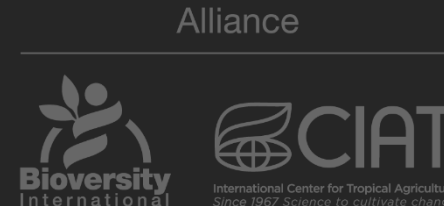


USE OF PLANT GENETIC RESOURCES

Germplasm

Andrade, R; Gutierrez, D; Alvarez, D; Ocampo, J; Tohme, J; Gonzalez, C.

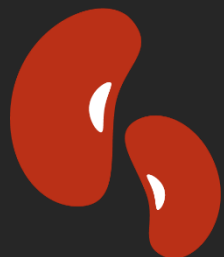
March, 15 2022



Globetrotting Crops

A contribution by ICA and the Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT) to agricultural research

The genebank and breeding programs of CIAT have shared almost 400,000 genetic materials, with the support of ICA for their sanitary certification:



180,000+
Beans



140,000+
Rice



35,000+
Forages



35,000
Cassava

Purposes of the material sent

57%

basic and applied
research

21%

agronomy

17%

breeding

5%

others



Globetrotting Crops

A contribution by ICA and the Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT) to agricultural research

Amount (samples)
of genetic material
sent:

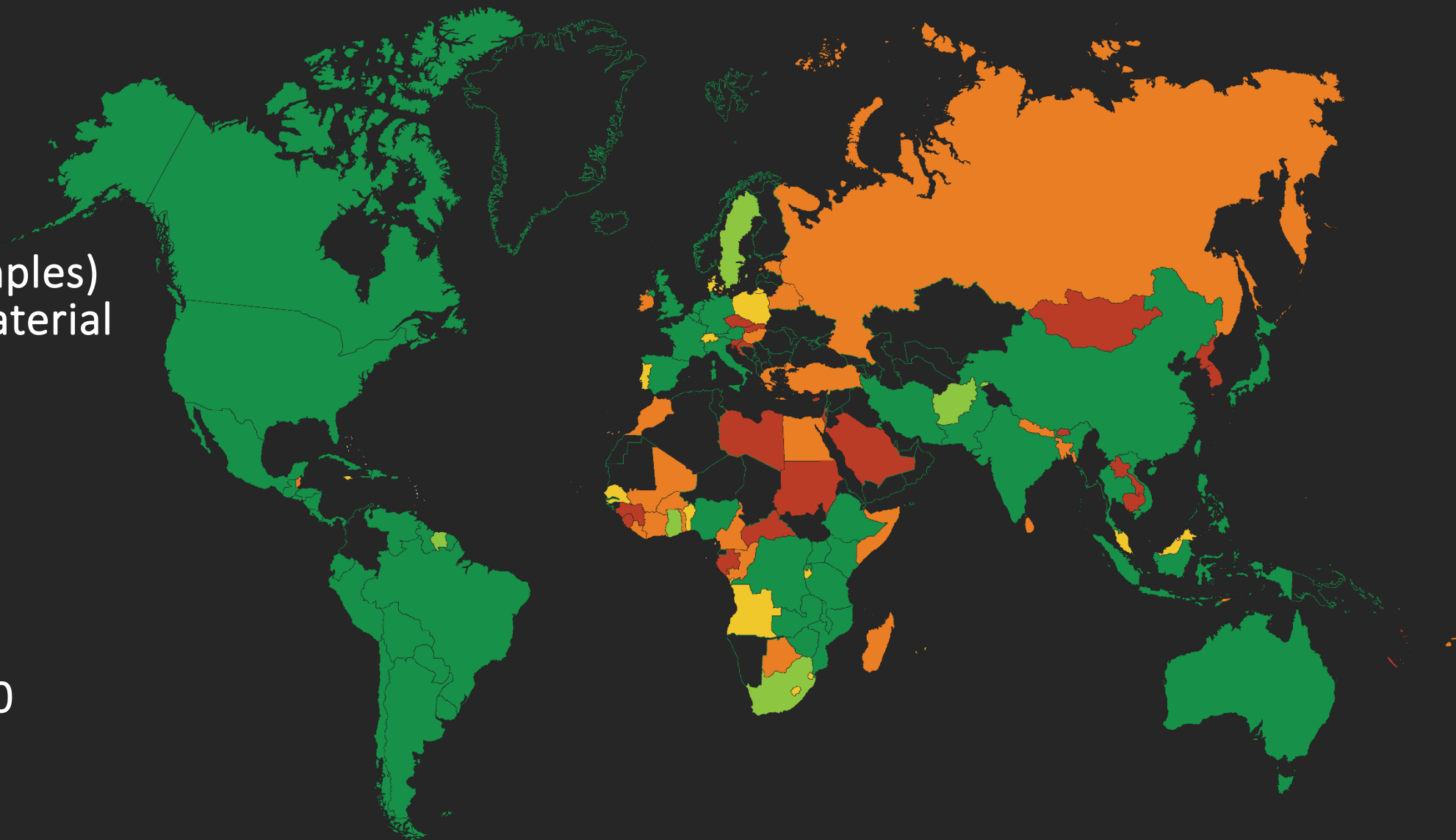
1–50

51–200

201–500

501–1,000

>1,000

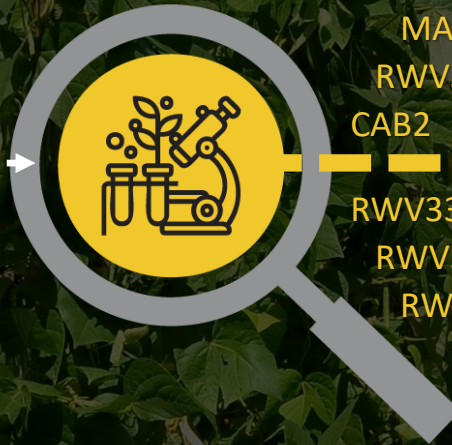


Globetrotter Germplasm in Action: Bio-fortified beans in Rwanda

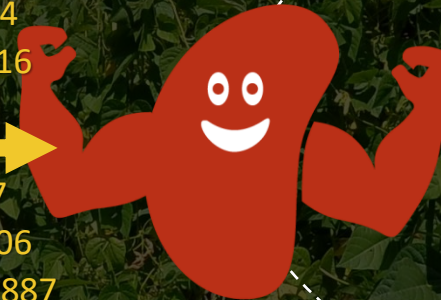
Germplasm
accessions



G 2540
G 12666
G 12670
G 20557
G 11891
G 14013



MAC44
RWV3316
CAB2
RWV3317
RWV3006
RWV2887



Yields have increased due
to this new varieties and
have encouraged adoption

The production of these
beans potentially boosts
micronutrient consumption

Rwanda



23%

of bean

producing households



adopted bio-fortified varieties

Globetrotter Germplasm in Action: Multibillion-dollar Industry of Cassava in South-east Asia

KU50 one of the most adopted varieties has generated more than



400 million dollars

and gross annual
income increments per family:

\$51 in **\$460** in
Vietnam and Thailand

KU50

Rayong 90

Rayong 1

COL 1505

V43

Globetrotter Germplasm in Action: **Millions of Hectares Planted**

In the tropical pastures of Colombia
there are around **3.1 million ha** under CIAT selected
or bred varieties that are traced to the genebank

Increasing adoption of *brachiaria* grasses by 1% represents an
increment of **1.57% of income sales**

FIND FURTHER INFORMATION:



Globetrotting
Crops



Bio-fortified beans
in Rwanda



Cassava
Multibillion-dollar
Industry



Collaborative
Research



Protecting food
for the world



Alliance



DNA fingerprinting reveals varietal composition of Vietnamese cassava germplasm (*Manihot esculenta* Crantz) from farmers' field and genebank collections

KM94 (KU50) is the most dominant variety in Vietnamese farms surveyed (38%), reflecting its superior quality and productivity.

The genetic groups identified herein could be used to select unique accessions that should ideally conform with ex situ germplasm collections and identify areas where on-farm conservation programs should be targeted.



Genetic diversity of Guatemalan climbing bean collections



Guatemalan climbing beans have been suggested to represent a previously undefined race in the Middle American gene pool that may represent an untapped source of alleles for bean improvement that can contribute to solving production problems affecting both developed and developing countries.



The distribution of benefits from public international germplasm banks: the case of beans in Latin America



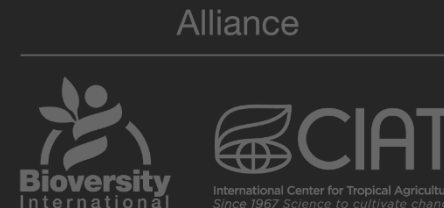
Most countries in Latin America were heavily dependent on imported genetic resources for their commercial cultivars.

Over 70% of the value of increased bean production due to the use of improved varieties in LAC was attributed to imported germplasm



FORESIGHT AND APPLIED ECONOMICS

For Impact



Investing wisely to end hunger and strengthen agriculture, with no region left behind: Latin America

Latin America and the Caribbean economies began to slow down and stagnate during the 2008 economic crisis. This situation has been aggravated by the current health crisis, which is expected to set back regional development by almost ten years.

Agriculture is one of the most relevant sectors for its potential to continue contributing to food security, poverty reduction, and resilience to counteract external shocks such as climate uncertainty or the current health crisis.



The risk of unintended deforestation from scaling sustainable livestock production systems



Silvopastoral systems (SPS)—production systems integrating trees, forages, and livestock within the same land area—are recognized as critical for reducing tropical deforestation and improving livelihoods, ecosystem services, and carbon sinks.



Where Is My Crop? Data-Driven Initiatives to Support Integrated Multi-Stakeholder Agricultural Decisions

Globally, there has been an explosion of data generation in agriculture. With such a deluge of data available, it has become essential to create solutions that organize, analyze, and visualize it to gain actionable insights, which can guide farmers, scientists, or policy makers to take better decisions that lead to transformative actions for agriculture



Joint adoption of rice technologies among Bolivian farmers



Bolivia has disseminated several improved technologies in the rice sector, but the average rice productivity in the country is far below the average trend in Latin America in recent years.

There is a need to better target resource-poor farmers, improve information-diffusion channels on agricultural practices, and better use existing farmers' organizations to enhance rice technology adoption.



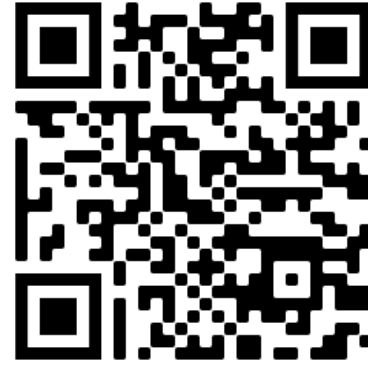
FIND FURTHER INFORMATION:



Rice
Observatory



Cassava
Lighthouse



Cassava Farm
management
Colombia



Caracterización de
arroz en Ecuador



Protecting food
for the world



Alliance

