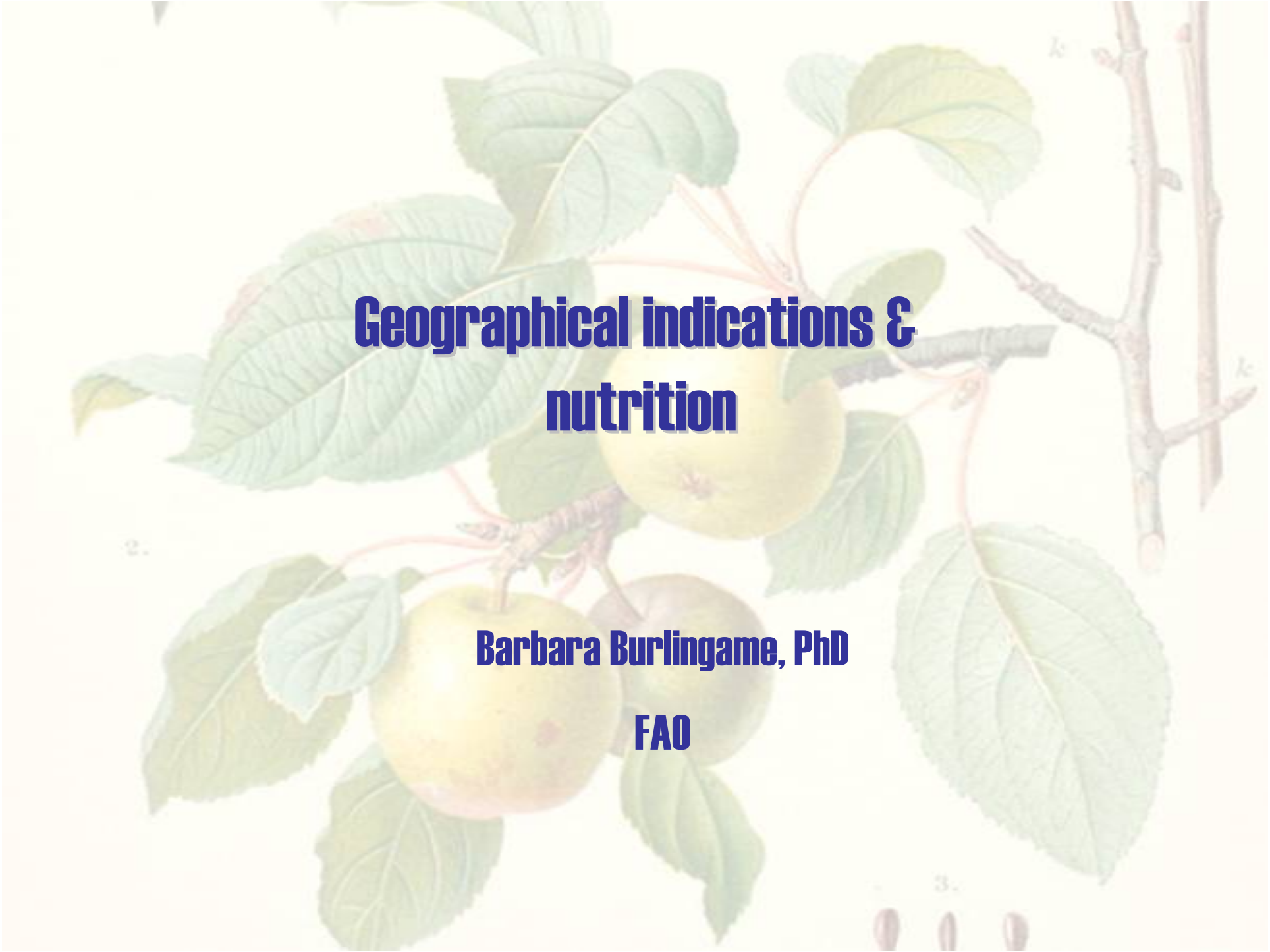

Geographical indications & nutrition

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FAO

Intergovernmental Working Group on Plant Genetic Resources

- Provide guidance on how to best support countries, on request, to generate, compile and disseminate cultivar-specific nutrient composition data*, as well as indicate the relative priority of obtaining cultivar-specific dietary consumption data, in order to demonstrate the role of biodiversity in nutrition and food security.

*Includes conventional nutrients, bioactive non-nutrients (phytochemicals, antioxidants, etc.), and contaminants

Conference of the Parties: Decision VII/32

- ***Noting*** the linkage between biodiversity, food and nutrition...

- ***Requests***...FAO and IPGRI...to undertake...a ***cross-cutting initiative on biodiversity for food and nutrition*** to work together with relevant organizations, in order to strengthen existing initiatives on food and nutrition, enhance synergies and fully integrate biodiversity concerns into their work, with a view to the achievement of...relevant Millennium Development Goals.

Rationale

- Wild species and infraspecific biodiversity have key roles in global food security;
- Different varieties ***(and same varieties with different GIs)*** have statistically different nutrient contents;
- Acquiring nutrient data on existing biodiversity needs to be a prerequisite for decision-making in GMO work;
- Nutrient content needs to be among criteria in promoting food biodiversity ***(and in promoting GIs)***;
- Sample and generate nutrient data for wild foods and cultivars
- Compile these data comprehensively ***(including GI)***, systematically and centrally, and disseminate widely;
- Include biodiversity ***(and GI)*** questions and/or prompts in food consumption surveys;
- ***Stratify sampling for composition & consumption by GIs (ecosystems)***
- Acquiring nutrient data and intake data for varieties ***(and GIs)*** is essential in order to understand the impact of biodiversity on food security.

Food Composition Data

Subnational and community levels: Similar calculations can be made to provide estimates of the distribution of nutrients within a country. These findings can indicate actual or potential nutritional problems. Such studies are often critically important for developing countries that have diverse geographical regions.

Objectives in sampling: All foods are biological materials and exhibit natural variations in composition...variability as it relates to factors such as season, geography, cultivar and husbandry...The combined protocols– that is, for sampling and analysis – should also ensure that the representative attributes are maintained in the portions taken for analysis.

Geographical samples, Major sources of variability in nutrient composition: In a single country there may be a wide diversity of soil and climatic conditions, resulting in significant variance in food composition. For these reasons, geographically-specific data may be presented in the database as a supplement to nationwide and/or regionwide averages... Stratification by geographical area may be useful even where there are no known significant regional variations.

International Rice Commission
20th Session

The Commission recommended that:

- Member countries should promote the sustainable development of aquatic biodiversity in rice-based ecosystems and policy decisions and management measures should enhance the living aquatic resource base.
- In areas where wild fish are depleted, rice-fish farming should be considered as a means of enhancing food security and securing sustainable rural development.
- Attention should be given to the nutritional contribution of aquatic organisms in the diet of rural people who produce or depend on rice.

FAO (2002). Report of the International Rice Commission 20th Session (23-26 July 2002, Bangkok). FAO, Rome.

International Rice Commission

21st Session

The Commission recommended that:

III.9.8 The evaluation of the composition and consumption of rice cultivars should continue for the development of food biodiversity indicators to guide agro-biodiversity conservation and human nutrition.

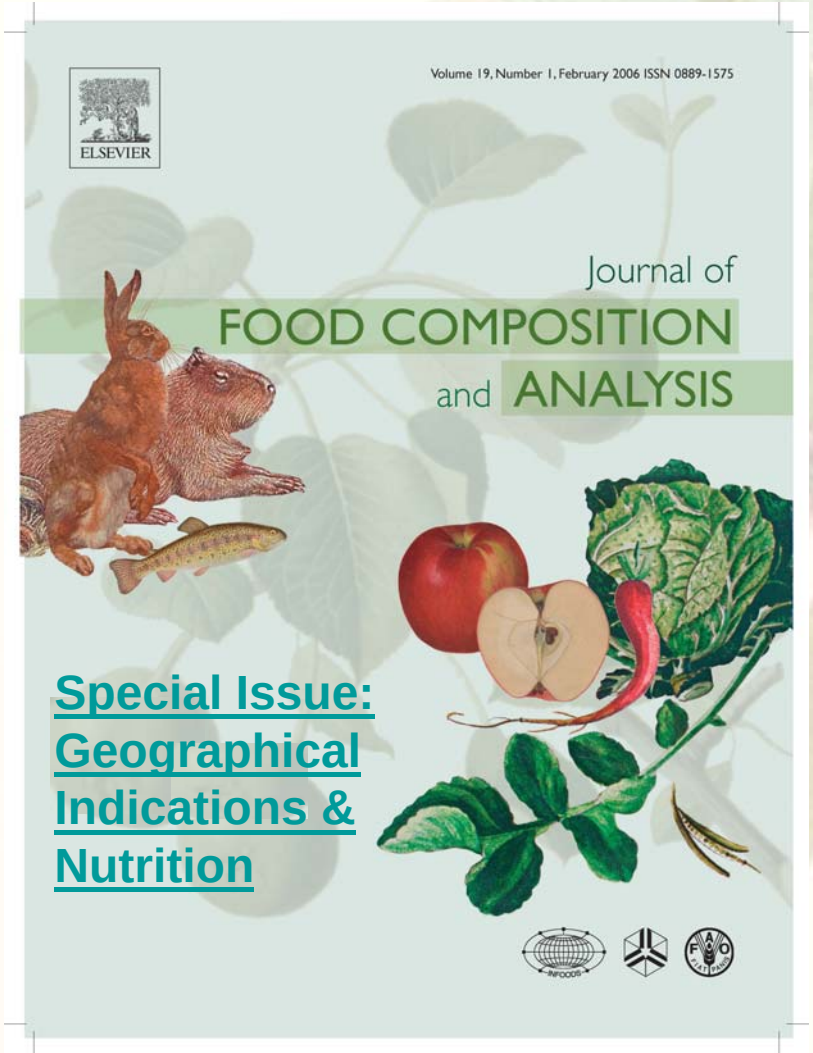
International Rice Commission, 21st Session, Chiclayo, Peru, 3-5 May 2006.

Cultivar Differences in Nutrient Content

Nutrient	Range	Average	Variety with highest nutrient content	Variety with lowest nutrient content
Protein (n=1339)	5.55 – 14.58 g/100g	8.55	Indica CR1707 (Costa Rica)	Indica Rd 19 (Thailand)
Iron (n=95)	0.70 – 6.35 mg/100g	2.28	Long grained[a] red (China)	Undermilled Red[a] (Philippines)
Zinc (n=57)	0.79 – 5.89 mg/100g	3.34	Ganjay Roozy (IRRI)	Long grain[a] Fragrant (China)
Calcium (n=57)	1.0 – 65.0 mg/100g	26	ADT-21, red (India)	Brown Japonica[a] (Korea)
Thiamin (n=79)	0.117 – 1.74 mg/100g	0.475	Juchitan A-74 (Mexico)	Glutinous rice[a] special grade (China)
Riboflavin (n=80)	0.011 - .448 mg/100g	0.091	Tapol Dark Purple (Philippines)	Mun-pu red (Thailand)
Niacin (n=30)	1.97 – 9.22 mg/100g	5.32	Long grained[a] purple (China)	Glutinous round[a] grained (China)
Amylose (n=1182)	1.0-76.0 g /100g	22.36	Ingra 410 (Brazil)	Bpi-Ri-3 (Philippines)

[a] These data come from Food Composition Tables, and do not strictly represent rice varieties

Improving the evidence base



- **Climate affects nutrients;**
- **Soil composition affects nutrients;**
- **Pasture composition affects nutrients in meat;**
- **Ecosystems and nutrition**
- **Terrôir, tradition, human inputs...**

Questions

- *Do GIs contribute to preserve biodiversity (endemic species, adapted specific race or species...)?*
- *Is the contribution to local resources and environment linked to the economic impact?*
- *Is there differences in the efficiency of GI systems (all types) between marginalised areas (ex: mountain, scarce or endangered resources, low yields, isolation...) and non marginalised ones (high agricultural resources)?*
- *Do GIs contribute to improve local identity and social cohesion of producers and local population?*
- *Do GIs contribute to develop other local economic activities?*