Experience in organic banana production at Golden Organics Ltd, subsidiary of Compagnie Fruitière in Ghana

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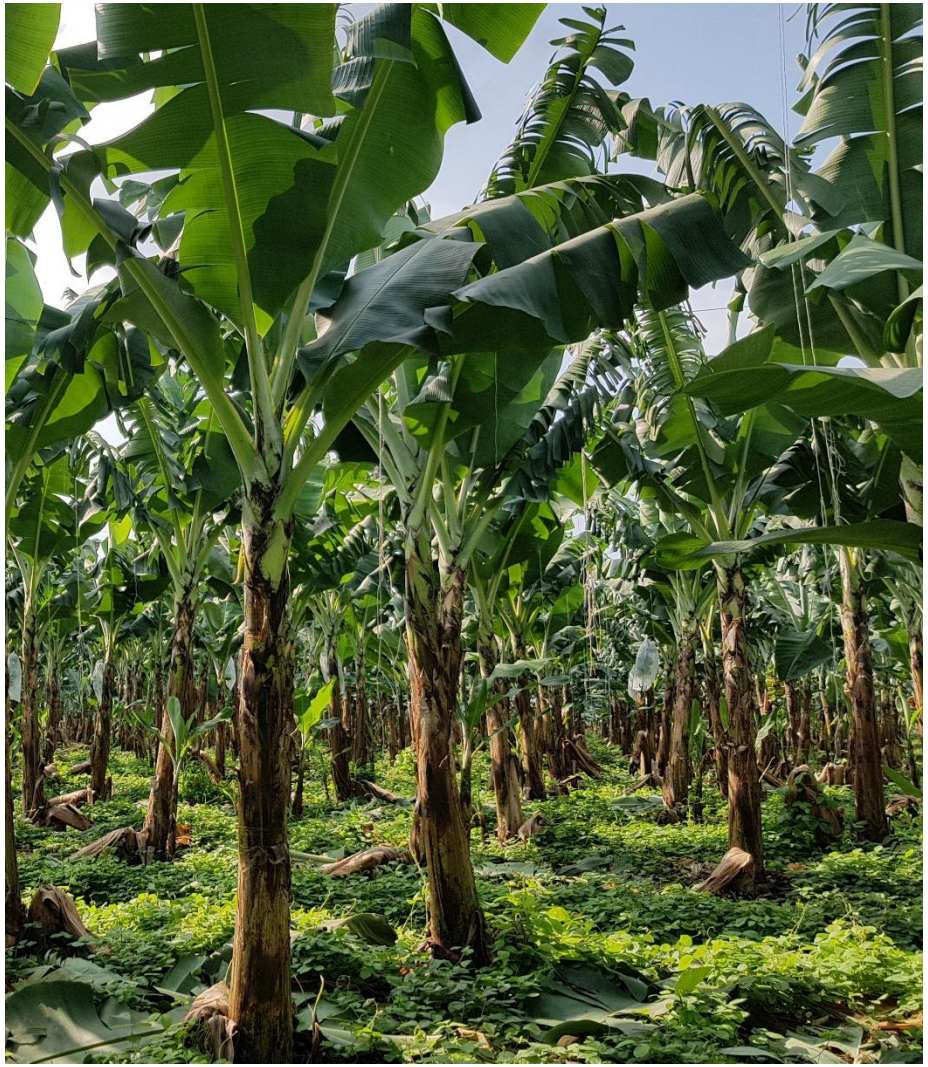

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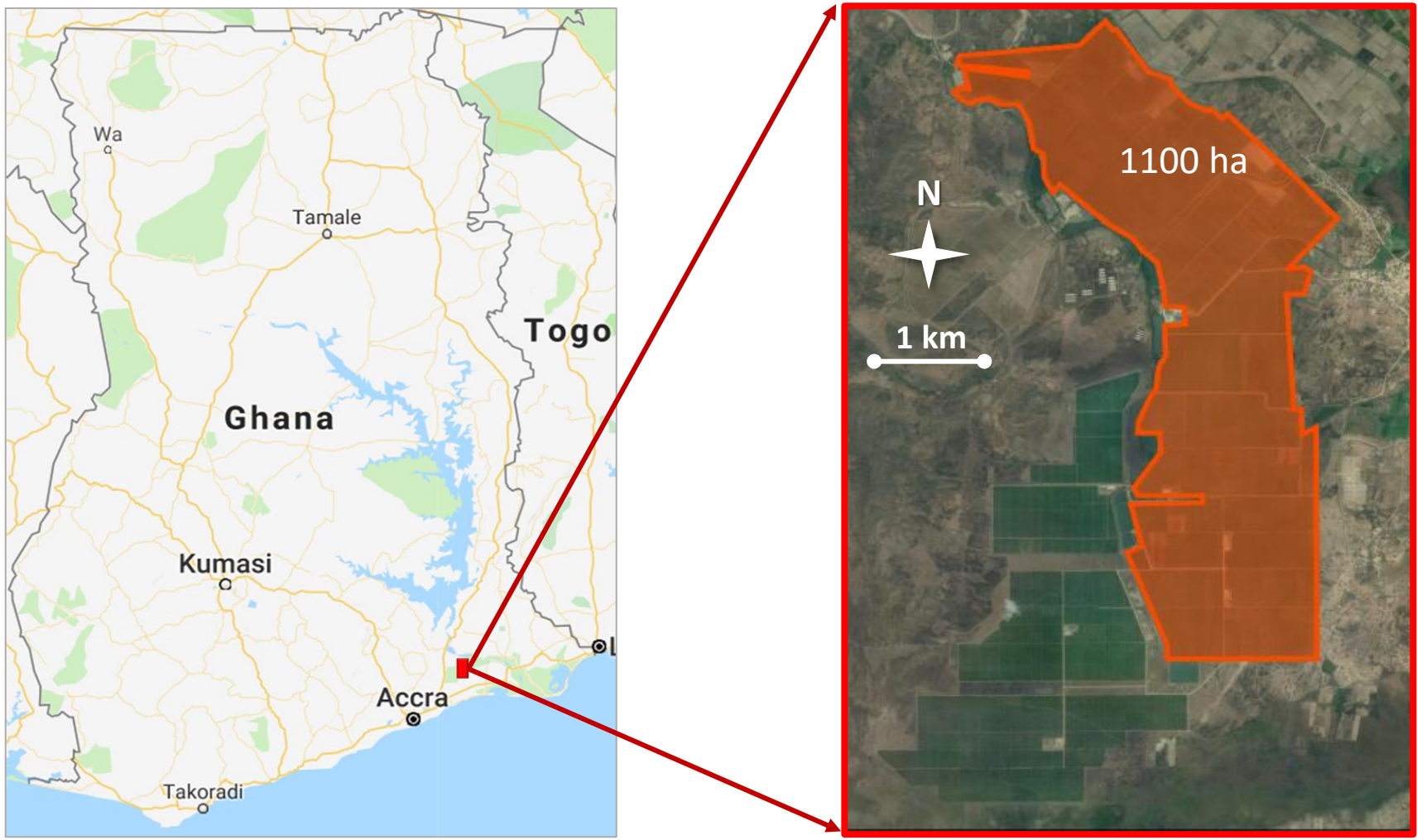

Location of the plantations of Golden Exotics Ltd and Golden Organics Ltd

Golden Exotics Ltd : Conventional plantation

Dry tropical climate

- 900 mm of rain per year
- Average temperature : 29°C

➢ **Relatively low Sigatoka pressure**

Heavy clay soils (vertisols)

➢ Challenge for drainage

➢ **No banana-parasitic nematodes**

Proximity to the port of Tema

➢ **Easy access to EU market**

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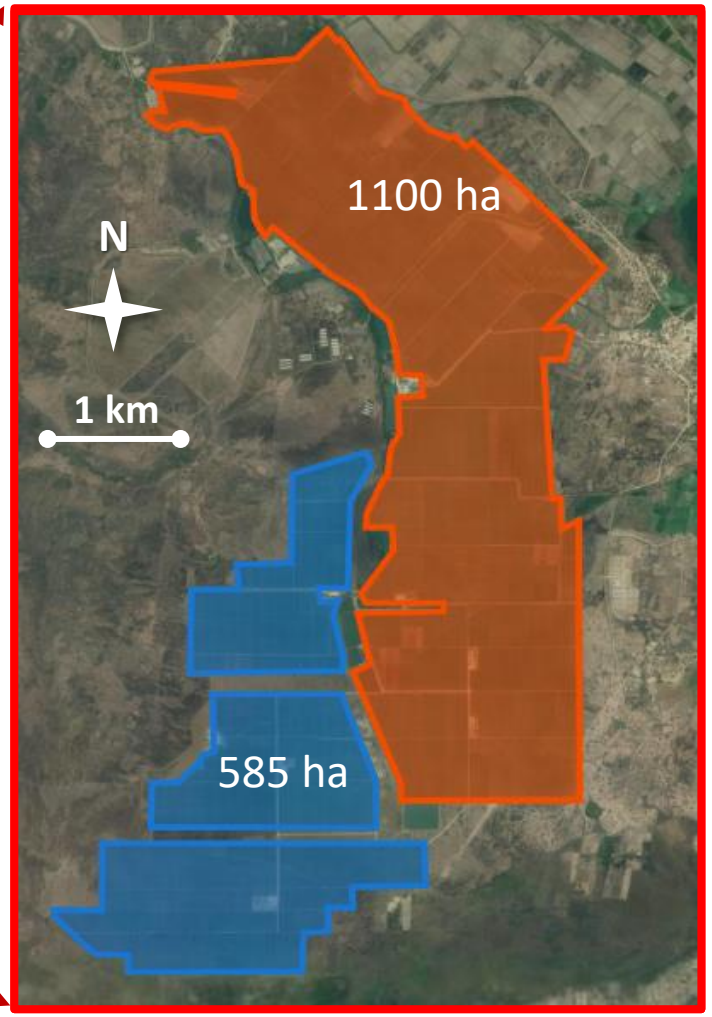
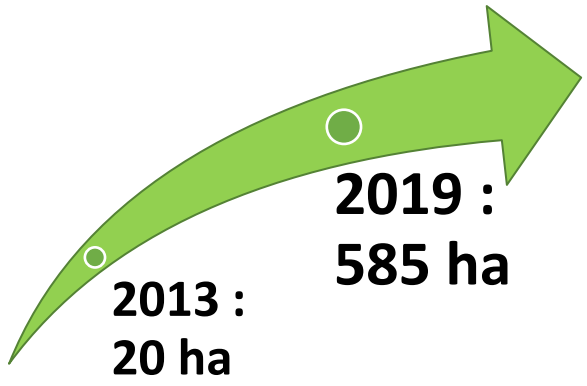


Golden Exotics Ltd : Conventional plantation

Golden Organics Ltd

Increase of the Organic area since 2013



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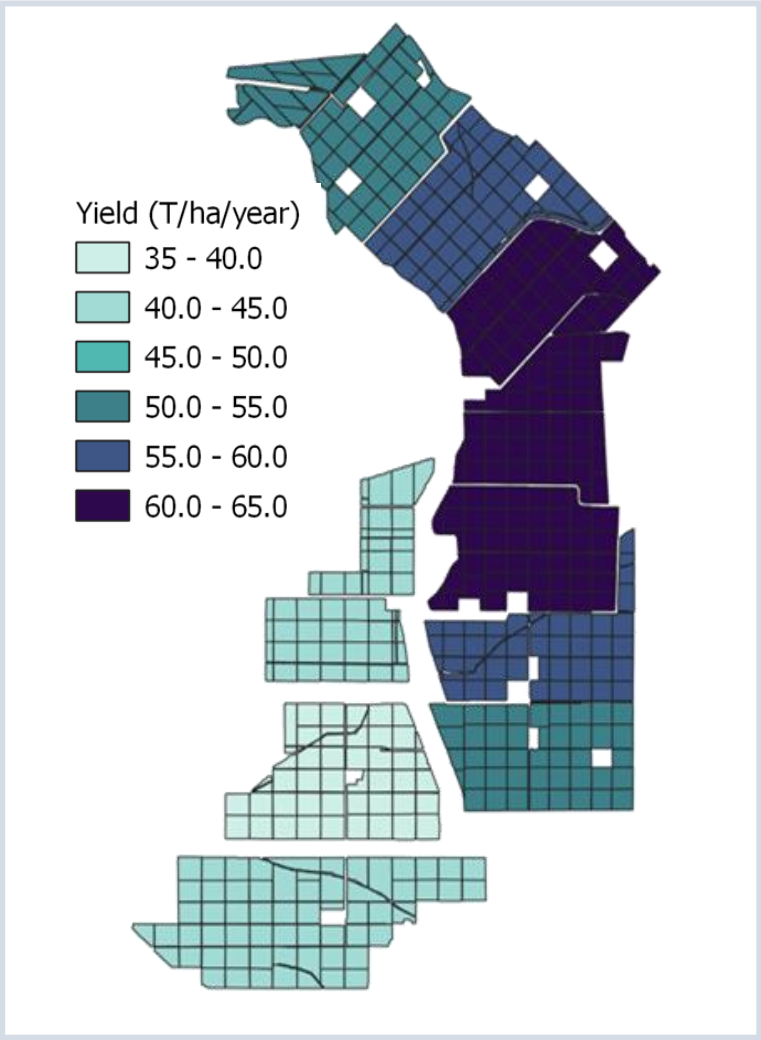

Commercial yield per sector for 2021 (T/ha)

2021 Yield	
Organic	40 T/ha
Conventional	58 T/ha

Fewer bunches per hectare

Smaller bunches (length and caliper)

Cost of production per box : 47% higher for Organic

→ How can we make organic banana production more profitable ?

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How can we make organic banana production more profitable ?

Our main challenges with Organic production :

- Fertilization
- Pest control
  - Black Sigatoka
  - Weeds
- Post harvest treatment

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Fertilization

Conventional

Urea fertilizer

Mineral fertilizers :

- Urea, KCl, CaNo3…
- Fertigation through drip lines

Organic

Compost produced on site

Organic fertilizers :

- 50% imported
- 50% locally produced (compost)

➡ Main challenges : Heterogeneity - Availability - Cost

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Fertilization

Drainage

Less nutrients available for the plants → the root system needs to be more efficient

⇨ Drainage is even more critical on the organic farm

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Pest control : Black Sigatoka

Conventional

- Systemic fungicides
- 7 to 9 treatments a year

Aircraft used for aerial spraying of fungicides

Organic

- Paraffin oil
- 35 to 40 treatments a year

➡ Main challenges : Efficiency – Cost – CO_2 emissions

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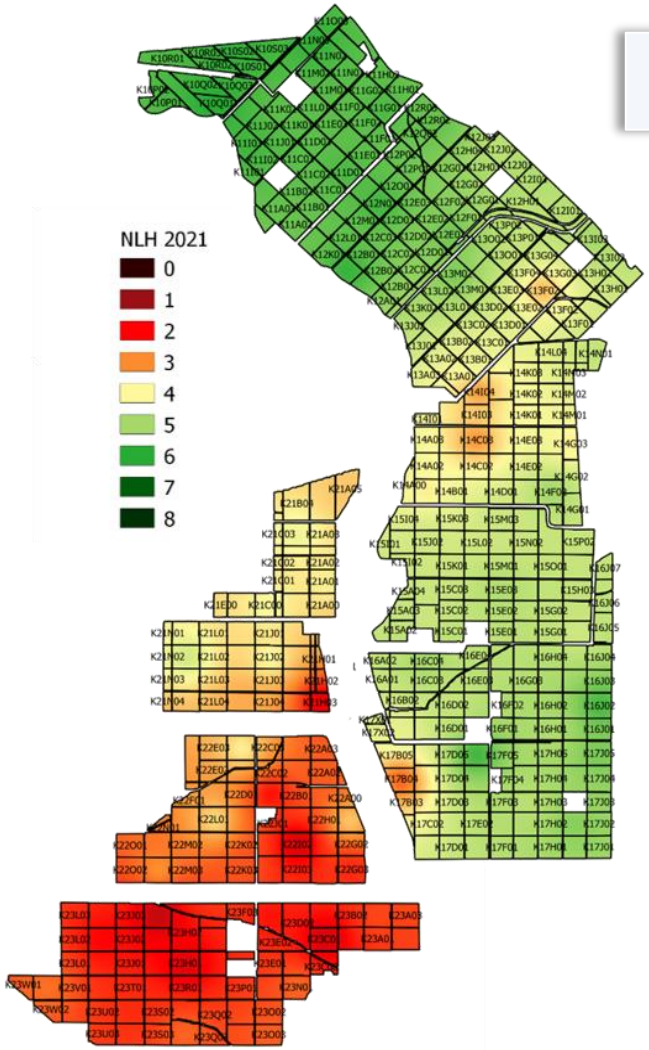

Average number of leaves at harvesting for 2021

Pest control : Black Sigatoka

Efficiency ?

Average number of leaves at harvesting for 2021 :	
Organic :	2.8 leaves
Conventional :	4.8 leaves

➡ Mechanical removal of necrotic parts needs to be irreproachable on the organic farm

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Pest control : Weeds

Conventional

- Glyphosate
- 4 to 5 times a year

Organic farm, 2019 rainy season

Organic

- Manual cutlass weeding
- 12 to 13 times a year

→ Main challenges : Cost – Damage to irrigation systems – Arduous nature of work

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Pest control : Weeds

Cover crops as an alternative strategy ?

Three criteria for success :

- Competitive enough to replace the spontaneous species
- Less competitive to the banana plants than the spontaneous species
- And / or Easier to maintain than the spontaneous species

→ 20 species tried since 2017
No suitable alternative identified so far


Desmodium ovalifolium


Neonotonia wightii


Centrosema pascuorum


Stylosanthes guianensis

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Post harvest treatment

Conventional

Application of fungicides

- Fungicides against crown rot
- Giberellic acid against early ripening

Organic

Paraffin film

- Citric acid and Paraffin film against crown rot

➡ Main challenges : Efficiency - Cost

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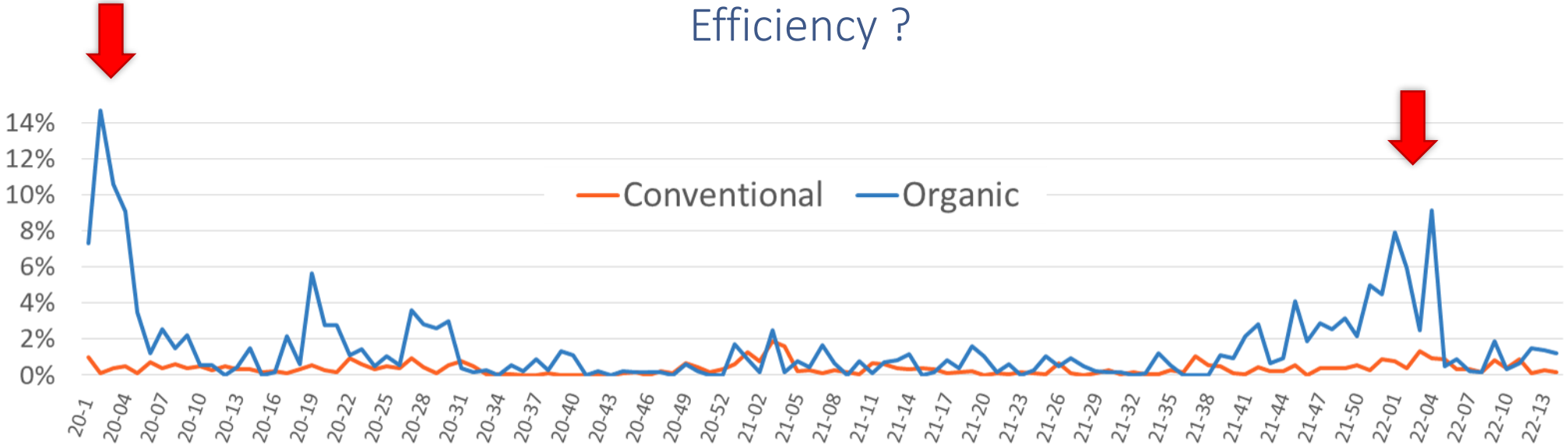
Post harvest treatment

Efficiency ?



Percentage of crown rot upon arrival in Europe – 2020 to 2022

➡ Environmental factors need to be better controlled for organic production (absence of necroses on the leaves, control of the cold chain, etc.)

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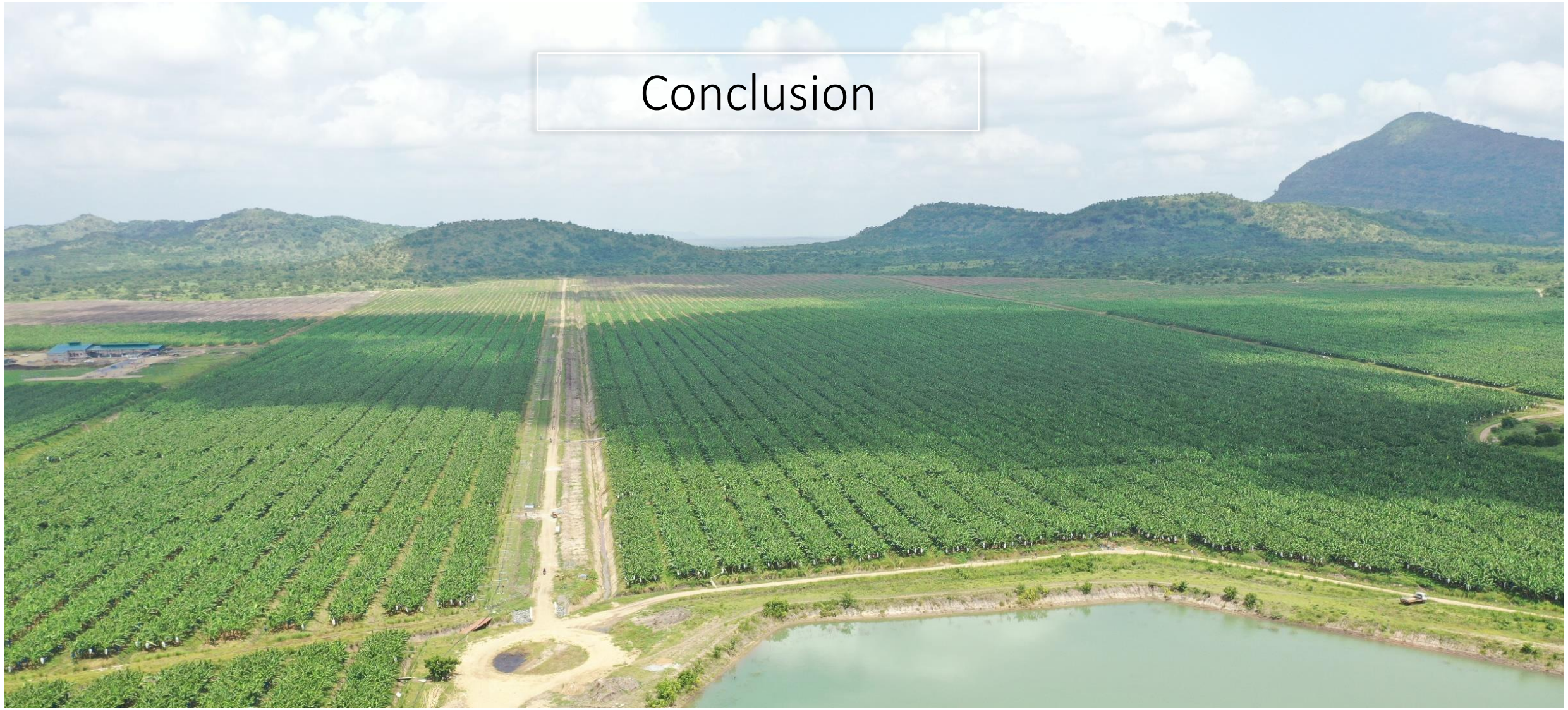

Conclusion

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