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WCR meeting on Coffee Leaf Rust in Central America

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Report Highlights:

The World Coffee Research program, with many Central American partners, held a "First International Summit on Coffee Rust" in Guatemala City, April 17-20.

Executive Summary:

The World Coffee Research program, with many Central American partners, held a "First International Summit on Coffee Rust" in Guatemala City, April 17-20. A series of preliminary action plans were discussed to address the coffee leaf rust outbreak, but those ideas need to be merged with the plans already approved by the Central American Agricultural Ministers. Moreover, implementation of any of those plans depend on strengthening regional and national coffee associations, undertaking a range of coffee research projects, coordinating with a large number of national ministries, building rural extension services, and obtaining large amounts of donor dollars. This crisis not only impacts coffee exports, commodity traders and millions of smallholder coffee families, but it also has many socio-economic implications including rural-urban migration, under-employment increases, social unrest, gender dimensions, climate change issues, environment impacts, food security concerns and perhaps an increase in migration to the United States.

General Information:

The First International Summit on Coffee Rust ("Summit"), April 17-20, 2013 in Guatemala City, was a large, event that discussed numerous issues related to the coffee leaf rust (*Hemileia vastrix*) fungus outbreak in Central America. The outbreak had a significant impact on the current harvest -- estimates range, widely, from a drop of 5 to 20 percent in coffee exports for the 2012/2013 marketing year, and could, depending on the weather and various agronomic factors, have an even larger impact on the 2013/2014 crop due to the existing, and potentially ongoing, damage to the coffee trees.

The Summit was organized by the World Coffee Research (WCR) program with their local partner -- PROMECAFE -- with administrative support by USDA/FAS/Guatemala and USAID/Guatemala. The sponsors of the Summit included IICA (Inter-American Institute for Cooperation on Agriculture), ANACAFE (National Coffee Association of Guatemala), USAID/Guatemala, and many of the key private sector coffee companies and associations from around the world. The more than 150 participants at the Summit were equally varied; they included representatives from U.S. and European coffee companies, agro-chemical companies, NGOs, International Financing Institutions (IFIs), agricultural research institutions, coffee producers, U.S. experts, and government officials from the region.

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Stakeholder Scorecard
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WCR -- The World Coffee Research (WCR) program is a new (less than two years old) initiative sponsored by the U.S. and international coffee industry and administered by the Norman Borlaug Institute at Texas A&M University. WCR is building a global network of research institutions, including private sector companies, focused on the sustainable growth of Arabica coffee production and the livelihoods of those coffee producers. WCR is supported by 30 member companies involved in the coffee trade -- roasting companies, processors, exporters, producer associations, trade groups and other coffee-related companies. As the heart of the global network, WCR works with more than 25 research institutions, such as -- ACRN - African Coffee Research Network, APLU -- American Public Land Grant Colleges and Universities, CATIE - Tropical Agricultural Research and Higher Education Center (Costa Rica), CIAT - the CGIAR (see below) International Center for Tropical Agriculture (Colombia), EMPRAPA CAFE - Brazilian Coffee Institutions, CIRAD - French Agricultural Research Centre for International Development, and many others including USDA's coffee research program which is mostly focused on Hawaii. (See http://worldcoffeeresearch.org -- tabs for members and

partners).

NOTE: There is no specific Consultative Group International Agricultural Center (CGIAR) -- research center (see, www.cgiar.org) focused on coffee; the 15 CGIAR centers primarily focus on food crops and general agricultural policies. Likewise, none of the 10 USAID Collaborative Research Support Programs (CRSPs, see http://crsps.net/) with U.S. agricultural universities are focused on coffee. However many of the CGIAR centers, CRSP networks, European, Indian, and African research centers have done decades of work on topics related to coffee and crop rusts. WCR will focus solely on coffee, and link all the coffee-related research more tightly together. END NOTE.

PROMECAFE -- The Regional Cooperative Program for the Technological Development and Modernization of the Coffee Industry (PROMECAFE) was established in 1978, shortly after the first Central American coffee leaf rust crisis hit. The national coffee associations formed PROMECAFE under a cooperative agreement with IICA (Inter-American Institute for Cooperation on Agriculture, based in Costa Rica). PROMECAFE (based in the IICA office in Guatemala) has been the primary regional coordinator for coffee-related technical training and capacity building exercises. The training is normally done by the national coffee associations (ANACAFE in Guatemala, IHCAFE in Honduras, etc.) with the coordination and support of PROMECAFE. The staff of PROMECAFE is very small; hence they rely on outside consultants and short-term contractors. Over the almost 35 years since PROMECAFE was formed, the countries working with PROMECAFE have expanded to include Jamaica, Dominican Republic, with several more Latin American members set to join in 2013. (See http://www.promecafe.org).

IICA -- The Inter-American Institute for Cooperation on Agriculture (IICA, based in Costa Rica) was founded in 1942, in part, due to the vision of U.S. Vice President Henry A. Wallace (previously the U.S. Secretary of Agriculture), who strongly supported agricultural research centers throughout Latin America. IICA has offices, and projects, in all of their 34 member countries, and works closely with the national Ministries of Agriculture. IICA is "specialized" agency within the framework of the Organization of American States (OAS), but is independently financed by their members, and international donors. IICA is focused on agricultural technology transfer, policy improvements and increasing rural welfare; see http://www.iica.int/ for more details.

CATIE -- The Tropical Agricultural Research and Higher Education Center (CATIE, based in Costa Rica) is an independent, but related institution that emerged from IICA. U.S. Vice President Wallace, in addition to supporting basic research, also encouraged the development of a Graduate School with Master's and Doctorate level classes focused on tropical agriculture. Since 1946, the Graduate School has trained more than 2,000 students from the region. In addition to the Graduate School, CATIE has two major focus areas -- technical cooperation and tropical agricultural research. The vast majority of CATIE's projects are focused on improving the agricultural production systems of rural poor smallholder families. CATIE has worked with more than 400 NGO and donor partners to implement projects. In addition, CATIE has one of the largest collections of coffee varieties in the world. Many of the approximately 2,000 coffee varieties (about 10,000 coffee trees) were collected by U.S. and European scientists in the 1940-1960s from the coffee origin areas (Ethiopia, Sudan, and Kenya) and have been maintained on CATIE's farms ever since. For more details, see www.catie.ac.cr

OIRSA -- The International Regional Organization for Agricultural Food Safety (OIRSA, www.oirsa.org) is an intergovernmental organization, founded in 1953 (following regional disease and pest outbreaks) to provide technical cooperation and develop emergency action plans for the nine member nations: Mexico, Central America and Dominican Republic. OIRSA is also the representative for Central America to the global animal and plant health rule-setting bodies -- OIE - World Animal Health Organization, and the IPPC- International Plant Protection Convention.

CAC -- The Central-American Agricultural Council (CAC, web site is: http://www.sica.int/cac/) is the coordinating body for Central American and Dominican Republic Agricultural Ministers to set priorities with regional stakeholders (such as IICA, CATIE, OIRSA, etc.). IICA acts as the "Executive Secretariat" for the CAC. On March 20, 2013, the CAC approved an emergency regional plan (coordinated by OIRSA with many other regional partners) to address the coffee leaf rust outbreak.

CAC Coffee Rust Action Plan – OIRSA held an emergency meeting January 9-10, 2013 with representatives from the Central American coffee associations and from Colombia. The key documents from that meeting (in Spanish) can be reviewed at: http://www.oirsa.org/portal/taller-roya.aspx In mid-February, the CAC asked regional groups (primarily OIRSA, RUTA and PROMECAFE) to develop a complete plan – with short, medium and long term actions. On 20-March-2013, the CAC, in the presence of the Central American Presidents, approved that plan (with a long-term budget request of $777 million).

RUTA – RUTA is the Regional Unit for Technical Assistance, which operates as a NGO-public section hybrid, aligned closely with the CAC. It has worked with the development agencies of Australia and Spain, as well as with Inter-American Development Bank, FAO, IFPRI and IICA. It recently started a five year (September 2012-September 2017) program with USAID. The "Regional Food Security Policy Effectiveness and Sustainable Agriculture Program" will strengthen effectiveness and regional capacity for analysis and formulation of agricultural and trade policies through the CAC system. It will also support the consolidation of a regional platform for dissemination of sustainable agriculture practices through key agriculture value chains (initially coffee and cocoa). Funding will also be provided for improving donor coordination through regional policies and institutional harmonization frameworks. The RUTA website is: www.ruta.org

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Coffee Rust Summit -- Detailed Sessions
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Pre-Summit Brain-Storming -- At the request of Dr. Timothy Schilling, Executive Director - World Coffee Research, about 50 experts gathered on Wednesday, April 17th, to prepare presentations to guide the Summit's main discussions on April 18-19, with a wrap session on the morning of April 20th. Each of the eight groups addressed a specific topic and had a diverse mixture of experts, NGOs, government officials, coffee associations, private sector companies, etc.

Summit Session 1-- Central American Coffee Rust Strategies - Dr. Armando Garcia / PROMECAFE. Dr. Garcia briefly reviewed the national and regional work that had been done by the Central American governments, national coffee associations, regional groups (including OIRSA, RUTA, etc.) and their international partners. He mentioned the CAC emergency action plan to address the regional coffee rust outbreak, and noted some observers were saying $800 million (or more) would be needed over the next five to seven years to fund research, production guarantees, replanting / renovation of tree plantations, and support smallholder farmers during the recovery period. In very broad strokes, the CAC coffee crisis recovery plan will have three phases:

Short-term: Prune and clean the coffee groves; Spray fungicides 3-4 times each year; organic coffee farmers will have to use copper or neem mixtures -- or consider leaving organic coffee production for conventional (using fungicides) production.

Medium-term: Given that more than 50 percent of the trees in Central America exceed 20 years of age (when

production usually starts to decline), the medium term will involve renovation (replanting) the existing coffee areas with new more resistant varieties. This process is expected to take 3-5 years depending on financing to support coffee farmers during the replanting process, the availability of more resistant varieties, and the development of a regional coffee rust early-warning system.

Long-term: Over the next 5-10 years, coffee research centers (coordinated by WCR) will study the genetic structures of wild coffee varieties to see which genes might confer rust resistance. Then those trees would be crossed with existing Arabica varieties to create new hybrids that taste great and resist rust.

Summit Session 2 - Situation Analysis -- Dr. Peter Baker / CABI (www.cabi.org) -- Dr. Baker provided a broad overview of the coffee rust situation. Much of this information has already circulated in news reports and in the FEWS (Famine Early Warning System) special report on coffee rust, see below.

Summit Session 3 - Socio-Economic Impacts - Michael Sheridan / CRS - Borderland Coffee Project (http://coffeelands.crs.org). Mr. Sheridan, in one of the most praised presentations, outlined some of the major implications of the coffee rust outbreak, focusing on the impact on smallholder farmers. The presentation reviewed the many estimates on production decreases in 2012/2013, which in turn will decrease family income, the opportunity for rural employment, and lower food security. Looking forward to the next 2013/2014 crop year the potential impacts are even graver. Production might decline by 15-55 percent, and given lower international coffee prices, farmer income could drop by more than one-half. As the size of the crop declines, rural day labor (on and off-farm) will drop (FEWS's rough estimate by 30-40 percent) and the 'lean season' between food crops could be longer and leaner. As an "action plan" he presented a plea for a single regional data set -- using the same indicators and data collection parameters. Another part of the action plan was an enhanced Food Security Monitoring system (FEWS plus a wider dataset), short-term assistance while the farmers are training and undertaking coffee plantation renovation. Mr. Sheridan also outlined some farmer-level decision tools that should be developed – in part to estimate the return on investment of spraying, stumping (pruning a young tree all the way down to a stump), renovating (replanting) older coffee plantations, diversifying (with adequate training and financing) into other crops, and, in some cases, quitting coffee production. After the formal presentation a lively discussion ensued -- immediately and throughout the remainder of the conference -- on the socio-economic implications of the coffee crisis.

Summit Session 4 - Short-term Control Measures - Dr. Marco Arevalo / Ag Consultant - Guatemala. Dr. Arevalo (an active local partner for several of the USAID CRSP networks working in Guatemala) described some of the treatment measures, including timely use of fungicides. He noted that the top three factors often overlooked were (1) timely application of fungicides, especially the first spraying after the start of the rainy season, (2) that the farmers use good spraying practices, and (3) that the water pH level should be checked; if the water is too acid, the fungicides are not effective. In Guatemala, an annual spraying campaign (throughout the crop season) averages $150-200 per hectare; a high barrier for smallholder families, but not for the medium and larger operations. Roughly 45 percent of Guatemala's coffee production is from smallholders. Several questions and concerns were discussed regarding organic coffee production since the use of the popular agrochemicals and fungicides are prohibited by organic standards. Most organic standards allow use of copper sulfate mixtures (such as "Bordeaux Mixtures, see: http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7481.html) or natural fungicides derived from the neem tree or other natural sources, but they are far less effective than modern "triazole-based" fungicides.

Summit Session 5 - Extension Service Issues -- Ric Rhinehart / Executive Director - SCAA - Specialty Coffee Assoc. of America (www.scaa.org). Mr. Rhinehart presented the results of his group that stressed the need for strong extension services to convey the correct information at the correct time to all farmers. Some observers noted everyone wishes for a better extension service, but few Central American countries are willing to fund one. In the absence (or to supplement) national extension services, most of the national coffee associations employ

extension agents -- focused on coffee. The extension agents funded by the national coffee associations might not be as open to discussing the entire range of options (such as quitting the coffee sector or diversifying into other crops) as national extension agents. Another major source of technological transfer is provided by all the local and international NGOs working in Central America. In Guatemala, more than 200 NGOs are working on development projects -- most involving some aspects of the agricultural sector.

Summit Session 6 - Communications - Mr. William Hempstead / Senior Advisor for ANACAFE (www.anacafe.org). Mr. Hempstead noted some of the efforts to get information to smallholder coffee farmers. Despite his efforts to cover all channels and approaches, some observers wondered how many smallholder farmers watch "YouTube" check "Facebook" or monitor their "Twitter" feeds. On the other hand, those observers might just be too old (fashioned). In an effort to reach smallholder farmers, IICA released a series of radio spots on coffee leaf rust management, see http://www.iica.int/Eng/prensa/Pages/RadioIICA.aspx

In Honduras, the Ministry of Agriculture and their plant health service (SAG and SENASA, respectively), OIRSA, and the Honduran coffee association (IHCAFE), posted this video on spraying coffee to control coffee rust: http://www.youtube.com/watch?v=P7MKeBj0MI4

Summit Session 7 - Rust Monitoring / Early Warning System - Dr. Jacques Avelino / CIRAD (www.cirad.fr/en) and CATIE. Dr. Avelino has spent several decades studying coffee diseases. One of the highlights of his presentation was a 'decision tree' outlining some of the key factors involved in knowing if, and how severe, a coffee leaf rust outbreak might be at a specific site. The key factors included:

(1) if the tree has more than 230 fruiting nodes per tree (more nodes, than higher risk),
(2) if the tree had been fertilized (if not fertilized, than higher risk),
(3) if the tree is above 1,100 meters of altitude (lower altitudes, than higher risk),
(4) if the soil pH is lower than 6 (if the soil is more acid, than higher risk), and
(5) if the tree was very shaded (if shade is more than 56 percent, than higher risk).

However, Dr. Avelino noted he had developed his decision tree several years ago, and it would need to be updated -- especially since the coffee rust has now attacked trees above 1,100 meters (however -- altitude might be serving as a proxy for temperature -- and climate change might be increasing temperatures for all altitudes). Furthermore, he said many other local factors (rain amounts, rain patterns, wind, temperature, and landscape) also play a role.

Regarding the development of an early warning system, several experts pointed to the USAID Famine Early Warning System project and their recent report on the coffee crisis, as a model system. See http://www.fews.net/docs/Publications/SR_coffee_2013_03.pdf

Sex, Drugs and Coffee Rust -- In a colorful presentation, Dr. Robert Barreto, from Brazil's Universidade Federal de Vicosa, reviewed results from a recent study; "Cryptosexuality and the Genetic Diversity Paradox in Coffee Rust *Hemileia vastatrix"* (see http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0026387). That study found that coffee rust -- previously considered an asexual, clonal species -- might be having hidden sex. That new research hypothesis might explain why coffee leaf rust is so quick to mutate and so hard to control. In short, it was an interesting study that has serious implications for controlling coffee rust and for breeding new coffee varieties that are resistant to existing (and future) types of coffee rust.

Summit Session 8 - Variety Replacement and New Resistant Variety Development - Dr. Tim Schilling / WCR and Dr. Victor Varzea / Coffee Rust Research Center. Dr. Schilling described the WCR's new multi-location

variety trial project to test (about 30) new coffee varieties in (about) 20 countries. The numbers are 'about' due to funding constraints. The trials will include some of the recently developed hybrid varieties from CATIE. Within two years, WCR hopes to validate varieties that can be used to replace the existing varieties that are very susceptible to coffee leaf rust. PROMECAFE will coordinate multi-location variety trials within Central America. Another project that WCR will be undertaking is to further develop seed (and seedling) multiplication technology. Hybrid coffee varieties are hard to replicate on a commercial scale, so WCR (funds permitting) will be investigating the scaling-up of tissue-culture techniques so new hybrid coffee varieties can be more quickly and easily disseminated.

Dr. Varzea, from CIFC -- the Coffee Rust Research Center (within the Portuguese Tropical Scientific Research Institute – IICT, see http://www.iict.pt/actividades/221/viict221.asp), described some of the recent work CIFA had done investigating coffee rust. He also noted that CIFC was created by the Portuguese and U.S. governments in 1955. Coffee rust had not (yet) been detected in Latin America, but the U.S. government was concerned that coffee rust would undermine the economic stability of Latin American countries depending on coffee exports. Since that time CIFC has studied all the details of coffee rust (there are more than 45 strains of the rust) and also confirmed the narrow genetic base of the commercial Arabica varieties currently used in Central America. In 1989, CIFC also started to investigate another serious disease – coffee berry disease (CBD) -- caused by the *Colletotrichum kahawae* fungus – using the same techniques it developed to study coffee rust. Although the U.S. government helped set-up CIFC, the Portuguese government has been the core funder over the last six decades. More history on CIFC can be found at: http://www2.iict.pt/index.php?idc=31&idi=11076

Summit Session 9 - Financing - IFI Reps and Robert Nelson / President of NCA - National Coffee Association of USA (www.ncausa.org). During the first part of this session, representatives from the World Bank's International Finance Corporation (www.ifc.org) discussed the importance of financing, especially for smallholder farmers. The IFC, along with other donors and coffee companies is supporting Root Capital (www.rootcapital.org) an NGO devoted to smallholder agricultural production. The Inter-American Development Bank (IADB or BID or IDB), www.iadb.org) noted their work supporting governments experiencing financial constraints. USAID gave a short presentation on their Credit Development Authority which links commercial finance to local development projects, see:
http://transition.usaid.gov/our_work/economic_growth_and_trade/development_credit/index.html

After the prepared presentations, Mr. Nelson led a brain-storming session with the goal of finding a way to reach one billion dollars in financing for the coffee rust crisis. Many ideas were discussed, since financing at both the national and smallholder levels will be a key part of the intermediate term recovery process, but much more work (by all the stakeholders) will have to be done.

Summit Session 10 - Wrap-up and Next Steps because "Rust never Sleeps" - Dr. Tim Schilling / WCR. On Saturday morning, following the conclusion of the main conference, a smaller group discussed some of the key remaining issues and next steps.

a. Central Clearing House & Support Unit -- A consensus emerged that one entity needed to function as a clearing house and support unit. That unit would request financial support, work on proposal development and coordination, do (or contact out) monitoring and evaluation efforts, and manage what is likely to become a series of sub-grants to various regional bodies. After some discussion, a consensus emerged that PROMECAFE would be that "central clearing house and support unit".

b. Increase PROMECAFE Staff -- It was also agreed that USAID would help fund an additional staff person within PROMECAFE to be the "Coordinator for Emergency and Mid-Term Response to Coffee Rust". IICA/Guatemala, working with PROMECAFE, will develop a job description and terms of reference.

c. The Coffee Trade is eager to Help -- Representatives of the largest coffee traders and associations uniformly said they were "present – in Central America" and intended to be "present" over the coming years as the rust crisis unfolds. They were willing to discuss (each company with their producers or suppliers) longer-term purchase agreements to make sure coffee farmers know the industry will not leave them if Central American coffee production drops for 3-5 years as the coffee groves are replanted. The buyers (and groups like "Fair Trade USA", www.fairtradeusa.org) will continue to push for a 'viable pricing structure' -- such as paying a premium for higher quality coffee from Central America. The 'coffee trade' also agreed to continue an 'awareness' campaign so their customers are informed about the coffee crisis. The private sector companies said they wanted to be 'engaged' -- as part of the solution. They expected the new Emergency Coffee Rust coordinator to keep them informed ("need to see the plans") on all aspects of the crisis and the measures taken to overcome the crisis. And finally, the 'trade' noted they would need 'fine Arabica coffee' from Central America to continue developing the single-source gourmet experience consumers have come to demand for their more expensive coffee fix.

d. Follow-up Scientific Seminar -- One CATIE scientist suggested a follow-up seminar (September 2013?) for coffee scientists.

e. Consumers pay a Price - Farmers bear the Costs -- Several speakers noted the absence of any real sense of an emergency. The rainy season is starting in most of Central America and in many cases fungicides have not been procured, technical training has not started, and financing (to support farmers while they replant their coffee plantations) has not been fully discussed; let alone requested. The IDB noted emergency requests take six to eight months (6-8 months) to process.

f. Immediate and/or Emergency Action -- Ric Rhinehart of Specialty Coffee Association of America led a quick discussion on the short-term actions. The bullet points were (1) emergency financing would be requested by each country, (2) best practices (fungicide use, etc.) would be circulated by PROMECAFE, but each country would adapt to their own needs, (3) extension services (hopefully expanded) would be coordinated by national entities (coffee associations, NGOs, Ministries of Agriculture) and would try to share jointly developed materials.

g. Low Hanging Fruit for Medium and Longer Terms -- Dr. Schilling briefly reviewed some actions that could be started now that would have more benefits in the medium and longer terms. The bullet points were (1) a regional coffee rust monitoring system should be set-up (the current FEWS project only covers some of the Central American countries) to cover the region, and develop the indicators that Dr. Avelino had noted, (2) develop technical assistance and a loan package for farmer replanting their coffee trees (to cover a 3-5 year period), (3) request funding so WCR can quickly roll-out their multi-variety multi-location trials, (4) request funding so rust researchers can continue discovering the strengths and weaknesses of the coffee leaf rust, (5) continue funding the emergency coffee rust coordinator at PROMECAFE.

POST COMMENTS:
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Coffee Rust in Central America – Second Round

This is the second widespread coffee leaf rust fungus outbreak in Central America, and some observers are wondering if any of the lessons learned (from the 1980s) will be heeded now to prevent (or reduce) a third crisis. One, if not the primarily cause, of the current outbreak is the absence of regional (and, to be fair, international) interest in undertaking, and sustaining, long-term research on coffee. The new initiatives by the WCR are potential game-changers.

Colombia, Costa Rica and Brazil have learned to live with a 'manageable' level of coffee rust. In part due to

treatment schemes (fungicide spraying, but also better crop management techniques) and a switch to Robusta-Arabica hybrids (which, some coffee enthusiasts say do not have the 'cupping' characteristics they crave).

In the mid- 1980s, during the first coffee leaf rust outbreak, PROMECAFE's historical summary notes, "The Rust Control Program in Guatemala, Honduras and El Salvador resulted in a savings of $7 million between 1988 and 1992, an amount many times greater than PROMECAFE's annual budget for the same period." (See: http://webiica.iica.ac.cr/comuniica/n_2/english/x_pcafe.htm) USAID's Regional Office for Central American Programs (USAID/ROCAP) was a major donor ($3.5 million in 1984) to PROMECAFE during the first coffee rust outbreak. For more commentary on the repeat nature of this outbreak, see: http://coffeelands.crs.org/2013/03/343-deja-vu-all-over-again/ -- a blog by CRS's coffee project head, Michael Sheridan.

USG Involvement -- Zero Degrees of (Research) Separation

As noted earlier, U.S. Vice President Henry Wallace was a key figure in the creation and sharing of plant genetics around the world. As a young boy, Wallace escorted George Washington Carver on plant collecting trips in Iowa. As a teen-ager, Wallace worked on developing hybrid corn varieties and proved to the professors (and farmers) that hybrids had better yields than open-pollinated corn varieties. In his spare time he also started Pioneer Hybrid Corn Company (now a billion-dollar part of DuPont). As USDA Secretary and later as Vice President he sent USDA officials around the world to gather and share plant genetics. During his frequents trips to Latin America, he helped create CIMMYT (International Maize and Wheat Improvement Center) in 1940, and IICA/CATIE in 1943. In 1944, Wallace encouraged Norman Borlaug to join CIMMYT, where Dr. Borlaug developed dwarf wheat varieties that were resistant to rust. The new wheat varieties increased yields in India from 800 pounds per acre to 6,000 pounds per acre - sparking the "Green Revolution". Now WCR, at the Norman Borlaug Institute of Texas A&M University is using modern plant genetic techniques to search for coffee varieties that are resistant to rust, have good yields and 'cupping' characteristics.

Two Coffee Rust Action Plans - Passing in the Night?

With perfect hindsight, the Coffee Rust Summit should have spent more time considering how to complement, rather than duplicate, the CAC Emergency Coffee Rust plan. Unfortunately, while some of the participants did mention various aspects of the CAC plan, there was not enough time since the CAC plan was released in late March to more carefully consider how the two separate efforts can be merged and strengthen. The lead local partners (PROMECAFE and IICA), and the new "Emergency Coffee Rust Coordinator", will have to play a more active role to ensure a unified plan is developed - one that can be supported by all the stakeholders in the global coffee value chain.

END POST COMMENTS.
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