

## On the route of biofuels for airplanes

By Elton Alisson



**Agency FAPESP** - Representatives from FAPESP, Boeing and Embraer participated in February 29<sup>th</sup> and March 1<sup>st</sup> at the Foundation headquarters, in Sao Paulo, at a meeting preparative for the creation

of a center of research and development of biofuels for commercial aircraft involving the three institutions.

The agreement between the institutions, signed October 2011, provides for the construction in the State of São Paulo a research center focused on the development of sustainable biofuels for aviation, which will be based on the model of the Research, Innovation and Diffusion (CEPIDs) by FAPESP, aimed at developing research in the frontier of knowledge.

In order to create the center, initially will be done a study, with estimated duration between 9 and 12 months to lifting of the possibilities and major challenges social, economic, science and technology, of different technological routes for the development of a biofuels for aviation in Brazil and to define the investments to be made by project participants.

The study will be oriented by a series of eight public workshops to be carried out along 2012 to collect data. The information will be provided by different members of the production chain of biofuels and by a Strategic Advisory Board.

The Council shall consist of airlines, manufacturers and fuel suppliers, researchers and government officials, among other actors, which may play an important role in both the regulation and deployment of this new industry. In a final phase of the study, FAPESP will launch a special calling of proposals for the establishment of the Centre.

In addition to representatives from FAPESP, Boeing and Embraer, organizational representatives attended the meeting of companies that will cooperate and participate actively in the project, including its financing. During the meeting, participants defined the initial workshop, which is expected to occur on April 25<sup>th</sup> and 26<sup>th</sup> at the headquarters of FAPESP.

Other workshops to be held in Piracicaba, Campinas, Brasília and São José dos Campos, in institutions like the University of Campinas (Unicamp). "We just finished the planning stage of the project, deciding to methodological issues, budgetary and

contractual, to embark on workshops," said Luis Augusto Barbosa Cortez, deputy coordinator of Special Programs of the FAPESP Agency. The researcher is one of the coordinators of the project, along with Emilio Francisco Baccaro Nigro, a researcher at the Institute for Technological Research of São Paulo (IPT). The opinion of Cortez, the greatest challenges for the development of a biofuels for aviation is linked to the issue of sustainability. "The biggest problems are more in the production and conversion of biomass," he said.

"It will be necessary to produce these biofuels at a competitive cost and an environmental sustainability, using agricultural resources rationally and to improve the living conditions of people involved in this activity," he said.

Already in the technology sector, the biggest challenge for researchers is to develop a biofuels with the kerosene specifications used now in aviation and that can be replaced, without the need for changes in aircraft turbines, which follow an international standard.

**Raw materials and technologies:** So far, the experiences in Brazil for the development of biofuels, including for automotive and agricultural aviation, for example, were by adapting the engine to the fuel.

In the case of biofuels for commercial aviation, according to researchers involved in the project, you need to reverse this order, adapting to the biofuels to engine. However, in the evaluation of Cortez, this challenge is still "smaller" than those related to agricultural issue. "This technical issue to reach a fine tuning of a biofuels that can replace kerosene in commercial aviation is not as critical as the production and conversion of biomass," he said.

According to Cortez, different raw materials - in addition to sugarcane - and different technological routes, will be studied during the project to reach a biofuels to replace kerosene in commercial aviation. "We will not be held hostage to just one technological route. The idea of the project is to have several possibilities, as each region in the world has its own agricultural vocation, which is linked to different processes," he said.

**Source and Photo:** [Agency FAPESP](#), March 14<sup>th</sup>, 2012