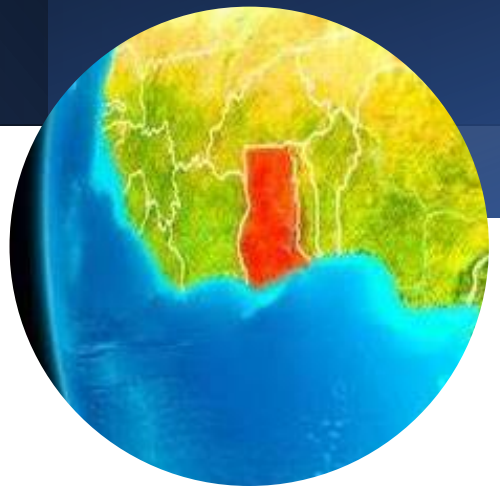


Ghana Space :
Cropwatch Workshop
July 2 -5, 2024
Abuja, Nigeria

- Kofi Asare / Caroline Edinam Doe (GSSTI)
- asarefi@yahoo.com / kofi.asare@gaec.gov.gh

Agriculture in Ghana

Agriculture accounts - 28% of GDP

Employs – About 50% of labour force,

Irrigated lands - 0.2%

Cash crops:

Cocoa,

oil palm,

rubber

Major staples:

maize,

cassava,

plantain,

yam,

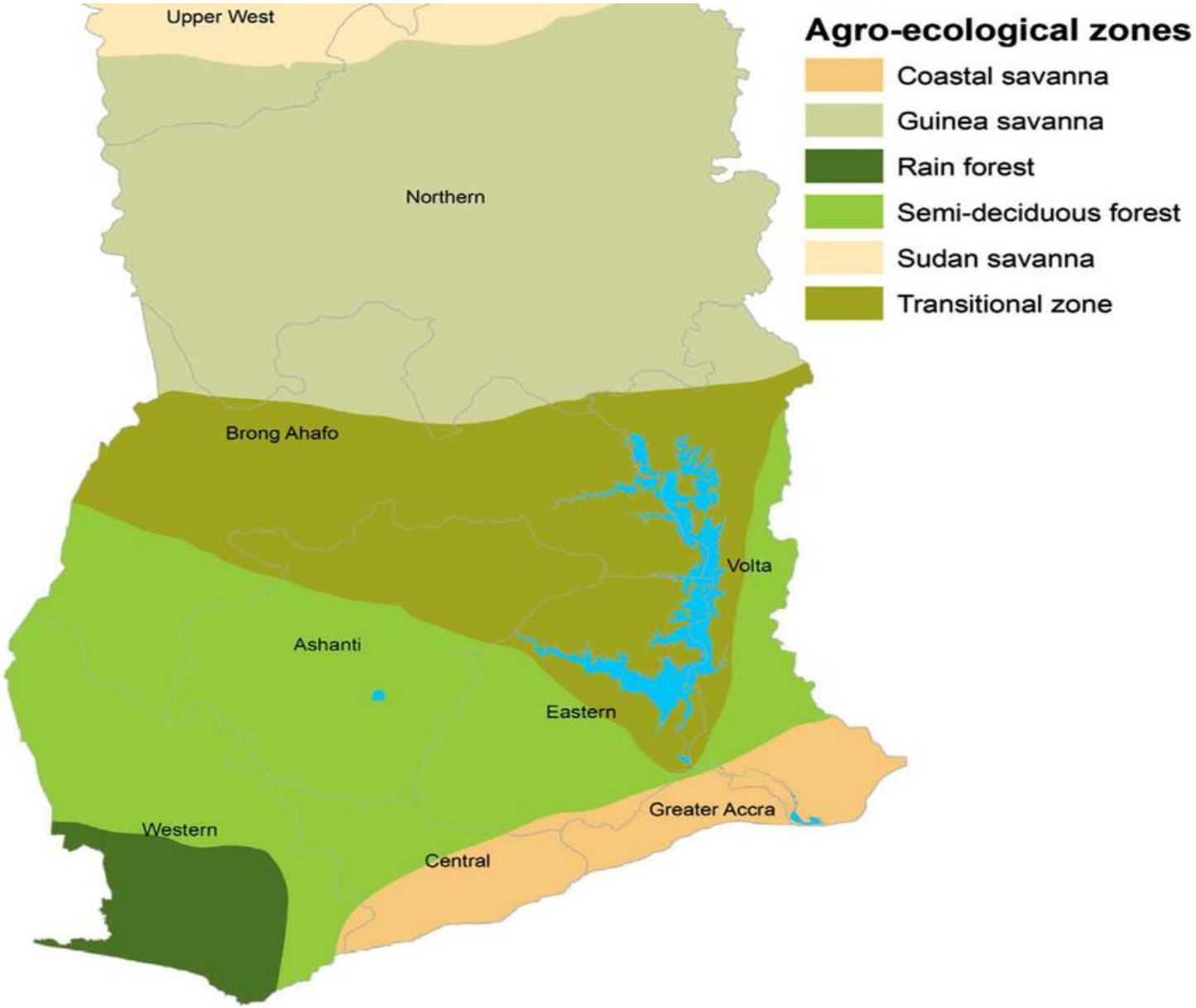
rice,

Sorghum

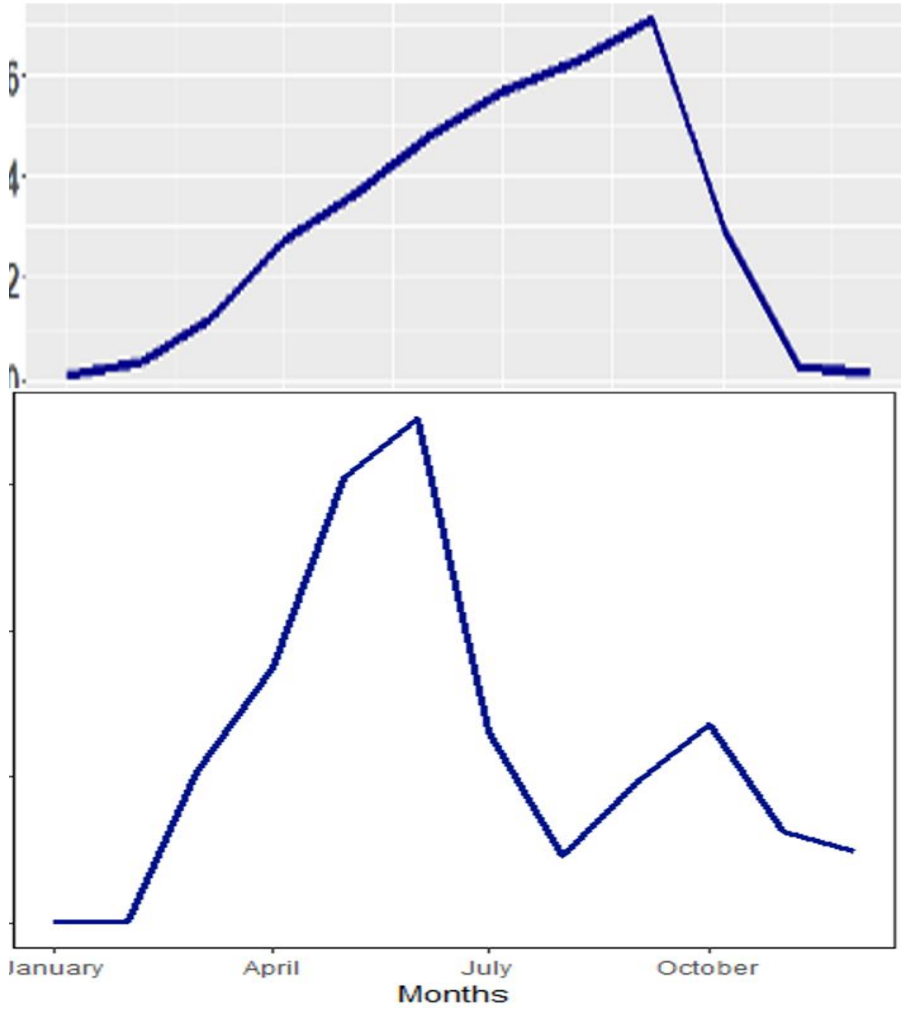
millet

Geographic Variation: Root and tuber crops in the south, grain crops in the north

Agro - Ecological Zones/Rainfall Regime;

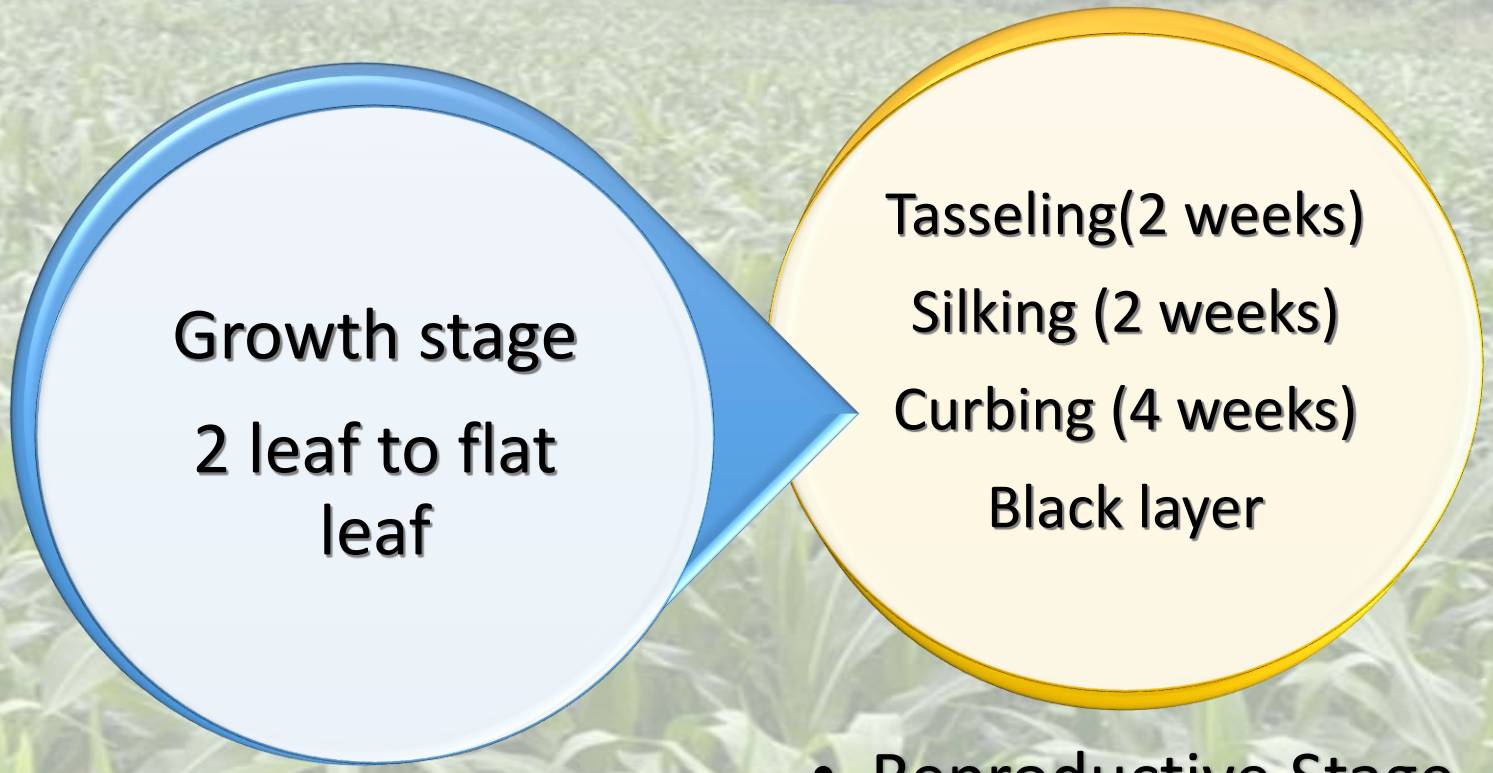


Unimodal - North



Bio modal - South

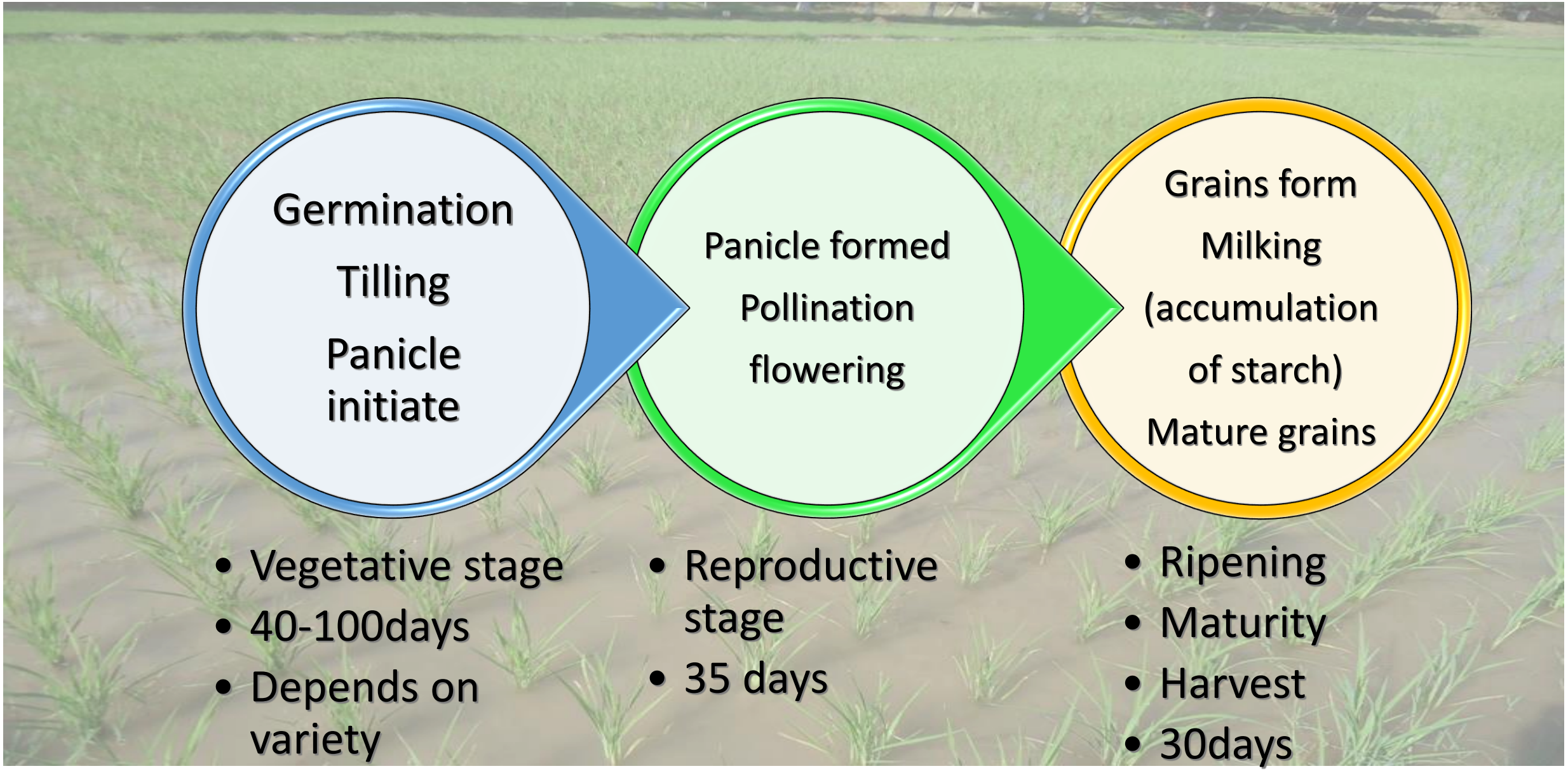
Crop Phenology



- Vegetative Stage
- 8-10 weeks

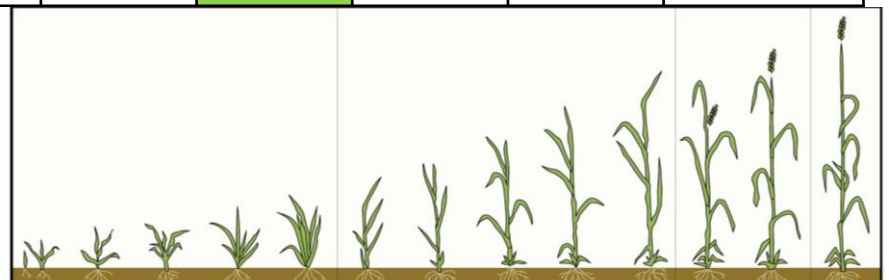
- Reproductive Stage
- Physiological Maturity
- Harvest
- 120 days depends on variety

Crop Phenology



Growing Season – Maize – Northern Ghana

STAGE / ACTIVITY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	No. OF DAYS
Sowing													**0**
Emergence													**5**
Establishment													15-20
Vegetative													25-40
Flowering / tasseling													15-20
Yield formation / cobbing													35-45
Ripening / drying													10-15



Space Applications

Satellite data

Temporal

Spatial

Crop type classification

Climate – rainfall, temperature etc

Yield measurement

Mapping maize yields for farms

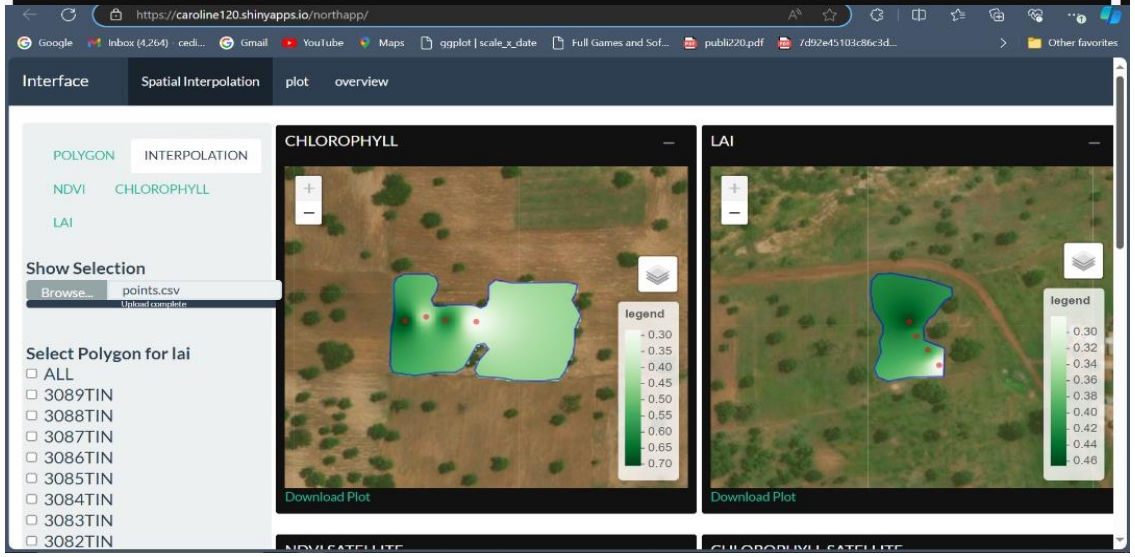
Detect positive yield associations with inputs.

Biophysical data

LAI

Chlorophyll

Monitoring platform



- Crop monitoring System:
  - Crop health monitoring
  - Crop yield assessment
- Good and timely capture of crop condition at a large scale for planning and decision making
- Prototype – interactive app
- Develop and expand our services

Challenges

Big **yield gap**

Low soil fertility

Low soil water retention capability

Little use of fertilizer (Below ECOWAS/AU average)

Access to high resolution satellite data

Grounding data for validation

Huge **variability** in smallholder farming

Rainfed agriculture

Family-managed farms

Low investment / Limited access to inputs

Not mechanizes

Climate Change

Variable growing seasons.

unpredictable weather patterns

Expectations

- Build capacity in using crop watch
- Downscale and customize Cropwatch to Ghana
- Next steps in implementing Cropwatch in Ghana
- Build a robust crop monitoring system for Ghana

Thank you

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