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SENATE

S. No. 976

RECEIVED BY: K

Introduced by Senator Manuel "Lito" M. Lapid

EXPLANATORY NOTE

Section 10, Article XIV of the 1987 Constitution provides that science and technology are essential for national development and progress, and that the State shall give priority to research and development, invention, innovation, and their utilization.

Yam is the common name for some species in the genus *Dioscorea* (family Dioscoreaceae). It is a perennial herbaceous that is cultivated for the consumption of its starchy tubers in Africa, Asia, Latin America and Oceania. The tubers can be stored up to six months without refrigeration, which make them a valuable resource for the yearly period of food scarcity in Africa at the beginning of the wet season. Here in the Philippines, the violet *ube* variety of yam (*Dioscorea alata* also called "water yam", "winged yam" or "purple yam") is used as an ingredient in many sweet desserts such as *halaya* and the famous Filipino dessert, *halo halo*. *Ube* was first cultivated in Southeast Asia. Although not grown in the same quantities as the African yams, it has the largest distribution world-wide of any cultivated yam, being grown in Asia, the Pacific Islands, Africa, and the West Indies. In the United States, it has become an invasive species in some Southern states.

Just recently, Filipino researchers unraveled a myriad of medicinal benefits that can be derived from *ube* (yam). It is said to improve metabolism and provide energy and antioxidant defenses. Dr. Edgardo Tulin, a PhilRootcrops scientist and chemistry professor of the Visayas State University, further unraveled the yam's other medicinal properties in his research titled "Isolation and Functional Characterization of Mimetic Protein (PRP-1) from Yam". He stressed that PRP-1, a naturally derived ACE (angiotensin converting enzyme) inhibitor from yam, can be used safely as a potential anti-hypertensive drug and because it is a natural protein, it could be a valuable molecule in today's health-conscious society. He also recommended that a follow-up study be conducted to determine the anti-diabetic property of PRP-1.

Yam can also support the female endocrine system and the tubers' complex carbohydrates and fiber are beneficial because they lower the rate at which sugars are released and absorbed into the bloodstream. It also provides manganese, a trace mineral that helps with carbohydrate metabolism; and is a cofactor in a number of enzymes. Specifically, it is important in the production of vitamin B6, which is needed by the body to break down homocysteine, which is an amino acid that can directly damage blood vessel walls. Since high homocysteine levels are significantly associated with increased risk of heart attack and stroke, having a good supply of vitamin B6 is desirable.

This bill seeks to further improve the performance of the Philippine yam tuber or *ube* and other root crops industry by appropriating the necessary funding and administering yam tuber and other root crops promotion and research and development, specifically on the medical benefits, potentials and properties of the same, by bringing together in one organization responsibility for promotion and responsibility for research and development, thus enabling better coordination of activities and more efficient use of resources.

The legislation envisions the creation of a facility that will have general powers and functions in line with the research and development of the Department of Science and Technology – Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (DOST-PCARRD), Department of Agriculture - Bureau of Agricultural Research (DA-BAR), Department of Health – Bureau of Food and Drugs (DoH-BFAD), Department of Trade and Industry (DTI), and National Economic and Development Authority (NEDA). The Facility will be in the forefront of conducting medical researches, scientific study and feasible marketing strategies; extending technologies; and creating linkages with international organizations and other yam tubers and other root crops development centers in other countries.

In view of the foregoing, early passage of this bill is earnestly sought.



**MANUEL "LITO" M. LAPID**  
*Senator*

10 JUL -8 AM 12:29

**SENATE**

S. No. 976

RECEIVED BY

Introduced by Senator Manuel "Lito" M. Lapid

**AN ACT  
ESTABLISHING A HOLISTIC HEALTH RESEARCH AND DEVELOPMENT  
PROGRAM ON YAM TUBERS, AUTHORIZING THE APPROPRIATION OF  
FUNDS THEREFOR, AND FOR OTHER PURPOSES**

*Be it enacted by the Senate and the House of Representatives of the Philippines  
in Congress assembled:*

**SECTION 1. *Establishment of a Yam Tubers and Other Root Crops Health  
Research and Development Facility.*** - The Yam Tubers Health Research and  
Development Facility is hereby established.

**SEC. 2. *Declaration of Policy.*** - It is the policy of the State to give priority to  
research and development, invention, innovation and their utilization. As such, the State  
shall promote an environment conducive to the development of all its citizens to  
become, to the best of their potentials, independent, self-reliant and productive  
members of society.

Towards this end, the State commits itself to the establishment of institutional  
mechanisms to provide quantitative and qualitative research on Philippine yam tubers  
and other root crops that are responsive to the country's health needs.

**SEC. 3. *Definition of Terms.*** - For purposes of this Act, the following terms  
shall be defined as follows:

a) "*Committee*" refers to the Committee on Yam Tubers and Other Root  
Crops Health Research and Development, and Promotion.

b) "*Facility*" refers to the Yam Tubers and Other Root Crops Health Research  
and Development and Promotion Facility.

c) "*Secretary*" shall refer to the Secretary of the Department of Science and

Technology.

d) “Yam” refers to the perennial herbaceous vines cultivated for the consumption of their starchy tubers in Africa, Asia, Latin America and Oceania. It is the common name for some species in the genus *Dioscorea* (family Dioscoreaceae). The tubers can be stored up to six months without refrigeration, which makes them a valuable resource for the yearly period of food scarcity in Africa at the beginning of the wet season. In the Philippines, the purple *ube* variety of yam (*Dioscorea alata* or *violet yam*) is eaten as a sweetened dessert called *halaya*, and is also an ingredient in another Filipino dessert, *halo halo*;

**SEC. 4. Powers and Functions.** – The Facility shall have the following general powers and functions in line with the research and development programs of the Department of Science and Technology – Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (DOST-PCARRD), Department of Agriculture - Bureau of Agricultural Research (DA-BAR), Department of Health – Bureau of Food and Drugs (DoH-BFAD), Department of Trade and Industry (DTI), and National Economic and Development Authority (NEDA):

a) Conduct researches relating to health properties and potentials of yam tubers and other root crops, scientific study and feasible marketing strategies;

b) Extend technologies; and

c) Linkage with international organizations and other yam tubers and related root crops research and development, and promotional centers in other countries.

**SEC. 5. Comprehensive Research on Yam Tubers and Other Root Crops.** - The Secretary is hereby mandated to conduct a comprehensive research, information and promotional drive on the health properties and potentials of yam tubers and other root crops in the country.

**SEC. 6. Committee on Yam Tubers and Other Root Crops Health Research and Development, and Promotion.** - To assist the Secretary in receiving accurate and complete information on health properties and potentials of yam tubers and other root crops, there is hereby established a Committee, to be known as the Committee on Yam Tubers and Other Root Crops Health Research and Development, and Promotion, to ensure the strategic management, communication, and oversight of the policy formation, research, and activities of the government regarding yam tubers and related root crops.

The Committee shall endeavor to:

- a) promote public awareness, education and information on issues about health breakthroughs concerning yam tubers and other root crops,
- b) undertake research and/or collaborate with other entities on research activities on the health properties and potentials of yam tubers and other root crops in the Philippines;
- c) receive donations and grants from international donor institutions, foundations, and multilateral and bilateral foreign donor agencies involved in research of the health properties and potentials of yam tubers and other root crops;
- d) provide the avenue for exchange of information and exchange programs on issues relating to health properties and potentials of yam tubers and other root crops; and
- e) ensure that materials concerning findings linked to health properties and potentials of yam tubers and other root crops are available, and up to date, and that timely aggregate data concerning such reports shall be made available to the public upon request and consistent with existing confidentiality standards.

**SEC. 7. *Composition.*** - The Committee shall be composed of the following members:

- (a) One (1) representative from the Department of Science and Technology;
- (b) One (1) representative from the Department of Agriculture;
- (c) One (1) representative from the Department of Health (DOH);
- (d) One (1) representative from duly accredited association of drug and vaccine manufacturers and distributors;
- (e) One (1) representative from the duly accredited association of medical doctors in the Philippines; and
- (f) One (1) representative from non-governmental organizations (NGOs) involved in the advocacy for the health potentials of yam tubers and other root crops.

The Secretary shall be the Chairperson of the Committee.

**SEC. 8. *Meetings.*** – The Committee shall meet at least once a month upon three-day notice signed by the Chairperson or as often as necessary upon the written request signed by two-thirds (2/3) of its members.

The presence of at least four (4) members at the time of the meeting shall constitute a quorum: *Provided, however, That the Chairman, in his/her absence, the Vice Chairman, shall preside.*

The meetings of the Committee shall be open to the public and witnesses shall be given the opportunity to speak and make presentations at such meetings.

Each member shall make a presentation to the full Committee at each meeting concerning the activities conducted by such member.

**SEC. 9.** The Facility is hereby authorized to plan, construct, develop, improve, acquire, or lease buildings, farms, fields and other facilities, to purchase machineries, equipment, materials and supplies locally or abroad as may be necessary to carry out its functions and objectives. Moreover, the Facility shall enjoy exemption from taxes and other duties in the importation of such machineries, development and extension programs, subject to the provisions of the Tariff and Customs Code, the National Internal Revenue Code and the provisions on Automatic Appropriations under the General Appropriations Act.

**SEC. 10. *Prevention of Conflict of Interest in the Research Process.*** - Within six (6) month from the date of effectivity of this Act, the Department of Science and Technology shall issue the necessary standards, guidelines and regulations in order to ensure that there is no conflict of interest between the research agenda of the researchers or government agencies promoting the health properties and potentials of yam tubers and other root crops.

The Department of Science and Technology shall ensure the timely publication and dissemination of information of these guidelines and regulations in order to ensure that people all over the country are adequately informed.

**SEC. 11. *Appropriations.*** - The amount of Fifty Million Pesos (Php50,000,000.00) is hereby authorized to be appropriated from the Special Activities Fund of the President of the Republic of the Philippines, or from any other sources that may be identified for the purpose. Thereafter, such sum required for its operation, maintenance, research, and development shall be included in the annual General Appropriations Act.

**SEC. 12. *Revolving Fund.*** - Any and all savings and income of the Facility shall

constitute a revolving fund which shall not be reverted to the General Fund and which shall be used by the Facility in the furtherance of its goals and objectives.

**SEC. 13. *Repealing Clause.*** -All existing laws, rules and regulations or part thereof inconsistent with the provisions of this Act are hereby repealed, superseded or modified accordingly: *Provided, however,* That nothing in this Act shall amend, modify or repeal the provisions of Republic Act No. 7160, otherwise known as the Local Government Code.

**SEC. 14. *Effectivity Clause.*** - This Act shall take effect after fifteen (15) days of its complete publication in the Official Gazette or in at least two (2) newspapers of national circulation.

***Approved,***