



Universidad Central “Marta Abreu” de Las Villas

Innovadora, plural, nuestra

UnderplaNNet workshop in Ecuador

Local seed production with emphasis on underutilized crops

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Agricultural Research Center - UCLV

Strategic Issues Priorities for food sovereignty

1

Decrease dependence on imports of foodstuffs and inputs

2

To guarantee quality and safety and reduce food losses and wastage

3

Consolidation of territorial food systems

4

Mobilize educational, cultural and communication systems to strengthen nutrition education

Local seed production

Advantages

- **Capacity development:** Smallholder farmers can receive **support from local and national** governments, **public institutions**, national seed companies, and development organizations.
- **Seed quality:** Seed producer groups often produce varieties that are resistant to pests and diseases, stress-tolerant, and early-maturing.
- **Food security:** A sustainable seed system can ensure that high quality seeds are available in time and affordable to farmers.

Disadvantages

- **Access to early generation seed:** Smallholder farmers often have difficulty accessing good-quality early generation seed on time.
- **Seed quality:** The quality of seed produced by farmers may not be good, particularly in terms of germination, vigor, seed borne diseases, and degeneration.
- **Seed policy and legislation:** Smallholder farmers often have a poor understanding of applicable seed policy and legislation.
- **Packaging and labeling:** The packaging and labeling of seed produced and offered in local markets is often suboptimal.

Actions for the strengthening of Local Food Systems

Guantánamo story



Santa Clara → Guantánamo (10 h by car)



Activities in Guantánamo

First Stage: January 15th – May 8th, 2024

- Request from UCLV first vice-rector Dr. C. Luís Antonio Barranco Olivera to support Guantánamo to diversify the production of grains in the province, to counteract the great affectations caused in the cultivation of the common bean by the bean flower thrip (*Megalurothrips usitatus*) in the municipality of El Salvador.



Typical Cuban dishes → National security issue

Agreements

- To deliver seeds of different species and cultivars, mainly grains
- To carry out a process of accompaniment and training on a wide diversity of these crops through a “Variety Garden”
- Participation of different agricultural entities, research centers and the University of Guantánamo, in order to guarantee the continuity of these actions in the territory (**sustainability**).
- Starting point for local seed production.

- Where? Empresa Agroforestal “El Salvador”, near to Guantánamo city
- Telephone contact on Monday 11th December Ing. Magalys Luque Padilla, director of EAF “El Salvador”.

Outcomes

- Interest for certain grain species
- Requirements for the Variety Garden (soil preparation, irrigation, accessibility, etc.)

First trip

⇒ Sunday 14th to Friday 19th of January 2024 (6 days).

- Dr. Orelvis Portal Villafañá, director CIAP/FCA/UCLV

- MSc. Víctor Daniel Gil Díaz, head of Phylogenetic Resources and seeds group/CIAP



Local authorities (Plant Health Department, MINAG)

Visit to areas of the EAF "El Salvador" (coffee processing mill)



Visit to Centro de Desarrollo de la Montaña (CITMA-Guantánamo)



Diversity carried for planting in the Variety Garden

Species	Cultivars
Chickpea (<i>Cicer arietinum</i>)	12
Common bean (<i>Phaseolus vulgaris</i>)	19 (7 N, 5 R, 4 B, 2 J, 1 C)
Cowpea bean (<i>Vigna unguiculata</i>)	3
Mung bean (<i>Vigna radiata</i>)	1
Pea (<i>Pisum sativum</i>)	1
Wheat (<i>Triticum aestivum</i>)	1
Sorghum (<i>Sorghum bicolor</i>)	5
Sunflower (<i>Helianthus annuus</i>)	1
TOTAL⇒ 8 species	43 cultivars

Underutilized plants



Planting of the First Part of the Variety Garden (Wednesday, January 17th, 2024) ~ 1ha



Farmers capacitation in Yateras



Second and third trips

⇒ Tuesday 26th to Sunday 31th of March 2024 (6 days).

- MSc. Víctor Daniel Gil Díaz





Response of the 12 cultivars to the incidence (%) of the soil pathogenic fungi complex, according to Neupane *et al.* (2007). (undergraduate student)

Cultivars	Incidence (%)	Category
CIAP-G 11	18.10	T
CIAP-G 18	17.30	T
CIAP-G 22	11.67	T
CIAP-G 82	6.33	R
CIAP-G 109	8.00	R
CIAP-G 117	9.20	R
CIAP-G 155	13.50	T
Nacional- 24	15.60	T
Nacional- 27	21,80	S
Nacional- 38	20.90	S
JP- 94	19.10	T
Blanco Sinaloa- 92	25.00	S

Fourth trip

⇒ Wednesday 5th to Sunday 9th of June 2024 (5 days).

- Dr. Luís Antonio Barranco Olivera, Rector UCLV**
- Dr. Raciél Lima Orozco, Vicerrector UCLV**
- Dr. Orelvis Portal Villafaña**
- MSc. Víctor Daniel Gil Díaz**
- Luís Felipe Pérez Pérez, driver UCLV**

Scientific-Technical Collaboration

Universidad Central “Marta Abreu” de Las Villas – Guantánamo province





UCLV delegation



Activities in Guantánamo

Second Stage: irradiation to other municipalities (ongoing)



20 de octubre del 2024 3:00 pm
Centro de Pronósticos del Tiempo, INSMET



UCLV collaborators

- MSc. Víctor Daniel Gil Díaz
- Dr. Ubaldo Acelio Alvarez Hernández
- MSc. Alvaro Arias Vega
- MSc. Lesly Díaz Suárez
- MSc. Gudelia Rodríguez Valdéz
- Dr. Isbel Rodríguez Seijo
- Felix Hernández Moya
- Dr. Raciél Lima Orozco
- Dr. Luis Antonio Barranco Olivera



Thank you

