



Integrated pest management is cost-effective and successfully reduced insect pests of eggplant (*Solanum melongena* var. pink ravaya) in two agroecological zones in Ghana



UNIVERSITY OF GHANA

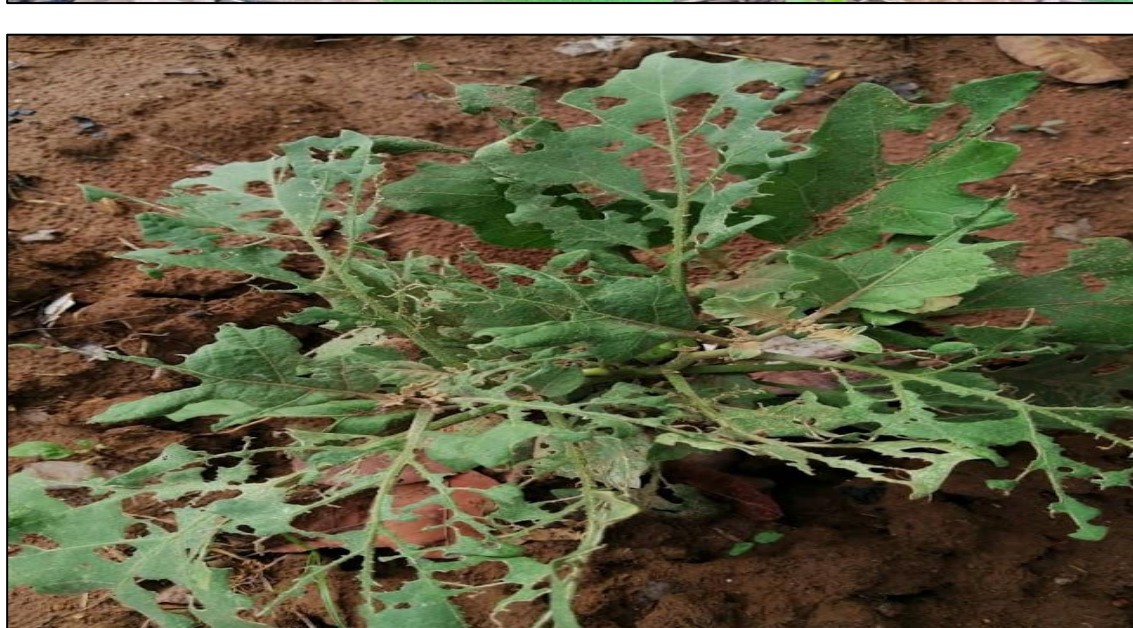
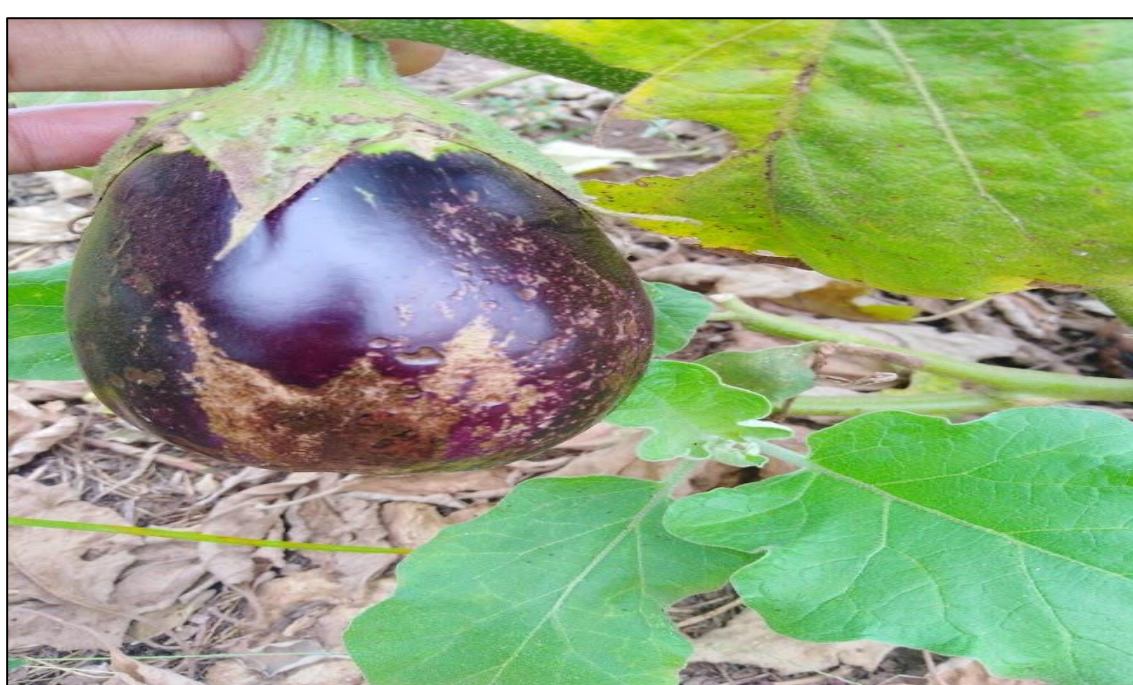
1University of Ghana, African Regional Post Graduate Programme in Insect Science (ARPPIS), Ghana

2University of Ghana, African Regional Post Graduate Programme in Insect Science/Soil and Irrigation Research Centre, Kpong,

3University of Ghana, African Regional Post Graduate Programme in Insect Science/Forestry and Horticultural Crops Research Centre, Kade

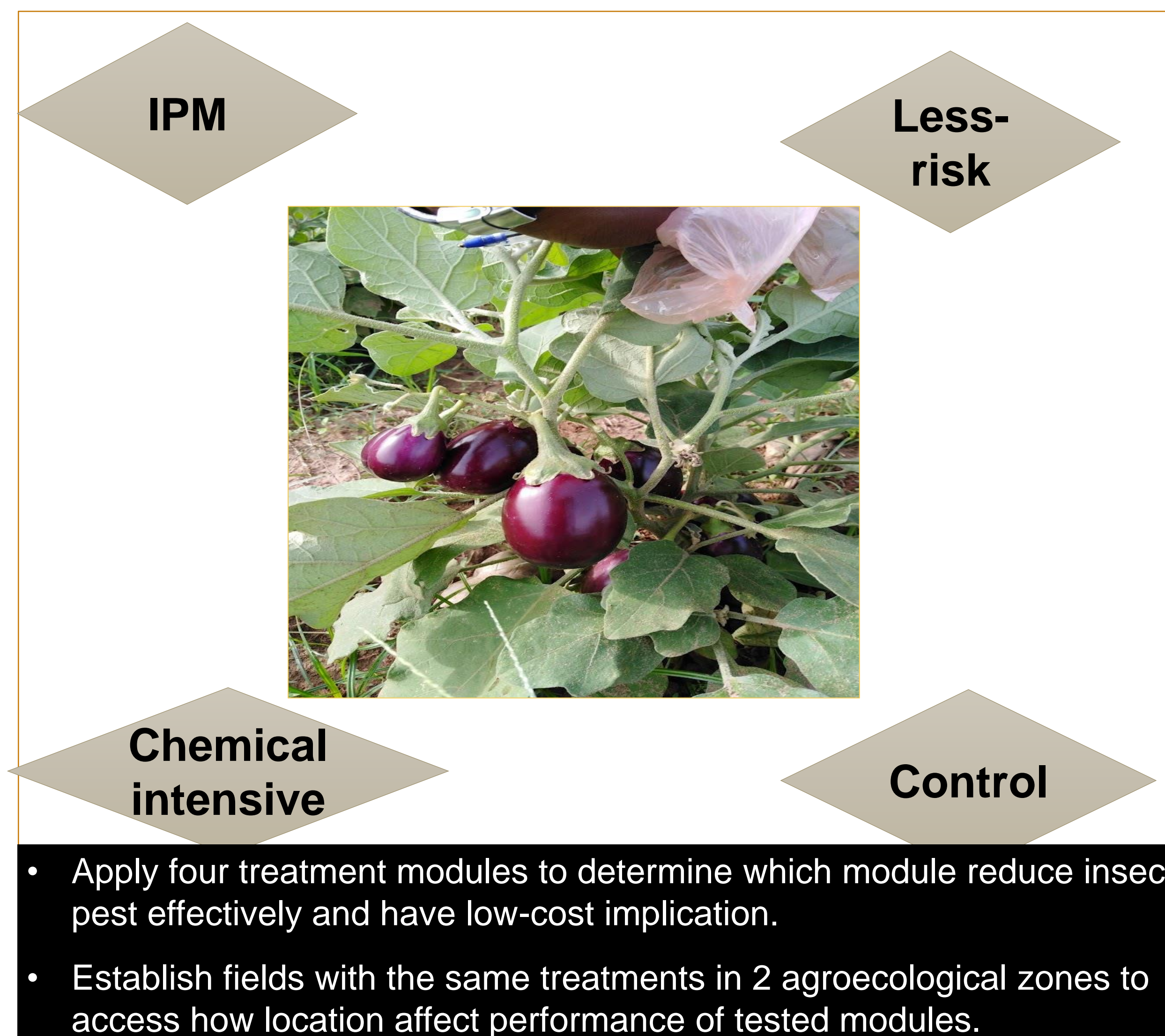
The problem

- A myriad of insect pests hampers eggplant (*Solanum melongena* var. pink ravaya) cultivation, marketability and export potential in Ghana
- Synthetic insecticides are ineffective due to insecticide resistance aside their negative impacts on the environments
- Environmentally friendlier alternatives are key, but information on their cost implication in Ghana is limited,
- **Question:** Which cost-effective pest management module (s) can successfully control insect pests of eggplant?.



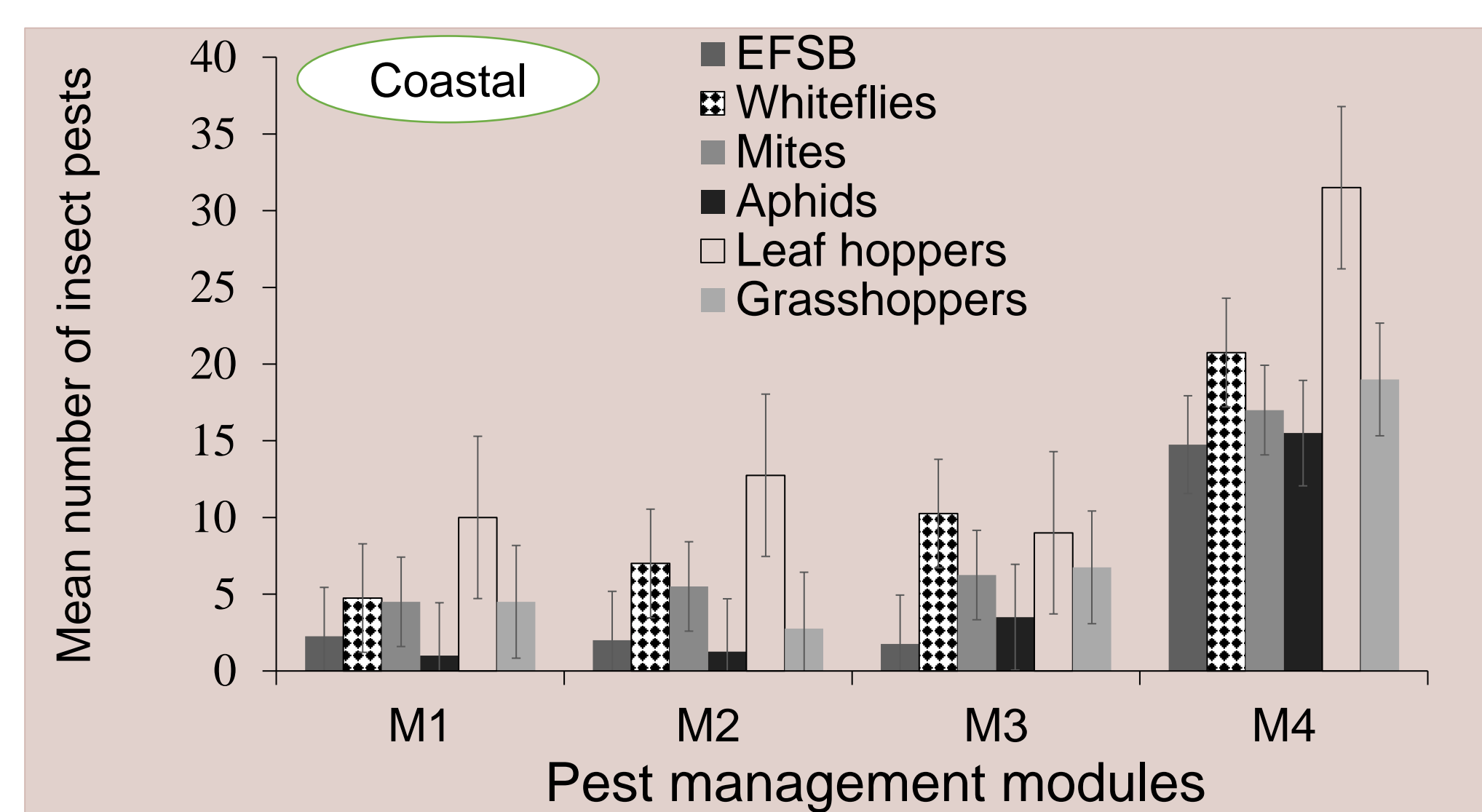
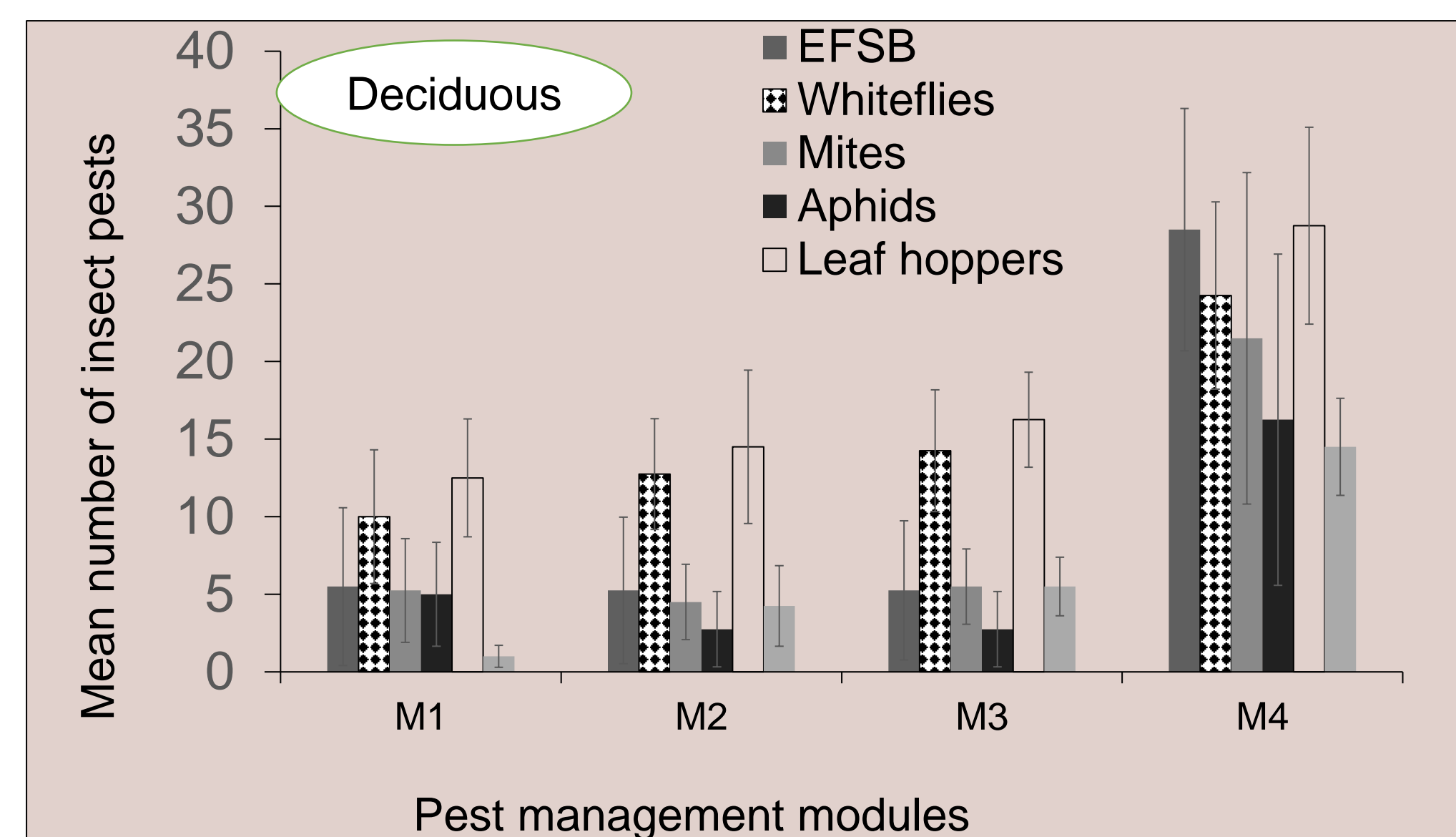
Field work reveals several pests

The approach



RESULTS

1 Effect of treatment modules on insect pest population



M1 = IPM module, M2 = less risk pesticides module, M3 = Chemical intensive module and M4 = control module.

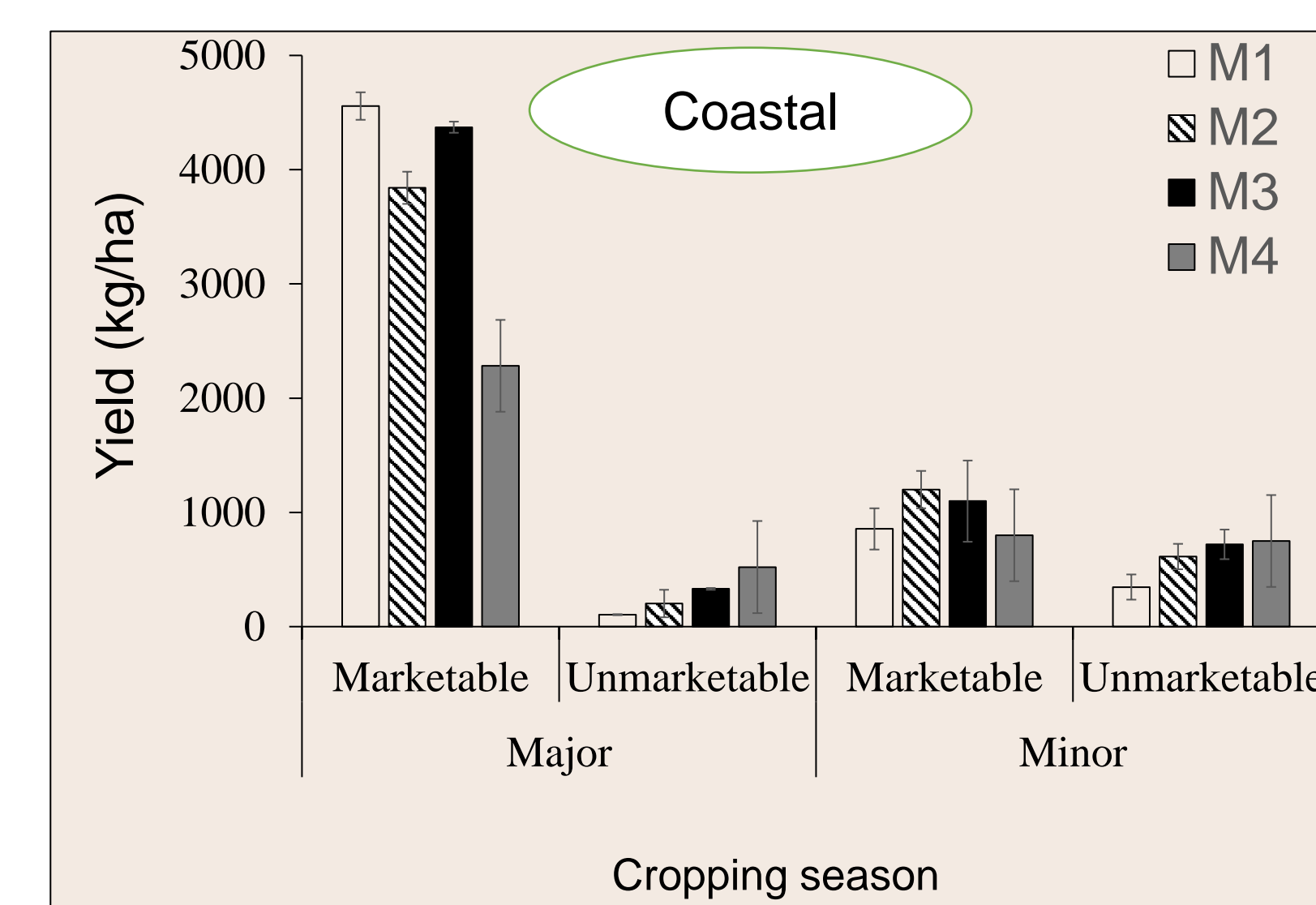
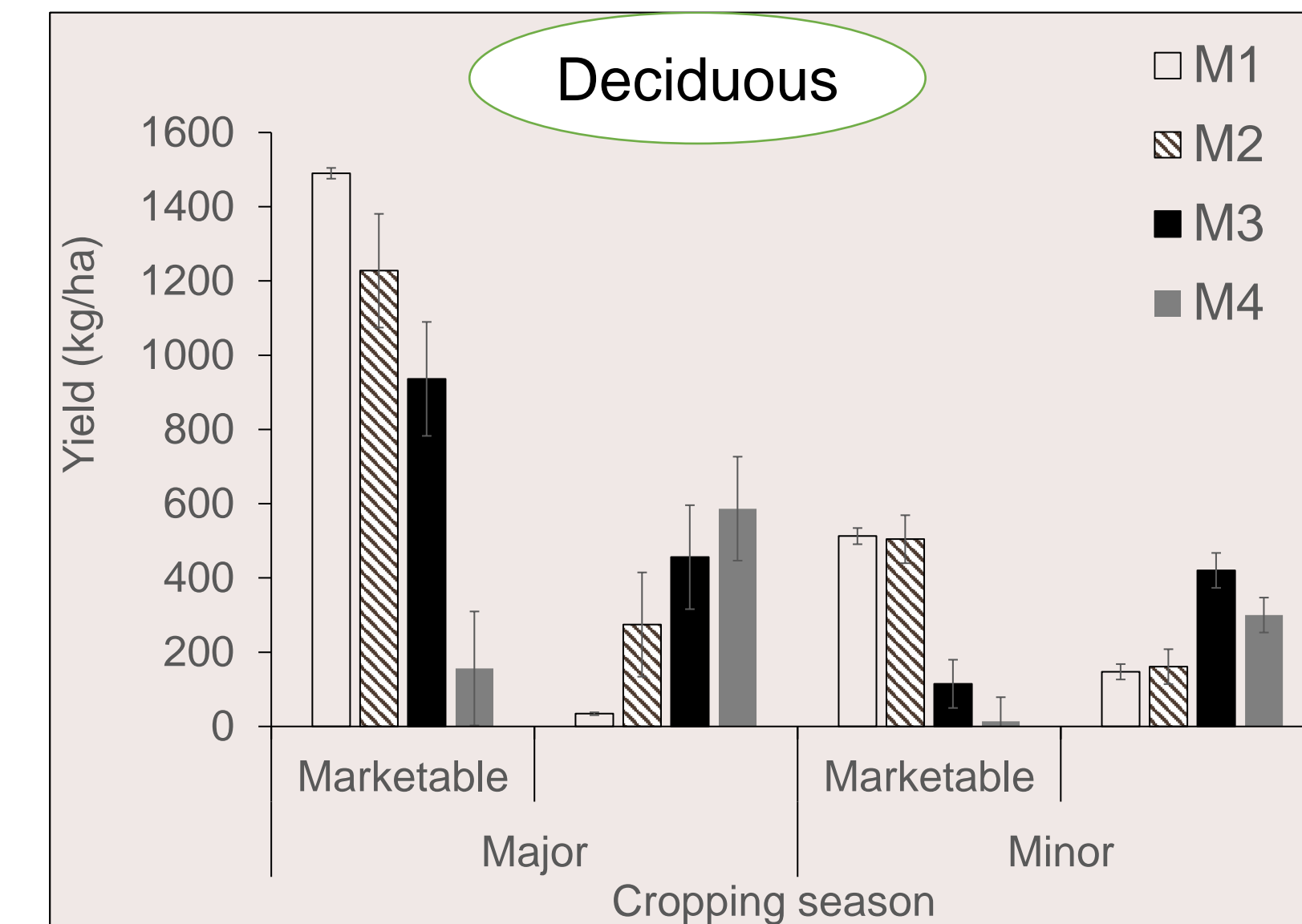
Highlights

- Lower pest populations on IPM plots
- Higher yields on IPM plots for all locations
- Higher cost benefit-ratio on IPM plots
- Higher pests in Deciduous zone



RESULTS

2 Effect of treatment modules on eggplant yield



3 Cost implications of management modules

Deciduous Forest agroecological zone (Dago)						Coastal Savannah agroecological zone (UG)						
Marketable yield (kg/ha)	Increased yield over the control (kg/ha)	Cost of plant protection (US\$/ha)	Net benefit (US\$/ha)	Gross monetary returns (US\$/ha)	Cost: benefit ratio	Marketable yield (kg/ha)	Increased yield over the control (kg/ha)	Cost of plant protection (US\$/ha)	Net benefit (US\$/ha)	Gross monetary returns (US\$/ha)	Cost: benefit ratio	
M1	1490.05	1334.01	623.4	663.344	1151.99	1: 1.85	4555.91	2273.66	481.14	3453.14	1963.44	1: 3.08
M2	1227.709	1071.67	977.86	82.35	925.44	1: 0.95	3840.88	1558.64	977.86	2338.96	1345.98	1: 1.38
M3	936.21	780.17	1419.36	-610.89	673.72	1: 0.47	4370.71	2088.47	1419.36	2355	1803.51	1: 1.66
M4	156.04	0	0	134.75	0	-	2282.24	0	0	1970.85	0	-

Recommendation

- Similar studies should be conducted in other agroecological zones in Ghana, to access their effect on the performance of the modules

Acknowledgements



AB Farms

Contact
Nkafu Therese Ngosong
ttnkafu@st.ug.edu.gh