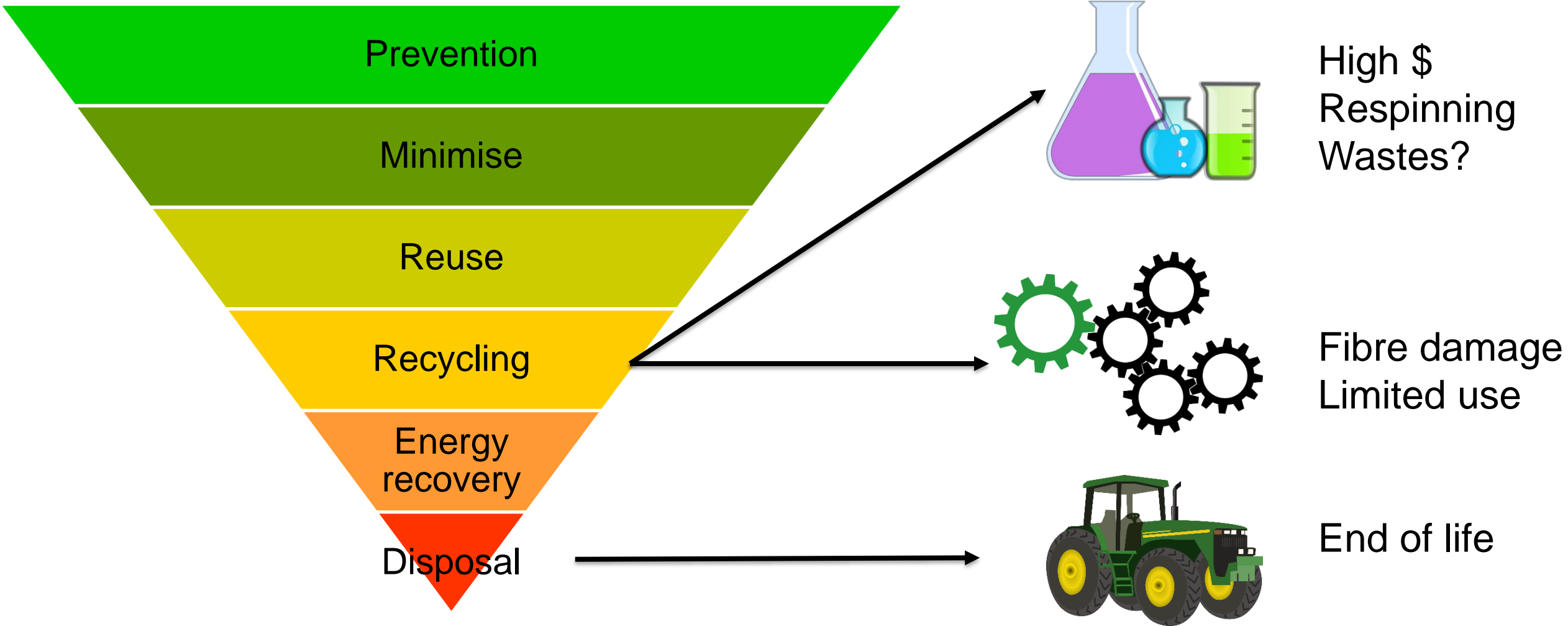
*RAGS make paper,  
PAPER makes money,  
MONEY makes banks,  
BANKS make loans,  
LOANS make beggars,  
BEGGARS make RAGS.  
Unknown author, 1700s.*



Caldercruix paper mill, circa 1920. © Cultural Museums UK

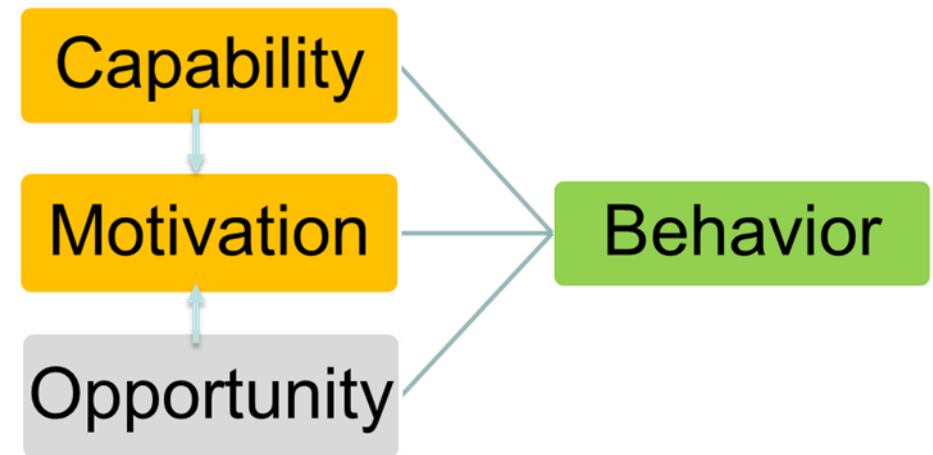


# Hierarchy of Cotton textile recovery



# Lessons

- We can return natural fibres to soil
  - Application and agronomy
- High rates = good waste removal
- CO<sub>2</sub> not CH<sub>4</sub>
  
- Garments need to be processed
- Market may change
- Logistics
  
- Circularity involves all of us!





Cotton +  
Climate Action

Thank you

