TOWARDS A CLIMATE-SMART DYNAMIC COCOA CROPPING CALENDAR?

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THE COCOA YIELD GAP CHALLENGE

Typical Yield: 300-600 kg/ha
Potential Yield: 2000-3000* kg/ha
Yield Gap: 70-95%

*experimented on farmer fields in Ghana

This gap creates a valuable opportunity to address deforestation by improving the yield of existing farms.
GOOD AGRICULTURAL PRACTICES
Using climate information for efficient farm management
Using climate information for efficient farm management

Uncontrolled evolution of P. megakarya in the field
- Dry year - LTA year - Wet year

Threshold for economic damage
Using climate information for efficient farm management

Uncontrolled evolution of P. megakarya in the field
- Dry year - LTA year - Wet year

Fixed monthly interventions: common recommendation

Threshold for economic damage
Using climate information for efficient farm management

Uncontrolled evolution of P. megakarya in the field
- Dry year - LTA year - Wet year

Spraying & removing pods every time the infection reaches 2.5% of the total pod
Climate suitability for pruning

- possible, but not recommended
- check your fields, you may need to prune
- optimum timing

PRUNING

2022 International Symposium on Cocoa Research (ISCR), Montpellier, France
Climate suitability for pruning

possible, but not recommended
check your fields, you may need to prune
optimum timing

Ogbaagba, Osun State, SW Nigeria

Year

2020
2010
2000
1990
1980

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

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Climate suitability for pruning

possible, but not recommended
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Year

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FERTILIZER APPLICATION

Climate suitability for fertilizer application

- climate-limited
- suboptimal
- optimum timing
FERTILIZER APPLICATION

Climate suitability for fertilizer application

Bechem, Ahafo Region, hinterland Ghana
FERTILIZER APPLICATION

Climate suitability for fertilizer application

- climate-limited
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Bechem, Ahafo Region, hinterland Ghana

Akim Oda, Eastern Region, coastal Ghana
FERTILIZER APPLICATION

Climate suitability for fertilizer application

- Climate-limited
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Bechem, Ahafo Region, hinterland Ghana

Akim Oda, Eastern Region, coastal Ghana
Climate suitability for transplanting

not recommended
inefficient
optimum

Agboville, Lagunes District, coastal Ivory Coast
CLIMATE-SMART DYNAMIC COCOA CROP CALENDAR

PLANNING FARMER INTERVENTIONS

Status quo calendar: generalized, static - unadapted to changes in climate

**Climate42's Proposal**

Dynamic, *climate-smart* cocoa cropping calendar

Our interdisciplinary approach combines climate science, agronomy, plant physiology & a solid knowledge of cocoa production systems

"Timely intervention = Efficient intervention"