SCIENTIFIC REPORT

For results by STSM COST 734-5160 during 21-28.09.2009 period of Valentin Kazandjiev
in National Institute for Agronomy Research (INRA), Avignon, France

According with preliminary coordinated plan SM starts literally from my arriving in Avignon on 21.09.2009, which assess positively and this is the sign for high level of coordination and organization of works. First of all is necessary to mention that host of mission in the face of Bernard Seguin help me to contact practically with all specialists and persons to which work I was declare interest. In the frame of my visit in INRA–Avignon unit, visit the departments which operate with network of automatic meteorological stations, remote sensing and satellite data, climatic and agro climatic resources assessment and development and applications of "STICS" model for agricultural crops grow and development process simulation.

I was informed about the ways of collecting of the data by agrometeorological observations, based on automatic stations - French industry from last generation ENERCO 420, and as well as the network and the organization of agrometeorological observations on the aims of INRA and METEO France. I met together with the ways of calibration and confirmation of the sensors-their parameters and the organization of these activities of operational plan as well.

The information on the exploitations was provided to me the images, associated with the use in different spectral bands and images received by different satellites - SPOT, MODIS, MERIS, ENVISAT, METEOSAT 2 and LANDSAT. Received results are qualified with high level of correlation between simulated and measured values of yields from hibernating cereal crops, spring crops and pasture herbs by the STICS model and those received by remote sensing indicators-NDVI use.

After my contact with Mrs. Françoise Ruget was informed for the approaches and the methods of agroclimatic conditions and resources assessment, especially for cases of development of pastures livestock breeding and forage production for food of the animals. In this course of assessments the enclosure was located as well involved the simulation model "STICS".

The valuable and useful discussion was held with Frederick Huard and Bernard Seguin for simulation of expected growth, development and outputs from cereal crops use the models WOFOST and STICS to the reference of the scenarios received by calculations with the climatic models ARPEGE and ALADIN separately for the south regions in the both countries – France and Bulgaria. More detailed results we plane to receive in near future.

Also, with kind collaboration of Prof. Dr Bernard Seguin receive possibility to visit Centre d'Information Régional Agro Météorologique (CIRAME**),** unit for transfer of meteorological and agrometeorological knowledge to farmers and practice. From Mr. Louis Bonnet and Mr. Ivan Sivadon derived exhaustive information about the areas of enclosure and the ways of agro meteorological information and prognoses distribution to the end users i.e. farmers. For the conditions of southern France, the region of Carpentra, that center effects fully catering the vinicultures, the orchards and vegetables production, gives warnings on danger from originating of pests and diseases, makes prognoses for originating to risky phenomena and advices farmers for the necessity of irrigation of the agricultures in case of dry spells and droughts.

The brief cultural program for the introduction with the historic see sights of Avignon was delivered as well as climbing to peak Vantoux.

Finally find results of this STSM as interesting and very useful at the organizing of agro meteorological investigations and services of agriculture farming in Bulgaria.

Sofia, 25 October 2009-10-27

Signature: Valentin Kazandjiev