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**World Coffee Research – update on activities  
in 2012/13**

### **Background**

The attached document contains an update on the activities of World Coffee Research (WCR) in 2012/13.

### **Action**

The PSCB is invited to consider this document.

## **WORLD COFFEE RESEARCH – UPDATE ON ACTIVITIES IN 2012/13**

1. World Coffee Research (WCR) is a non-profit agricultural research organization. The programme is driven by the global coffee industry, with representation from producers, executed by coffee scientists around the world and based at Texas A&M University in College Station, Texas. WCR was formed by leaders in the coffee industry to establish a strategic and scientific approach for supply development, crop resilience, climate change mitigation and quality improvements.
2. In the first year of research, groundbreaking collaboration between WCR and coffee producing countries has taken place in which countries from Latin America, Africa, and Asia have contributed coffee genetic material with the purpose of increasing knowledge, quality and productivity of coffee. Never before has the coffee industry achieved such a level of collaboration and sharing of coffee varieties from around the world. Genetic material collected from collaborating countries will be used in WCR's network of International Multi-Location Variety Trials (MVTs) and its Pre-Breeding Populations programme.
3. A global network of leading scientists from 18 research institutions in both producing and consuming countries has been formed to drive advancements and transfer knowledge across the entire coffee sector. A full list of partner institutions can be found in the Annex.

### **First year research activities**

4. In April 2013, World Coffee Research and PROMECAFE hosted the First International Coffee Rust Summit in Guatemala City. The Summit resulted in a new public-private partnership project with the U.S. Agency for International Development. Work commencing in 2014 will include cup quality tests on resistant varieties, assistance to farmers on selecting appropriate varieties for their location for best agronomic performance, rust resistance, and quality, as well as work on increasing the volume and accessibility of seed and seedlings of the best rust resistant.
5. World Coffee Research and PROMECAFE will help start a Central American coffee breeding programme to secure high quality coffee production into the future. Programing will aim to train Central Americans in coffee breeding, genetics, economics and agronomy to build the sustainable future needed to secure supplies and producers. Additional work will include conducting the first major socio-economic study on coffee farming in Central America on competitiveness as well as gender, food security, and livelihood issues.

6. World Coffee Research advanced a plan for a new Sensory Evaluation Method to create precise and scientific methods and technologies to measure coffee quality, complementing existing industry practices.

7. World Coffee Research expanded its Germplasm Collection programme which aims to collect coffee material growing in the wild to identify and preserve valuable genetic material in danger of extinction due to climate change.

8. **International Multi-Locational Variety Trials (MVTs)** are underway in which coffee varieties are set up in an international network of experimental and demonstration farms to allow a rapid production of high quality coffee varieties best suited and adapted to a range of climates and geographic locations. Results are expected by 2015 and coffee varieties will be distributed to farmers in participating countries.

- Participating countries include: Brazil, Colombia, Democratic Republic of the Congo, Costa Rica, El Salvador, Honduras, India, Jamaica, Kenya, Mexico, Nicaragua, Panama and Papua New Guinea.
- 30 high performing varieties and F1 hybrids have been selected from over 10 countries and are being used in trials in 20 participating producing countries with 3-6 diverse locations in each of the participating countries.
- Backup collections of seeds are now established in greenhouses at Texas A&M University and AgriStart in Florida.

9. Development of **Pre-Breeding Populations** are underway which will be used for experimentation to create 'super-varieties' which will be made available to national breeding programmes in producing countries. Country-specific coffee varieties will be bred that are heat-tolerant, highly productive, produce high cup quality, and are resistant to a range of biological pressures like pests and diseases.

- In the first year of research, World Coffee Research scientists selected 1,000 strains of Arabica coffee from over 3,000 strains in the CATIE Arabica collection. The 1,000 strains represent the most unique strains in the collection coming from early germplasm expeditions.

- Researchers began sequencing DNA strands from each of the 1,000 strains or genotypes to perform genetic diversity analysis resulting in the identification of a handful (10-20) of super-diverse genotypes that represent over 90% of all the genetic diversity found in the total Arabica collection.
- This handful of 'super-diverse' genotypes forms the core population from which the next generation of coffee varieties will be created.

10. WCR is working with the U.S. Agency for International Development (USAID), the Howard G. Buffett Foundation, and Catholic Relief Services and coffee farmers in the Democratic Republic of Congo on the Eastern Congo Coffee Sector Revitalization programme to assess coffee varieties, develop production systems, and establish protocols to revitalize the sector in the region.

**WORLD COFFEE RESEARCH'S INTERNATIONAL TEAM**

- American Public Land Grant Colleges and Universities (APLU)
- The InterAfrican Coffee Organisation/Research and Development (IACO)
- African Coffee Research Network which includes all African Coffee Research Institutions (ACRN)
- Anacafé
- Brazilian Coffee Research Consortium: Embrapa Café and 10 other Brazilian coffee research institutions
- National Coffee Research Centre of Colombia (Cenicafé)
- CAB International
- Tropical Agricultural Research and Higher Education Center (CATIE)
- International Center for Tropical Agriculture (CIAT)
- French Agricultural Research Centre for International Development (CIRAD)
- Indian Coffee Board Research and Development
- Indonesian Coffee and Cocoa Research Institute (ICCRI)
- Kenyan Coffee Research Foundation (KCRF)
- Kew Royal Botanic Gardens
- Coffee Research and Development institutions from Costa Rica, Honduras, Guatemala, Panama, Dominican Republic and Jamaica (PROMECAFÉ)
- Mexican Ecology Institute and Mexican Strategic Coffee Alliance (INECOL)
- RAMACAFE Nicaraguan coffee promotion and development organization
- United States Department of Agriculture (USDA) Coffee Research Program