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INTERIM REPORT

“Innovative Network to Improve Soybean Production in the Face of Global Change”

INNISOY

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Soybean is an important crop cultivated worldwide due to its high protein content in the seeds. Symbiotic nitrogen fixation (SNF) by rhizobia is the most important factor to provide the required nitrogen for high protein, because around 60% to 80% of nitrogen in soybean seeds is derived from SNF.

The aim of this project is to exchange expertise of soybean specialists in Japan, Germany and France to reveal the potential of soybean growth according to various environmental and soil conditions and apply the knowledge to a completely different agro-environmental condition with the support of an agronomic expert in Turkey. The project focuses especially on how environmental differences such as water availability and soil sulphur condition affect SNF activity and yield of soybean. Innovative cultivation methods will be developed through the exchange of pot and field experiments, as well as soil-crop modelling studies. The results will contribute to the improvement of soybean production at various places in the world by testing a range of variety precocity to meet the challenges under the global change, especially those related to climate change and food security, and will develop an innovative network of soybean researchers in Japan, Germany, Turkey and France.

A wide range of results concerning initial experiments and trails have been collected at this juncture. These include, but are not limited to identification of better performing soybean cultivars, assessing genetic diversity of soybean rhizobia in Germany, improved drainage on roots and growth of soybean through subsoil breaking, and the effects of biochar.