



Food Security, Sustainability, and Climate Change

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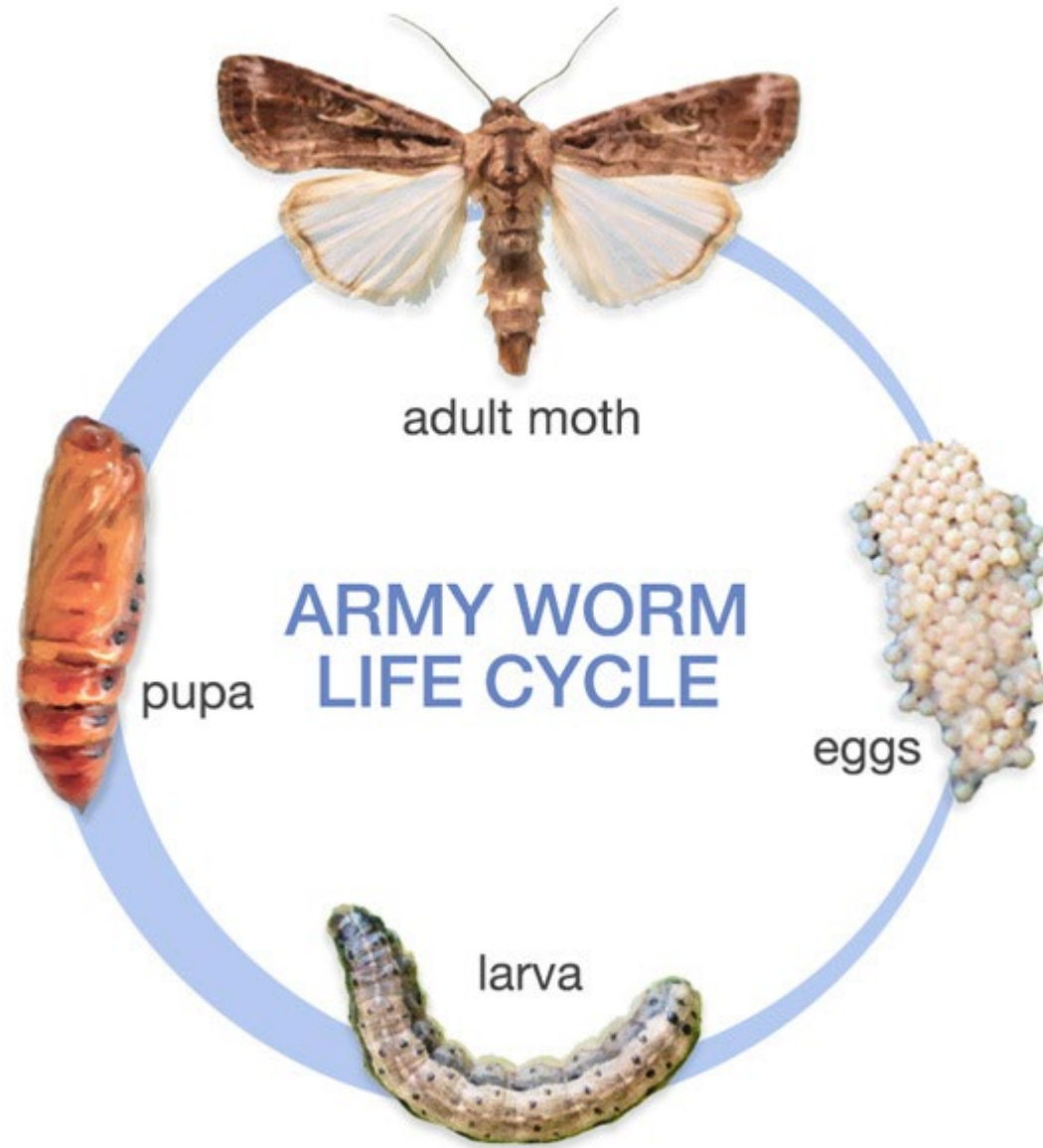
SCHOOL OF NATURAL SCIENCES AND MATHEMATICS

CLAFLIN UNIVERSITY

ORANGEBURG, SC

Is the Fall Armyworm Marching Your Way?





Armyworms eat all plant matter they encounter in their wide dispersals, like a large army – IPM Approach.

Grain crops including corn & maize

Grasses

Noted to consume over 80 different plants (50 non-economic and 30 economic plants).

Pesticides

Plant Resistance from a unique 33-kD proteinase that the corn produces when it is being fed on by fall armyworms the growth significantly decreased.

Biological Control/Natural Control

Fall Armyworm Damage on Maize



Fall Armyworm Damage on Corn



Parasitoids of Fall Armyworm (FAW) in SC McCutcheon 1984 – J. of Agric. Entomology

Insect parasitoids

- In the larval stage, grow and develop inside the fall armyworm, eventually consuming the soft tissues and killing the fall armyworm.
- Incidence of parasitism in early instar fall armyworms has reached 21% in corn and 40% in sorghum during the fall .

Parasitoids of FAW – 10 species in native environment

Chelonus insularis Cresson. It provides at least 50% of the late season parasitism of fall armyworm in sorghum and corn.

Archytas marmoratus (Townsend), a fly emerges from the pupal case of the fall armyworm.

Cotesia marginiventris (Cresson), a braconid wasp was detected in sorghum and in corn. This may provide some insight into the overwintering potential and possible role of these in integrated pest management.



Dr. Walter Manyangarirwa, Chair Zimbabwe National Plant Health Committee





. National Plant Health Committee in Zimbabwe

1. Emergency situations concerning new and existing invasive insects
Fall armyworm (*Spodoptera frugiperda*)
Tomato leaf miner (*Tuta absoluta*).
2. Pest management strategies for economically important insects and diseases.
3. Compilation and publication of pests lists for quarantine pest risk analysis.
4. Strategies for the elimination of insect pests and diseases of quarantine importance so as to increase the country's exports of agricultural produce.

Zaqueu Callisto Antonio

- Current 1st Year Claflin University Biotechnology Graduate Student
- Graduate of Africa University.
- Presented his project “Rosetta A



Global Changemakers selected 50 young people across Africa to be part of its Organization and, consequently of its annual event on Sustainable Development.



Rosetta Apparel by: **Zaqueu Callisto Antonio**

Rosetta Apparel is an innovative project with the mission of facilitating the sustainable management of post-consumer textile waste and promoting the transition towards a more circular fashion production and consumption model.



FUNDING OPPORTUNITIES FOR AFRICAN STUDENTS

The Conservation, Food, and Health Foundation

- Provides seed money to help promising projects, organizations, and individuals develop the track record they need to attract major foundation funding in the future.
- This funding will allow students to gain practical hands-on skills in food security to become scientists, ready to improve food production and promote public health in Africa.



Marching to Sustainability- A Global Approach

CLAFLIN UNIVERSITY AND CLIMATE CHANGE

Collaboration/Partnerships/Agreements

Grantseeking

Scholarships

Internships

Government Support

Industry Support

SC GOVERNOR'S 2019 ENVIRONMENTAL
AWARENESS AWARD/2023 EXCELLENCE IN
ENTOMOLOGY-

