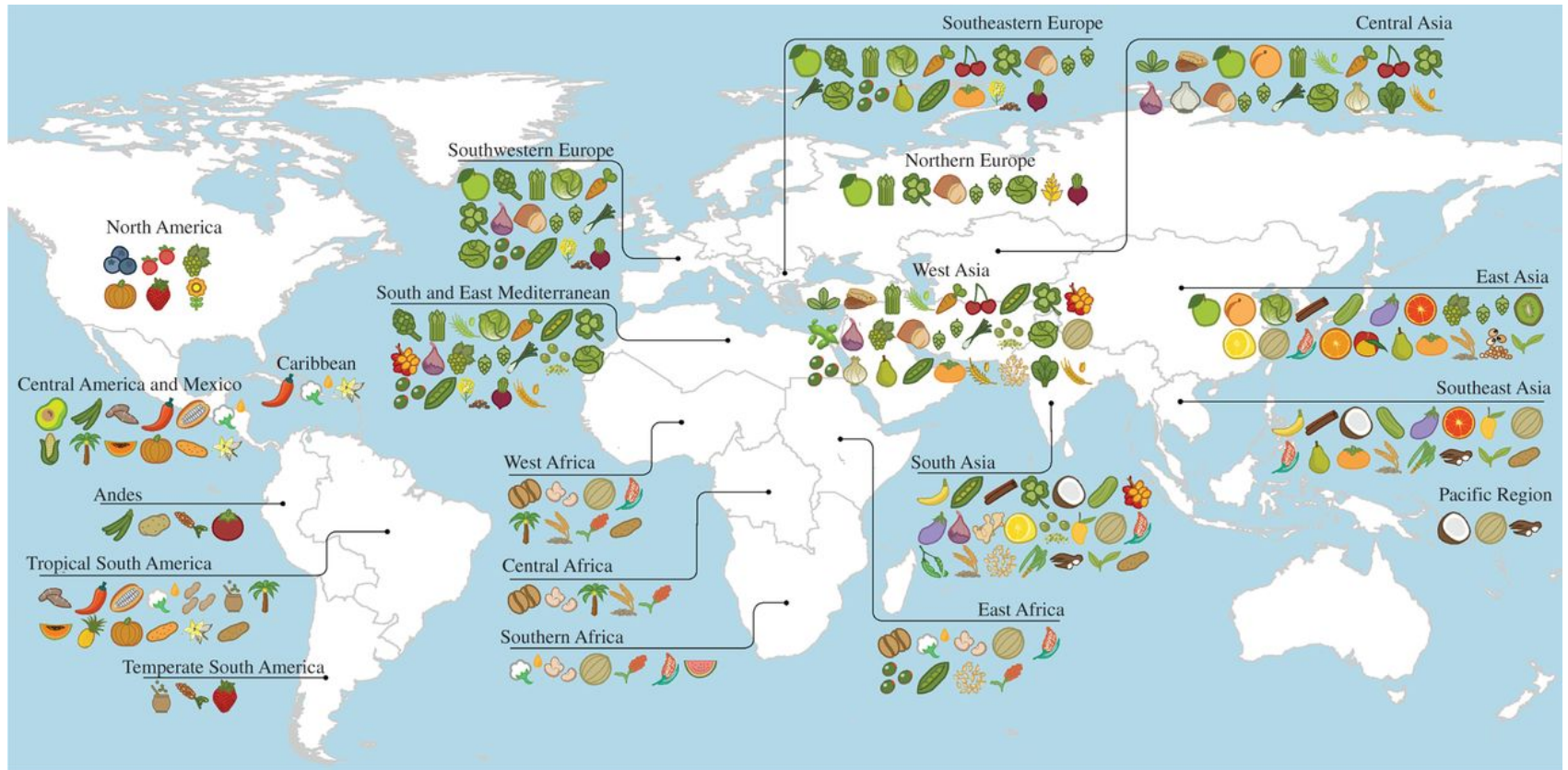


The FAO International Treaty (IT) on Plant Genetic Resources for Food and Agriculture and other international agreements

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Primary regions of diversity of major agricultural crops worldwide



- | | | | | | | | | |
|-----------------------|----------------------|----------------|------------|------------------|------------------------|-----------------------|--------------|----------------|
| alfalfa | beans | clover | eggplants | hops | melons | pears | rice | sunflower |
| almonds | blueberries | cocoa beans | faba beans | kiwi | millet | peas | rye | sweet potatoes |
| apples | cabbages | coconuts | figs | leeks | oats | pigeonpeas | sesame | taro |
| apricots | carrots | coffee | garlic | lemons and limes | olives | pineapples | sorghum | tea |
| artichokes | cassava | cottonseed oil | ginger | lentils | onions | plums | soyabean | tomatoes |
| asparagus | cherries | cowpeas | grapefruit | lettuce | oranges | potatoes | spinach | vanilla |
| avocados | chickpeas | cranberries | grapes | maize | palm oil | pumpkins | strawberries | watermelons |
| bananas and plantains | chillies and peppers | cucumbers | groundnut | mangoes | papayas | quinoa | sugar beet | wheat |
| barley | cinnamon | dates | hazelnuts | mate | peaches and nectarines | rape and mustard seed | sugarcane | yams |

Colin K. Khoury et al. Proc. R. Soc. B 2016;283:20160792

The IT and the Convention on Biological Diversity (CBD)

- The IT is a legally-binding Treaty under the UN Food and Agriculture Organization.
- The objectives of the IT are:
 - the conservation and sustainable use of PGRFA (Plant Genetic Resources for Food and Agriculture = plant germplasm) and
 - the fair and equitable sharing of the benefits arising out of their use.
 - The IT is in harmony with the CBD, and focused on sustainable agriculture and food security.
- The CBD is a legally-binding Convention under the UN Environmental Program.
- The objectives of the CBD are:
 - the conservation of biological diversity
 - the sustainable use of its components and
 - the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

The IT and the CBD

- **The IT:**
 - **143 nations are Parties to it; in force since June 2004.**
 - **The US Senate ratified it on 29 September 2016, and the US became a Party to the IT on 13 March 2017.**
- **The CBD:**
 - **190+ nations are Parties to it; in force since Dec. 1993.**
 - **The US signed (1993) but has not yet ratified it.**

The IT and the CBD

- **The IT:**
 - Nations have sovereign rights over “their” PGRFA but agree to:
 - Establish a multilateral system (MLS) for benefit-sharing and facilitated access to certain PGRFA for crop genetic improvement for food security.
 - Provisions for PGRFA in International Agricultural Research Centers (CIMMYT, IRRI).
- **The CBD:**
 - Nations have sovereign rights over their genetic resources.
 - Emphasizes contractual (bilateral) arrangements.
 - “Prior informed consent” can be required by a nation, and “benefit sharing” takes place via “mutually agreed terms” regarding access to germplasm.

The IT and the CBD

- **IT's scope includes all PGRFA. The MLS includes:**
 - **PGRFA of 64 food and feed crops key to food security; more crops may be included;**
 - **Held in ex situ collections by national governments (e.g., US National Plant Germplasm System), in the public domain; or held by IARCs; or**
 - **Donated by private entities.**
- **CBD's scope and coverage:**
 - **Most genetic resources under national jurisdiction exchanged internationally post-29 Dec. 1993.**
 - **Depending on a nation's interpretation, the CBD's access and benefit-sharing regime might include major crops not covered by the IT MLS such as soybean, tomato, cotton, peanuts.**

The IT and the CBD

- **Benefit-sharing under the IT:**
 - In a broad sense, benefit-sharing under the IT will come from nations who are obliged to conserve PGRFA and make them available for research and breeding.
- **Benefit-sharing under the CBD:**
 - Negotiated by providers and recipients (e.g., in contracts for exchanging genetic resources); in some cases involves national governments.
 - In many nations, will be guided by the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits Arising from their Utilization—came into force in October 2014.

The IT and the CBD

- **Benefit-sharing under the IT:**
 - In a narrow sense, benefit-sharing will flow from individual PGRFA transactions via the Standard Material Transfer Agreement (SMTA) which details obligations of recipients and the providers. Funds do not flow back directly to the PGRFA's country of origin: but are invested in projects supporting farmers in developing countries who conserve crop diversity and assisting farmers and breeders globally.
- **Benefit-sharing under the CBD:**
 - National implementation procedures are under development, and will be key to the Nagoya Protocol's effects.
 - See the CBD Access and Benefit-Sharing Clearinghouse for more information:
<https://absch.cbd.int/>

The IT and the CBD

- **Germplasm access and exchange under the IT:**
 - **Via the MLS's SMTA, which includes conditions for end use (excludes non-food and non-feed), conservation, management of IPRs, and benefit-sharing upon commercialization.**
- **Germplasm access and exchange under the CBD:**
 - **Variable terms, negotiated by parties to individual contracts.**
 - **National implementation of the Nagoya Protocol might affect those terms, and might not be tailored to the needs of agriculture, involving problematic requirements.**

Effects of IT and CBD on US germplasm users

- **IT:**
 - Has not affected use of PGRFA acquired pre-IT, nor of domestic US PGRFA.
 - Use of PGRFA acquired internationally post-IT has been affected by terms and conditions of SMTA.
 - In some cases, the IT's SMTA has facilitated international access to PGRFA for U. S. public-sector researchers, genebanks, etc., but in other cases it has not.
- **CBD:**
 - Generally has not affected use of germplasm acquired pre-CBD, nor of domestic US germplasm.
 - Use of germplasm acquired internationally post-CBD affected by terms and conditions of exchange consistent with U. S. law.
 - Effects of the Nagoya Protocol will be determined by its implementation.
 - Post-CBD, access to germplasm internationally has become increasingly problematic.

Effects of the US joining the IT

- **As a Party, the US government can more effectively represent US PGRFA users at IT meetings, advance US priorities and interests, and strive to improve some aspects of the IT.**
- **US PGRFA users, both public and private-sector, should have facilitated access to PGRFA from other Parties.**
- **Access to PGRFA from other Parties will be granted according to the terms of the Standard Material Transfer Agreement (SMTA); no additional negotiations needed.**

Effects of the US joining the IT

- **Non-governmental public and private-sector PGRFA owners and users in the US would incur no obligations.**
- **The ARS National Plant Germplasm System (NPGS) will undertake certain tasks, including reporting, information-sharing and curation, but it is already doing nearly all of those.**

Effects of the US joining the IT

- The NPGS will provide access to its PGRFA to non-U.S. users accompanied by the SMTA.
- Terms of access to NPGS PGRFA acquired without an SMTA would not change for U.S. users.
- Does not affect use of PGRFA acquired pre-IT, nor domestic U.S. PGRFA exchange.

Summary

- **The US government joined the IT on 13 March 2017, which should benefit US users of PGRFA from international sources.**
- **Implementing the IT in the US will involve relatively minor changes to NPGS operations: GRIN-Global staff and NPGS curators are already planning for it.**
- **An interagency group (State, USAID, USDA/FAS, USDA/OGC, Commerce, Treasury, ARS) is providing policy and legal advice on implementation details.**

Summary

- **Currently, NPGS genebanks include about 1,000 samples that were received from international sources accompanied by the SMTA. Some have been distributed to requestors.**
- **ARS scientists are permitted to use PGRFA accompanied by the SMTA in research but NOT in breeding.**
- **ARS will soon issue SMTAs for all international distributions of NPGS PGRFA. Standard procedures for that are currently under development.**