The International Treaty
ON PLANT GENETIC RESOURCES
FOR FOOD AND AGRICULTURE

Food and Agriculture
Organization of the
United Nations

Digital Object Identifiers (DOIs) for Plant Genetic Resources and the Global Information System (GLIS) of the ITPGRFA

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Background

- **The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)**
  - Promotes conservation and sustainable use of all Plant Genetic Resources for Food and Agriculture and the fair and equitable sharing of the benefits arising out of their use
  - Facilitates access to PGRFA as well as to associated information
  - Established in 2004
  - 144 contracting parties

Article 17 of the Treaty

"The Contracting Parties shall cooperate to develop and strengthen a **global information system (GLIS)** to facilitate the exchange of information, **based on existing information systems**, on scientific, technical and environmental matters related to plant genetic resources for food and agriculture…"

The SMTA

- Regulates the exchange of PGRFA in the Treaty framework
- Also regulates the exchange of information associated to the PGRFA
- Provider's obligation:

  All available passport data and, subject to applicable law, any other associated available non-confidential descriptive information, shall be made available with the Plant Genetic Resources for Food and Agriculture provided

- Recipient's obligation:

  The Recipient shall make available to the Multilateral System, through the information system provided for in Article 17 of the Treaty, all non-confidential information that results from research and development carried out on the Material

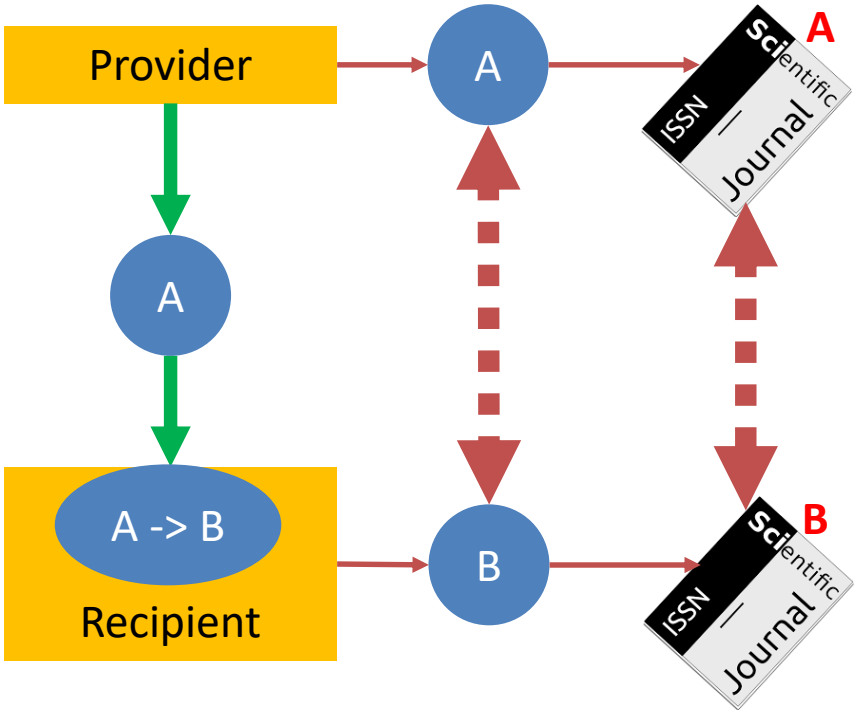
Information = benefit

Why DOIs?

- Accurate identification of the PGR is critical for scientific research and reliable information dissemination
- Each PGR user community has established its own independent standards for identification
- All communities agree on the importance of a common system of Permanent Unique Identifiers
- DOIs have been selected after consultation with experts from many countries and diverse backgrounds

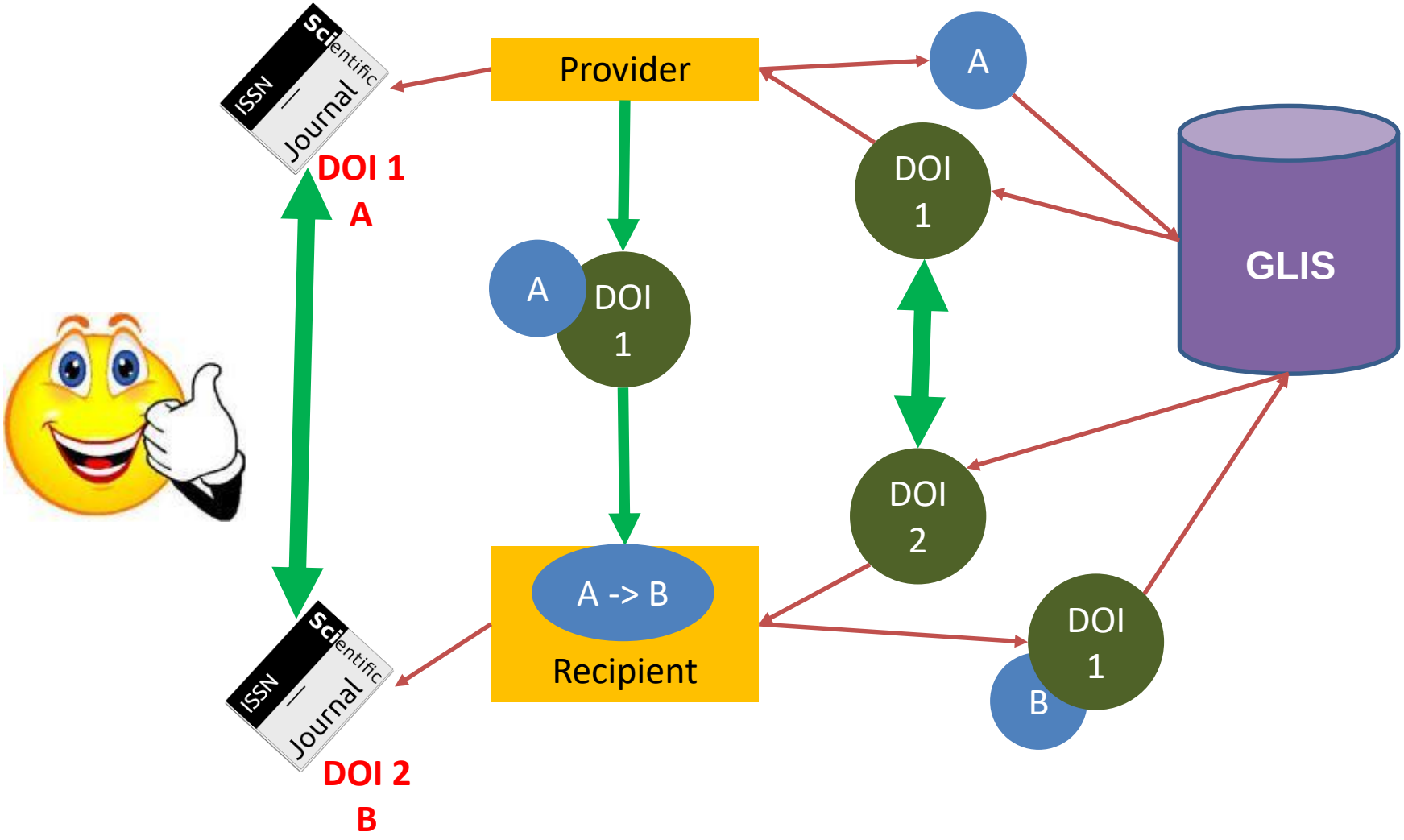
What happens now

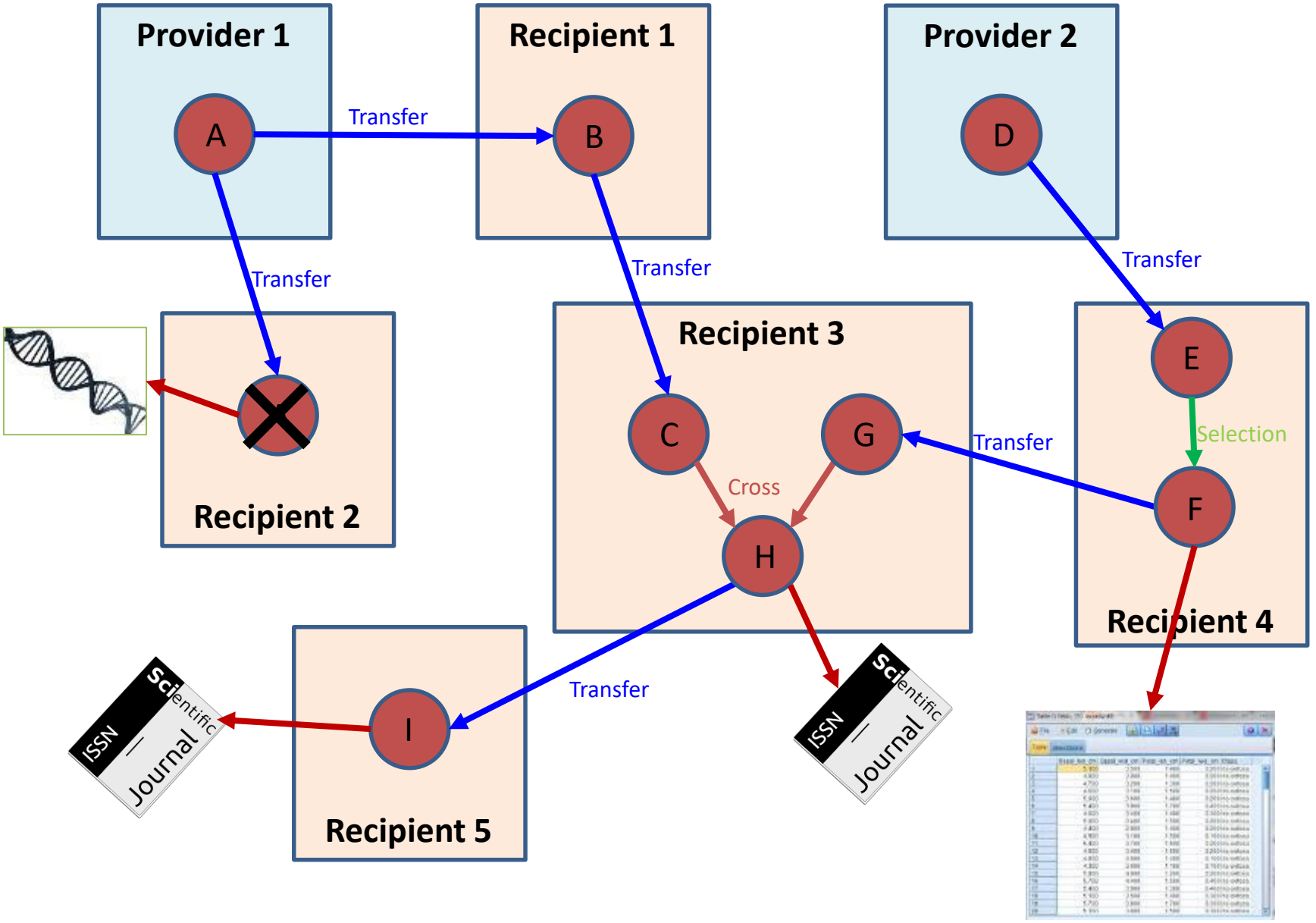
A = Genetic resource sample
B = Genetic resource sample
Provider = Breeder, Curator
Recipient = Genebank



How GLIS and DOIs will help

A = Genetic resource sample
B = Genetic resource sample
GLIS = Global Information System




Provider 1
A
Transfer
Recipient 1
B
Provider 2
D
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Recipient 2
Recipient 3
C
G
Cross
H
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E
Selection
F
Recipient 4
Transfer
I
Recipient 5
ISSN
Scientific
Journal

Assigning DOIs to PGRFAs

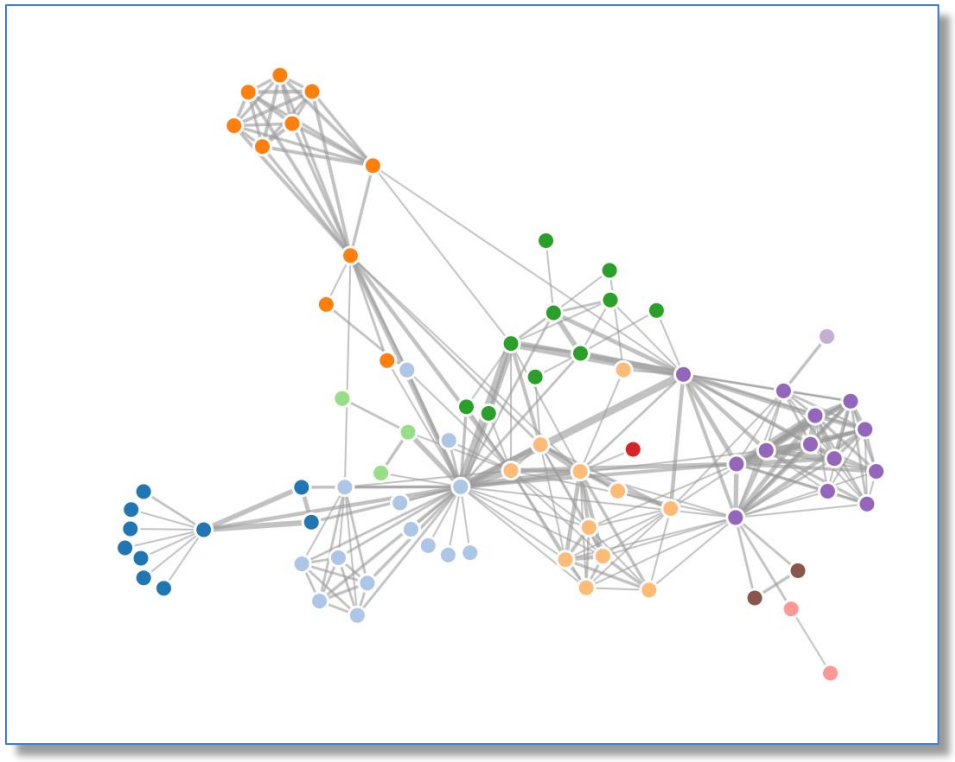
- What is the DOI associated to?
  - Physical material, not its description
  - Holder of the material
- Descriptors
  - Based on Multi Crop Passport Descriptors with some extensions
  - Mandatory: Holder, species, method, date, local identifier
  - Recommended: Biological status, links to web resources, etc.
  - Additional: Information on collecting, breeding, etc.

The Global Information System (GLIS)

- Identify PGRFA through Digital Object Identifiers (DOIs)
- Store basic information on PGRFA to support discovery and resolution
- Collect links to web systems where detailed information can be found
- Promote standards and formats to facilitate interoperability and data sharing among systems
- Promote “blessed” systems to facilitate participation
- Capacity building and data quality improvement

Services offered by GLIS

- Relationships among PGRFAs



Services offered by GLIS

- HasMetadata expansion
  - Allows access to full set of descriptors in XML
- Descriptors in multiple formats (Content Negotiation)
  - XML
  - JSON
  - JSON-LD
  - Darwin Core-Archive
  - brAPI
- EventData
  - GLIS will automatically provide links to publications citing the current PGRFA's DOI

GLIS for the user community

- Free-of-charge DOI minting
  - The cost is covered by the Treaty Secretariat
- The International Treaty is Member of DataCite
  - The GLIS user community is represented
- Support for GLIS users
  - Advice on adoption of DOIs
  - Integration Toolkit
  - Published formats and protocols to interoperate with GLIS

How you can register DOIs using GLIS

- Web form
  - For small collections or for *ad-hoc* updates
- Excel or tab-delimited batch files
  - For medium size collections or as a stop-gap solution
- XML-based protocol
  - For large collections and real-time integration

Thank you!

http://www.fao.org/plant-treaty

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