The distribution of the materials, as indicated in Figure 1, shows a large demand coming from the state of Amazonas, followed by Pará, indicating a special concern of governmental authorities, farmers and Embrapa, aiming reduction of damages caused by the disease in the region. Sending more than 2 million plantlets and almost 1.5 million plantlets to Amazonas and Pará, respectively, during a period of 12 years, is indeed a considerable task!

Resistant materials sent to the northern states mentioned above are those shown in Figure 2. Thap Maeo, FHIA 18 and Caipira, together, accounted for almost 2.4 million plantlets and meristems out of the 4.2 million units delivered in the period 2002-2015.

Figure 2. Banana varieties sent to states of Northern Brazil (2002-2014)*

*Others: Grande Naine, Prata Anã, Pacovan, BRS Garantida, FHIA 01, FHIA 02, FHIA 21, JBS207, RN4044 BRS Tatila, BRS Rita, Elísio Caprin, Petânia, Feverea, others 18.

Recognized Dedication
Fernando Haddad
Áurea Fabiana Apolinário de Albuquerque Gerum

PREVENTIVE BREEDING
SEARCHING FOR RESISTANCE TO BLACK SIGATOKA IN BRAZIL

Outstanding Technologies
that must be known
teams of researchers composed by our staff members of the Research Center. It is important to say that we seldom publish about outstanding results obtained by the history, and aims to inform our partners and/or potential investors about the research activities of the center.

Preventive Breeding searching for resistance to Black Sigatoka in Brazil

Banana production is present in all Brazilian regions, with an area of over 50 thousand hectares and total production above seven million tons of fresh fruit per year. Consumption of bananas in Brazil is the highest in the world and the crop has an enormous social importance, due to strong participation of smallholder farmers in its production. Bananas are grown in the world’s fourth banana producing country, with a production of approximately 7 million tons, in which 80% of the fruit is consumed locally. Brazil imports the other 20% of bananas to be planted. A Preventive Breeding strategy has been adopted by Embrapa Cassava & Fruits since the early eighties, with an outstanding performance, and with a strong impact in the field and in the market.

The breeding program aimed yield increases, size reduction and especially resistance to diseases such as Black Sigatoka. Among those, 2803-01 hybrid performed satisfactorily and is still considered as one of the best improved materials produced by Embrapa, showing a different set of organoleptic characteristics, also with short height and good fruit characteristics.

In 1992 Embrapa provided inbred with a group of ten genotypes (PV03-44, PV03-76, PV03-102, PV03-24, PV03-65, PV03-114, EV02-03, EV02-10, EV02-11, and PV11-02), as a contribution to the IMTP (International Musa Testing Program), which had as one of its tasks, the evaluation against black Sigatoka in several countries in the Americas (Costa Rica, Jamaica, Saint Lucia, and French West Indies in the Americas) and Asia/Pacific (Philippines and Tonga). Only two (PV03-44 and PV03-22) of the ten genotypes were part of the material evaluated by the project. During the period described above, banana cultivars were also introduced from the Fundación Hondureña de Investigación Agropecuaria that developed cultivars that are resistant or tolerant to Black Sigatoka and other information already known, it was possible to select a group of genotypes, including one of these in the year 1991. The breeding program in this period aimed yield increases and especially resistance to diseases such as Black Sigatoka and Fusarium wilt started after the production of the first hybrid resistant to the disease. Development of protocols to evaluate resistance to Black Sigatoka and Fusarium wilt started after the production of the first hybrid resistant to the disease. Development of protocols to evaluate resistance to black Sigatoka and Fusarium wilt started after the production of the first hybrid resistant to the disease. Development of protocols to evaluate resistance to black Sigatoka that were sent from Asia to Brazil, were selected even before the appearance of the disease. Following these recommendations, several other cultivars were released, such as BRS Caipira, BRS Garantida, and BRS Caprichosa, all evaluated and selected even before the appearance of Black Sigatoka in the country.

Figure 1 shows the number of banana plantlets or meristems sent to Northern Brazil. The massive delivery was: one million plantlets of Thap Maeo; 729,885 of FHIA 18; 608,765 of ‘Caipira’ and 436,456 of ‘BRS Pacovan Ken’. This represents the basis for survival of the crop in a region where the disease was already installed.

Research Highlights has been created by Embrapa Cassava and Fruits as a communication channel aimed at disseminating important results of the work performed by the center. It is published four times per year and is usually prepared by the early stage research and production fronts conducted by the crops which are part of our mandate.

Embrapa Cassava & Fruits was created in 1975. It has the national mandate to coordinate research programs involving mainly six tropical fruits (banana, citrus, mango, passion fruit, papaya, pineapple, Barbados cherry), and cassava. The research center has its headquarters in the city of Cruz das Almas, State of Bahia, with advanced posts located in the States of Paraná and Santa Catarina (South), São Paulo, Espírito Santo and Mato Grosso (Midwest), Mato Grosso do Sul (CenterWest), Rio Grande do Norte (Semi-Arid Northeast) and two other locations in Bahia, Alfenas and Santo André, Minas Gerais (Southeast), Mato Grosso do Sul (CenterWest), Rio Grande do Norte (Semi-Arid Northeast) and two other locations in Bahia. The research center has its biofactory in the State of Bahia, with advanced posts located in the States of Paraná and Santa Catarina (South), São Paulo, Espírito Santo and Mato Grosso (Midwest), Mato Grosso do Sul (CenterWest), Rio Grande do Norte (Semi-Arid Northeast) and two other locations in Bahia. The research center has its biofactory in the State of Bahia, with advanced posts located in the States of Paraná and Santa Catarina (South), São Paulo, Espírito Santo and Mato Grosso (Midwest), Mato Grosso do Sul (CenterWest), Rio Grande do Norte (Semi-Arid Northeast) and two other locations in Bahia. The research center has its biofactory in the State of Bahia, with advanced posts located in the States of Paraná and Santa Catarina (South), São Paulo, Espírito Santo and Mato Grosso (Midwest), Mato Grosso do Sul (CenterWest), Rio Grande do Norte (Semi-Arid Northeast) and two other locations in Bahia.