

Comunicado 132
Ciudad de México, 19 de julio de 2021

IPN proves purple potato prevents cardiovascular conditions

- **The dehydrated tuber with a novel methodology, developed by the IPN and in patenting process, tested its biological activity to prevent cardiovascular diseases**
- **There is interest of the IPN working group to apply the developed technology (dehydrator) and create a functional food to promote its consumption in the country**

After conducting in vivo studies in animal models, the doctoral student of the National Polytechnic Institute (IPN), David Iturbe Huitron, found that the dehydrated purple potato (*Solanum tuberosum*) has biological activity to prevent cardiovascular diseases, which, according to the World Health Organization (WHO), are the leading cause of death worldwide.

In the project, the doctoral student of the National School of Biological Sciences (ENCB) was advised by the scientists of that academic unit, Leticia Garduño Siciliano and Cristian Jimenez Martinez, who guided him to determine that the purple potato of the Blue Congo sub variety has high quality antioxidant compounds that significantly reduce the rates of hyperlipidemia (high level of fat in the blood) , considered as one of the main risk factors contributing to the prevalence and severity of heart disease

Iturbe Huitrón explained that the compounds of purple potato were preserved almost entirely thanks to the fact that it was processed with a microwave dehydrator and continuous airflow - whose patent registration is pending in the Mexican Institute of Industrial Property (IMPI). "The high amount of antioxidants preserved in the potato allowed to significantly reduce the atheroma plaque in the aorta vein of the animal model, which was previously induced cardiometabolic damage," he added.

The young researcher indicated that, to guarantee the safety of the food, as part of her doctoral thesis, Master Maria Edith Ortega Nava carried out toxicity tests on mice and concluded that the consumption of this food does not entail any risk to health; it also standardized the dose of dehydrated potato to achieve a beneficial effect in humans, as well as to develop in vivo studies without undesirable effects.





He highlighted that the potato pulverized and hydrated with water and a biological vehicle, was administered for 8 weeks intragastrically to a model of hamster *M. auratus Syrian male* –whose metabolism of fatty acids and cardiometabolic system is similar to the human in more than 95 percent--. "We observed that at the end of the experiment the atherogenic index decreased (relationship between good, bad fats and cholesterol), which allowed to lower the risk of cardiometabolic damage," he said.

The polytechnic master said that the purple potato is not grown in Mexico, so he stressed the importance of boosting its production to provide its benefits to the population. "This food can be consumed fresh, kept frozen or dehydrated, therefore, there is interest on the part of the IPN working group to apply the technology developed (dehydrator) and create a functional food to promote its consumption in the country, which would have an impact on reducing cardiovascular diseases," he concluded.

