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A Partnership for Research and Development France and the CGIAR



The France-CGIAR Partnership

France and the Consultative Group on International Agricultural Research (CGIAR) enjoy a long-standing and fruitful partnership. France is a founding member of the CGIAR, and continues to be a leading supporter of the System, providing financial, scientific, human and technical resources. France contributes to the CGIAR's evolving research agenda, including attending Science Council meetings and supporting the overall CGIAR reform program.

In the context of international French research and development policies, agricultural research for development is considered a priority. A recent evaluation by the National Committee for Research Evaluation (CNER) noted the excellent collaboration between France and the CGIAR, while calling on France to increase its commitments for international cooperation in agricultural research for development. The Commission for International Agricultural Research (CRAI) which coordinates French activities in this area was created in 1978 under the Ministry of Research, to bring together all the relevant French agricultural research entities, as well as other Ministries. The CRAI's scientific programs are in harmony with CGIAR's focus on natural resources management (integrated production and post-harvest, environmental and social interaction, agro-ecology, water and soil preservation), biotechnology and genetic resource management (genetic improvement, pest management, use of biodiversity).

“Strong actions must be taken now to inventory, understand and protect biodiversity in order to meet the Millennium Development goals, and ensure food security, human health and the quality of life”

— Paris declaration on biodiversity by the scientists in favor of biodiversity, International Conference Biodiversity Science and Governance, Paris, January 2005

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France is also an active member of the European Initiative for Agricultural Research for Development (EIARD) that brings together the Member States of the European Union, plus the European Commission (EC), Switzerland and Norway, to improve the coordination of European policies and support for agricultural research for development.

Currently seven French scientists are Board members of seven Centers, and three French scientists have served as Board Chairs in the past (IITA, former ISNAR and The Africa Rice Center). In addition, France supports the secondment of scientists and junior professionals at CGIAR Centers (CIFOR, ICARDA and IITA among others).

A major portion of the financial support from France is in the form of core funding for the international agricultural research Centers supported by the CGIAR, and is a critical demonstration of strong partnership and support. This continuing focus on providing core funding remains crucial for the CGIAR system as it allows increased flexibility in resource allocations based on CGIAR priorities, and strong funding for the CGIAR reform program which is focused on strengthening science and increasing transparency, in particular through the Challenge Programs (CPs).

Challenge Programs are a major component of the new way of working in partnership between France and the CGIAR. France has been a strong supporter of the Challenge Programs concept and is collaborating in the launching and implementation of the pilot CPs.

Following are some current examples of the beneficial impacts of France—supported CGIAR research

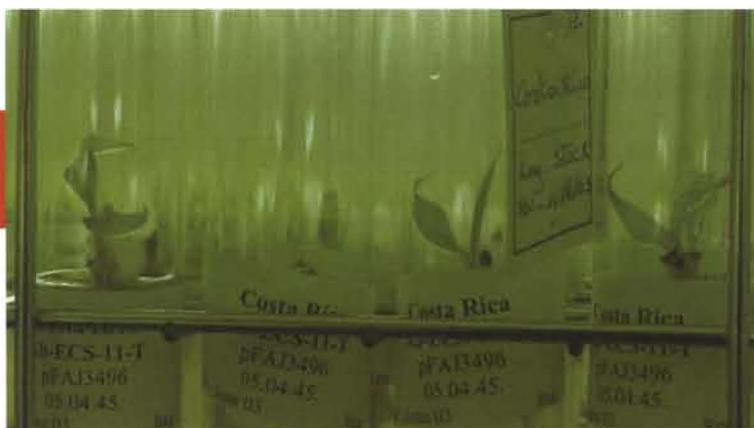
- The Performance Improvement of Irrigation Schemes in Africa project (known by its French acronym, APPIA) is helping farmers and extension services to increase irrigation efficiency. It is training a network of experts across the region to assess small-and medium-scale irrigation systems and devise strategies for their improvement. The framework for this development is a new approach, designed especially for the project, known as “Participatory Rapid Diagnosis and Action Planning for Farmer Managed Irrigation Systems” (PRDA). PRDA consists of an initial diagnosis of the main constraints of irrigation productivity and sustainability, made in consultation with farmers in the field, which is then used to plan measures to improve performance (www.iwmi.cgiar.org)
- The Global Program for *Musa* Improvement — Pro*Musa* — is a global program to accelerate the impact of banana research and improvement efforts. Most cultivated varieties of banana are sterile, and as a result, banana breeding is an expensive, slow and complicated process. Therefore little progress has been made in the development of improved varieties suitable for small-scale farmers. Pro*Musa* was established in 1997 to foster international cooperation and to facilitate the creation of synergies between ongoing research efforts. Major partners include CIRAD, IPGRI’s International Network for the Improvement of Banana and Plantain (INIBAP) program based in Montpellier, IITA, national agricultural research systems and the private sector (www.promusa.org) (www.ipgri.org)
- Livestock scientists are working to develop strategies to combat bovine *trypanosomosis* by increasing resistance to the disease. The genes of the parasites are identified, and cloned for producing antigens for immunizing cattle. Upon experimental infection with *Trypanosoma Congolense*, immunized cattle exhibited fewer symptoms of the illness, than control cattle (www.ilri.org)
- CIMMYT and IRD are working to develop a better understanding of apomixis, a plant’s ability to reproduce asexually. Apomictic gene technology is relevant to the problems of developing country agriculture because it will allow farmers to plant high-yielding maize year after year without having to buy costly hybrid seeds. Moreover, even with successive plantings, there is no risk of losing desirable traits such as high yields and resistance to stresses in the progenies. A hybrid between maize and its wild relative *Tripsacum* is being backcrossed in pursuit of a true apomictic maize variety. To date, more than 250,000 plants have been screened over 10 cycles. This long-term strategy is providing encouraging results (www.cimmyt.org)



Launch of the new France-CGIAR partnership through the Challenge Programs

A critical illustration of the France-CGIAR partnership is the strong support to Challenge Programs (CP) which also demonstrates France's commitment to CGIAR reforms. France is actively collaborating in three out of four CPs (Generation, Water and Food, Sub Saharan Africa CP) and French institutions are taking a leading role in their steering committees. The Institut de Recherche pour le développement (IRD), the Centre de coopération internationale en recherche agronomique pour le développement (CIRAD) and the Centre de recherche pour l'ingénierie de l'agriculture et de l'environnement (CEMAGREF) are represented in the Water and Food CP steering committee, Agropolis is

represented in the Generation CP committee, and CIRAD in the Sub-Saharan CP committee.

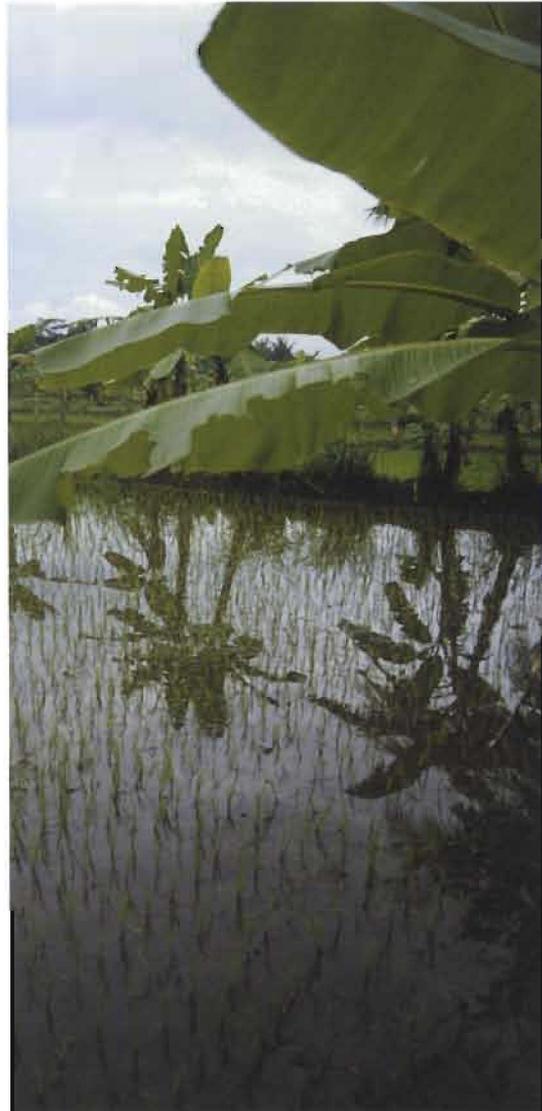


Challenge Programs are new high-impact, research for development programs that tackle major global development challenges through expanded partnerships. Four Challenge Programs are being implemented:

- “Generation” is unlocking crop genetic diversity through the application of comparative biological knowledge in 11 crops. There are 14 partner institutions involved. Program updates for the first year include genotyping a composite germplasm set representing global genetic resources for a first tier of eleven crops; development of a common phenotyping framework of techniques, plant development stages and parameters to enable cross-species comparison; validation and development of pre-existing markers for drought tolerance and the establishment of molecular breeding communities of practice; design of Generation CP information platform system for genetic resources, genomic and crop information systems and internal project workshops. The first call for proposals launched in 2004 resulted in 17 projects being financed, 6 including French partners and 2 being led or co-led by French scientists (www.generationcp.org)
- “Water and Food” is improving water productivity in agriculture in nine river basins (Andean system, Indo-Gangetic, Karkheh, Limpopo river, Mekong river, Nile river, Sao Francisco, Volta, Yellow river). In its first year, 33 research projects led by 18 different institutions, involving over 150 partners have been launched with a total investment of \$60 million. A diverse set of activities are

underway, including research programs on coastal management in Bangladesh and Vietnam; exploring and evaluating supplemental irrigation techniques in Syria, and improvements in rain water and nutrient use efficiency in Niger (www.waterforfood.org)

- The Sub-Saharan Africa Challenge Program (SSA CP) developed by a CGIAR partner, the Forum for Agricultural Research in Africa (FARA) is focusing on jumpstarting agricultural development in Sub-Saharan Africa. Fully supported by the CGIAR, this is the first Challenge Program with responsibility for implementation assigned to a partner institution in Africa. The SSA CP is promoting research that will provide options for smallholders to improve input and output markets for smallholder and pastoral produce, to intensify use of limited resources while maintaining food security and the use of natural resources in a sustainable way. The research will be conducted by Pilot Learning Teams with the communities at different Pilot Learning Sites, which have been already selected through a participatory process (www.fara-africa.org)
- “HarvestPlus” is an international alliance of over 40 institutions breeding crops with improved micronutrient content. Progress during the first phase of the project focused on: exploring the genetic variation for iron, zinc and B-carotene in rice, wheat, maize, cassava, beans and sweetpotato germplasm; applied breeding; testing the stability of micro-nutrient expression; and dissemination of seed of basic breeding materials and advanced lines to collaborators. New initiatives include the feasibility of a HarvestPlus China program, similar to HarvestPlus and to be funded by the Chinese government and other donors (www.harvestplus.org)





***Nourishing
the Future
through
Scientific
Excellence***

The Consultative Group on International Agricultural Research (CGIAR)

The Consultative Group on International Agricultural Research (CGIAR) is a strategic alliance of countries, international and regional organizations, and private foundations supporting 15 international agricultural research Centers that work with national agricultural research systems, civil society organizations and the private sector. The alliance mobilizes agricultural science to reduce poverty, foster human well-being, promote agricultural growth, and protect the environment. The CGIAR generates global public goods that are available to all.

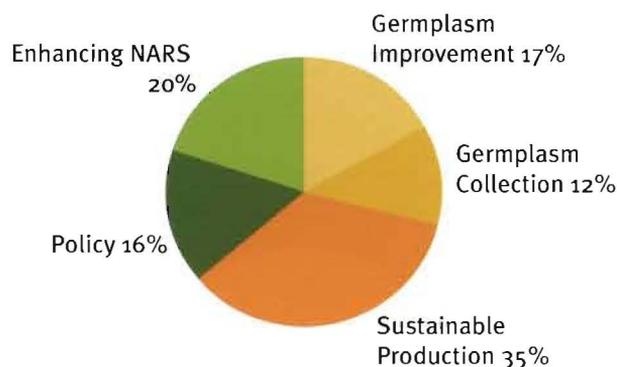
Agriculture, the key to development

In a world where 75 percent of poor people depend on agriculture to survive, poverty cannot be reduced without investment in agriculture. Many countries with the strong agricultural sectors have a record of sustained investments in agricultural science and technology. The evidence is clear — investment in agricultural research for development generates growth, reduces poverty and protects the environment.

Agricultural research benefits people and the planet

Agricultural research for development has a record of delivering results. The science that made possible the Green Revolution of the 1960s and 1970s was largely the work of CGIAR Centers and their national agricultural research partners. The scientists' work not only increased incomes for small farmers, it enabled the preservation of millions of hectares of forest and grasslands, conserving biodiversity and reducing carbon releases into the atmosphere. CGIAR's research agenda is dynamic, flexible, and responsive to emerging development challenges. The research portfolio has evolved from the original focus on increasing productivity in individual critical food crops. Today's approach recognizes that biodiversity and environment research are also key components in the drive to enhance sustainable agricultural productivity. Our belief in the fundamentals remains as strong as ever: agricultural growth and increased farm productivity in developing countries creates wealth, reduces poverty and hunger and protects the environment (see graph, Evolution of CGIAR's research agenda).

CGIAR Priority Investments 2004

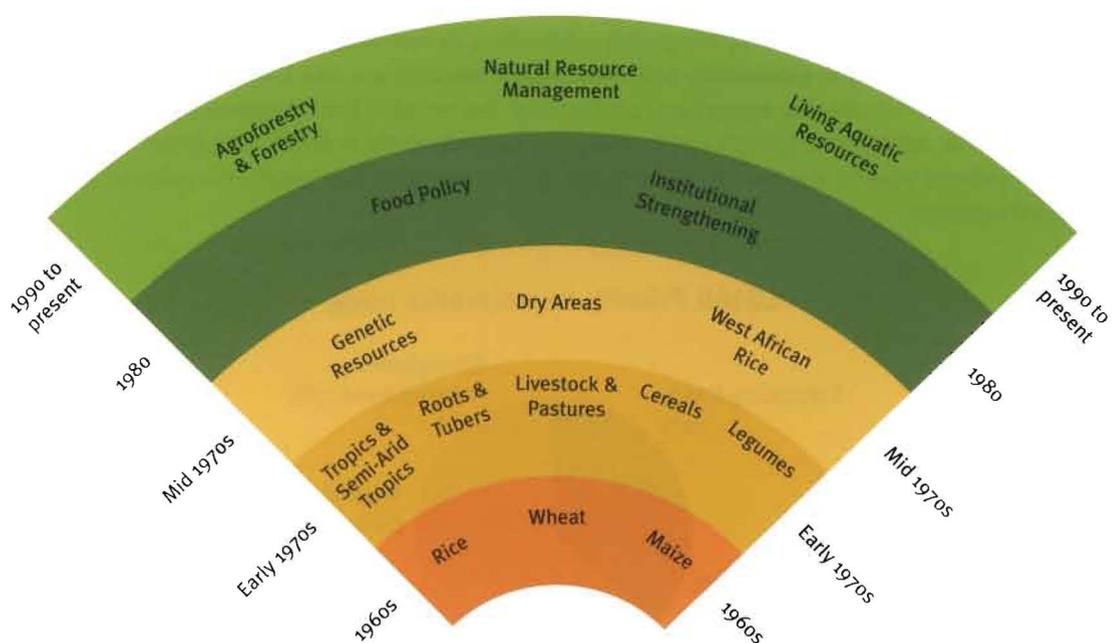


Agricultural research is delivering results

The CGIAR's more recent outstanding achievements include:

- Releasing Quality Protein Maize (QPM) varieties in 25 countries. They are currently grown on more than 600,000 hectares
- Transforming agriculture in East and West Africa through the release of New Rices for Africa (NERICAs). It is estimated that NERICAs are planted on 100,000 hectares across Africa, including approximately 60,000 hectares in Guinea and about 10,000 hectares in Uganda
- Selectively breeding a GIFT strain of tilapia which shows an approximate growth rate gain of 70%
- Training over 75,000 developing country scientists and researchers
- Reducing pesticide use in developing countries by promoting integrated pest management and biological control methods
- Adopting low-till farming practices in Asia on 1.2 million hectares across the Indo-Gangetic plains, boosting farm incomes and productivity
- Enabling African producers to access international pigeonpea markets
- Releasing over 45 bean varieties, developed from CGIAR germplasm across Latin America
- Improving forage grasses developed by CGIAR researchers and partners which are currently grown on over 100 million hectares in Latin America
- Planting fodder shrubs in Kenya and increasing smallholder dairy farmers' income by US\$166 per annum

CGIAR's Evolving Research Agenda





These successes notwithstanding, future challenges are daunting. World population is expected to reach 9 billion people by 2050. Food demand is expected to more than double in a similar time frame. Some 30 percent of irrigated lands are already degraded, and water use is expected to increase by 50 percent over the next 30 years. Science-based solutions for sustaining productivity increases while protecting ecosystems are key to addressing these challenges.

Increasing sustainable productivity, strengthening science-for-development partnerships, protecting the environment

The CGIAR was created in 1971. Today more than 8,500 CGIAR scientists and staff are working in over 100 countries. CGIAR research addresses every critical component of the agricultural sector including — agroforestry, biodiversity, food, forage and tree crops, pro-environment farming techniques, fisheries, forestry, livestock, food policies and agricultural research services. Thirteen of the Centers are located in developing countries. Africa continues to be a priority for CGIAR research. CGIAR research partnerships help achieve the Millennium Development Goals and support major international conventions (Biodiversity, Climate Change, and Desertification).



The CGIAR has five areas of focus

- Sustainable production (of crops, livestock, fisheries, forests and natural resources)
- Enhancing National Agricultural Research Systems (NARS) (through joint research, policy support, training and knowledge-sharing)
- Germplasm Improvement (for priority crops, livestock, trees and fish)
- Germplasm Collection (collecting, characterizing and conserving genetic resources — the CGIAR holds in public trust one of the world's largest seed collections available to all)
- Policy (fostering research on policies that have a major impact on agriculture, food, health, spread of new technologies and the management and conservation of natural resources)

A twenty-first century alliance

Major reforms designed to strengthen science, extend the alliance, streamline governance and maximize impact are gaining ground and yielding benefits. The innovative Challenge Program initiative is designed to address global and regional issues of critical importance. To date, these focus on:

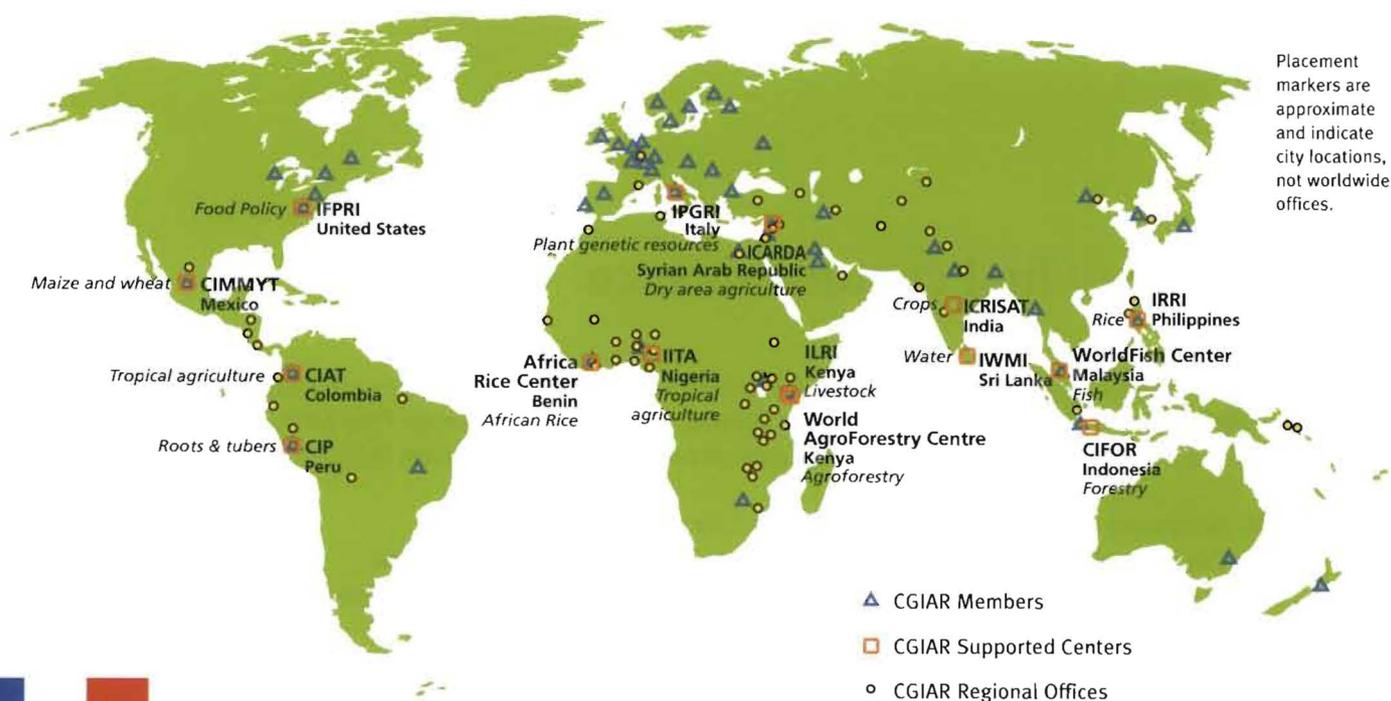
- Addressing water scarcity by improving water use efficiency in agriculture
- Combating micronutrient deficiencies that affect more than three billion people
- Unlocking crop genetic diversity through the application of molecular tools to create a new generation of varieties of major food crops that meet farmers' needs
- Employing integrated agricultural research for development approaches to build sustainable livelihoods in Sub-Saharan Africa

Challenge Programs are facilitating collaborative research and helping mobilize knowledge, technology and resources.

The CGIAR alliance is open to all countries and organizations sharing a commitment to a common research agenda and willing to invest financial support, and human and technical resources. From twelve members in 1971, today's membership of sixty-four includes a majority of developing countries. Membership is poised to grow further.

CGIAR members contributed US\$437 million in 2004, the single-largest public goods investment in mobilizing science for the benefit of poor farming communities worldwide.

A Global CGIAR



Future Harvest Centers of the CGIAR

Africa Rice Center (WARDA)
www.warda.org

International Center for Tropical Agriculture (CIAT)
www.ciat.cgiar.org

Center for International Forestry Research (CIFOR)
www.cifor.cgiar.org

International Maize and Wheat Improvement Center (CIMMYT)
www.cimmyt.org

International Potato Center (CIP)
www.cipotato.org

International Center for Agricultural Research in the Dry Areas (ICARDA)
www.icarda.org

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
www.icrisat.org

International Food Policy Research Institute (IFPRI)
www.ifpri.org

International Institute of Tropical Agriculture (IITA)
www.iita.org

International Livestock Research Institute (ILRI)
www.ilri.org

International Plant Genetic Resources Institute (IPGRI)
www.ipgri.org

International Rice Research Institute (IRRI)
www.irri.org

International Water Management Institute (IWMI)
www.iwmi.cgiar.org

World Agroforestry Centre (ICRAF)
www.worldagroforestry.org

WorldFish Center
www.worldfishcenter.org

Research is a Collaborative Enterprise

The CGIAR's achievements would not be possible without the support and commitment of the 64 members and many hundreds of partner organizations who together form the growing CGIAR alliance.

CGIAR Members

African Development Bank	Indonesia	Peru
Arab Fund for Economic and Social Development	Inter-American Development Bank	Philippines
Asian Development Bank	International Development Research Centre	Portugal
Australia	International Fund for Agricultural Development	Rockefeller Foundation
Austria	Islamic Republic of Iran	Romania
Bangladesh	Ireland	Russian Federation
Belgium	Israel	South Africa
Brazil	Italy	Spain
Canada	Japan	Sweden
China	Kellogg Foundation	Switzerland
Colombia	Kenya	Syngenta Foundation for Sustainable Agriculture
Commission of the European Community	Republic of Korea	Syrian Arab Republic
Côte d'Ivoire	Luxembourg	Thailand
Denmark	Malaysia	Turkey
Arab Republic of Egypt	Mexico	Uganda
Finland	Morocco	United Kingdom
Food and Agriculture Organization of the United Nations	Netherlands	United Nations Development Programme
Ford Foundation	New Zealand	United Nations Environment Programme
France	Nigeria	United States of America
Germany	Norway	World Bank
Gulf Cooperation Council	OPEC Fund for International Development	
India	Pakistan	



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November 2005