

CURRICULUM



JOSE RAFAEL JUAN GARCIA. Eng., D., Prof.

Doctor Water & Irrigation.

Principal Researcher.

Engineer in Irrigation and Drainage.

Agriculture Engineer.

Professor Agro economic Studies.

Juan has worked more than 35 years in different water and irrigation institutions of them nationally more than 30 years, in the problematic one of the water in different directions: economic evaluation of hydraulic works and the systems of irrigation and drainage, operation of the irrigation systems and the surface and underground sources supply, to offer technical assistance of the irrigation in several countries, the saving of energy in the irrigation, to forecast the irrigation in the economic cultures, to plan the water demand, to lead research programs, to introduce the results of science and the new technologies in the production conditions , to offer technical scientific services, to control the investigation plans of science and the technique, to divulgate the investigation results and technical and scientific works. Juan has been the National Head of the Investigations of Tobacco Irrigation in Cuba during 20 years.

Scientific secretary. Expert of irrigation, Member of the scientific advice in several institutions: Irrigation, Tobacco, Faculty of Irrigation and Drainage. To give: teaching, conferences and courses of masters. To take part in University Courts of: Defence Diploma Thesis and Doctorates. Member Expert Committee for Irrigation and Tobacco of the Science Academy. Member of the Board in the Irrigation and Drainage Research Institute. To write works: journalistic, scientists and technicians. Member editorial committee of several scientific technical magazines. To take part of National Commissions of: Irrigation and Drainage, Tobacco, Extensions. To participate in the ecological food production in urban conditions. From 2007 to 2015, I have developed two international Web pages in Spanish and English, one about tobacco irrigation www.tobaccoirrigation.com and other on water & irrigation www.aguayriego.com

TITLES, SCIENTIFIC AND ACADEMIC DEGREES.

- Agricultural Engineer. Graduated by the Agronomy Faculty of the Central University of the Villas, Cuba in 1965. The title was accredited in Spain in 2001.
- Engineer in Irrigation and Drainage. Graduated by the Irrigation and Drainage Faculty, Superior Institute of Agricultural Sciences of Havana, Cuba, in 1977.
- Doctor in Agricultural Sciences. Defendant in the Superior Institute of Agricultural Sciences "Vasil Kolarov" Plovdiv, Bulgaria, in 1984.
- Principal Researcher. Granted by the Cuban Sciences Academy, Havana, in 1986.
- Attached Professor Principal. Granted by the Superior Institute of Agricultural Sciences of Havana, in Cuba, 1995.
- Doctor in Agricultural Sciences. Accredited by the National Commission of Scientific Degrees in Cuba, 1998.
- Doctor. Accredited by the Ministry of Education, Culture and Sport in Spain, 2003.

PROFESSIONAL EXPERIENCE

During 4 years, in the period from 1965 to 1968, I worked in the Ministry of the Construction, in the National Institute of Water Resources, as National Head in charge of the Agro economic Studies of: hydraulic construction, transfers, the systems of irrigation and drainage, that was destined to the economic cultures, cattle, supply to the cities, industry and tourism. Member of National Advisory Council of Citrus Branch. Of 1974 until 1978 worked of National Head of Tobacco Irrigation by the National Department of Irrigation and Drainage and by Tobacco National Department of Agriculture Ministry of Cuba. Like National Head of the Tobacco Irrigation, offered technical assistance in the Tobacco irrigation of more than 40000 ha of which around 25% of them were in the state sector, the rest belonged to the private sector. Under my control were different tobacco irrigation provincial departments, those were dedicated to the operation and maintenance of: supply sources, systems of irrigation, equipment of pumping, some of them in addition projected irrigation systems and little dams, as well as they had construction equipment. Also through Ministry were planned the resources in pumping equipment, motors, systems of irrigation and the necessary workers for a suitable operation of the irrigation.

From 1978 to 1998 I was National Head of the investigations of tobacco irrigation in Cuba by the Research Institute of Irrigation and Drainage (RI I D) and the Research Institute of Tobacco (R I T), whose belong to the network of Technical Scientific Institutions of the Direction of Science and Technique, as well as offered technical assistance in the operation of the irrigation in the economic cultures. In that stage also I offered technical assistance in the tobacco irrigation in Mozambique in 1982, to request of the Agriculture Ministry of Mozambique and in Nicaragua from 1986 to 1989, to request of the Tobacco Nicaraguan Corporation, with the coordination of the National Department of Tobacco and the National Department of Irrigation and Drainage of Cuba. From 1981 to 1989 I offered technical assistance in the irrigation forecasting in the Tobacco Enterprises and Agricultural Enterprise. In 1984-1985 participated in the Jury of the Forum of Energy and was written a work on the energy saving in the irrigation. From 1990 to 1994 I offered by the National Food Programme, technical consultant in the planning and the water demands in vegetables, fruit trees, grains and viands in agrarian enterprise of the Matanzas Province. Also in my free time I worked like private producer in ecological agriculture from 1991 to 1998, in the culture of the vegetables, fruit trees, roots and tubers, medicinal plants, grains, and gardening, Vice-

president of the Horticulture Club Juan Tomas Roíg in Havana. I took part of National Commissions of: Tobacco, Irrigation and Drainage, Extensions. Member of the Committees of Experts of Tobacco and Irrigation of Cuba in the period from 1991 to 1998 by the Tobacco Research Institute and by the Research Institute of Irrigation and Drainage respectively. Member of the Board in the Irrigation and Drainage Research Institute from 1988 to 1998 period. During 2000 until 2004 I updated myself in the problematic one of the water in Spain, the sources of superficial and underground water supply, the climate, environment, the irrigation, the public administration, agriculture, cattle and tobacco production. From 2005 to 2015 I wrote diverse articles related to the problem of the water in Spain that it included: the situation of the water in Spain, the fight against the water deficit, measures before a prolonged drought, strategy of irrigation against the drought, the modernization of the irrigation systems, water investments, the administrative infrastructures, fight against floods, use of wastewater. In the period from 2001 to the 2006 I have worked in Spain as Businessman, in the sector of Commerce in activities of: publicity, buys, sales, control of costs and analysis of the economic management. **Speak and write Spanish, English and Bulgarian.**

From 2007 to 2015 I have worked in the preparation of a web page in Spanish and English on the irrigation of tobacco and the problem of water in Spain www.tobaccoirrigation.com

From 2008 to 2015 I have worked in the preparation of a web page in Spanish and English on water and irrigation www.aguayriego.com In 2011 I was created a new web page in Spanish and English on water and irrigation and the problem of water in Spain which use categories and keyword.

RESEARCH EXPERIENCE

From 1969 to 1974 I investigated on the water requirements of the citrus and the tobacco, by the Agriculture Ministry. In the stage from 1976 to 1980 I was the person in charge of the investigations of tobacco irrigation and the investigations of citrus

Irrigation for Pinar del Rio and the Island of Youth

During the period from 1978 to 1998, I nationally lead the investigations of tobacco irrigation in Cuba, coordinated and advised the plans investigations of tobacco irrigation in the different institutions from the country. I have participated in 26 investigations related to: water requirements, irrigation water management, the techniques of irrigation in plantations and tobacco seed plots, physical chemical and organoleptical properties of the different types from tobacco, the yield and quality of the harvest. The Research Institute of Irrigation and Drainage in the matter of tobacco irrigation, lead the investigations in irrigation technology, the deficient irrigation, studies of economic effectiveness, the planning of the water necessities, the function water yield, the introduction the results of the investigations and technological development in different enterprise with the coordination from the National Departments of Irrigation, Tobacco and the Experimental Stations respectively.

The Tobacco Research Institute executed experiments in water requirement in seed plots and plantations, the water management of the irrigation, the investigations related to the yield and quality of the harvest. The laboratories of the Tobacco Industry of Cuba made the investigations of the physical chemical and organoléptical properties of the irrigation experiments. The University Centre of Pinar del Rio carried out the

investigations of water necessities in the tobacco type burley. The investigations were executed in the Tobacco Experimental Stations of: San Antonio, San Juan and Martinez, San Luis, Cabaiguan; in the University polygon of Pinar del Rio; in Tobacco Enterprise of economic importance in conditions of irrigated land; in the laboratories of the Tobacco Industry of Cuba and in the Research Institute of Irrigation and Drainage. Like National Head of Investigations of Irrigation of the Tobacco, I personally conducted experiments and others by means of the specialized researcher personnel who I had formed through the years and to which offered technical advising, counting in addition with other specialists and the support to different departments from the institutions before indicated.

From 1980 to 1998 I was of National Person in charge by R I I D, of the coordination and control of the Extensions and Introduction of Results of Irrigation and Drainage. From 1988 to 1991 I was head of the Technical Department of Services Scientific of the Research Institute of Irrigation and Drainage that it included: Computer science, Biometry, the Library, the Production of Prototype and the Brigade of irrigation systems assembly. In year 1985 to the 1997 I participated with the Economic Training Group of the Research Institute of Irrigation and Drainage in studies of economic effectiveness of: irrigation, drainage, tobacco and agriculture. Head of the Control and of Organization Department of plans of R I I D in the period from 1993 to 1998. In the period of 1996-1997 I was the person in charge of result the Water Regime in the worm culture.

Of year 1982 to 1985 I took part of the Advisory Scientific Council of the Agricultural Branch in the Agriculture Ministry. Member of the Scientific Council of the Research Institute of Irrigation and Drainage from 1978 to 1998. Member of the Scientific Council of the Tobacco Research Institute Investigations from 1978 to 1998. Scientific secretary of R I I D during the period from 1993 to 1998. Member of the National Commission for the Granting of Investigations Categories for the Direction of Science and Technique of the Agriculture Ministry, during the period from 1992 to 1998.

.From 1965 to 1998 I have participated in 66 Technical Scientific Events, of them in 38 appeared communications.

PUBLICATIONS AND EDITORIAL ACTIVITY.

I have made 175 publications, 158 appear reflected in serial magazines, bulletins, new papers, the page Web, and the other 17 publications are of institutional character. The summaries of 38 works are reported in referative magazines of 10 Countries.

I have written 3 books: The irrigation; The Irrigation of the tobacco, its effect on the yield and quality of the harvest. Tobacco addiction and its principle effects.

I wrote journalistic articles related to the problem of the water in Spain.

I Took part of the publishing Committee of 4 magazines: Agrotechnique of Cuba; Irrigation and Drainage; Sciences of Soil, Irrigation and Mechanization; Hydraulic will.

EDUCATION

From 1973 to 1975 I gave classes in quality of professor, elaborated the training program and I wrote the conferences of the subject Agro economy in the Faculty of

Irrigation and Drainage of the High Institute of Agricultural Sciences of Havana. From 1982 to 1993 I took part of 20 university courts of Diploma Thesis Defence, by the High Institute of Agricultural Sciences of Havana, in quality of: President, Member, Opponent and Tutor.

Member of the Scientific Council of the Faculty of Irrigation and Drainage of the ISCAH from 1985 to 1987. From 1985 to 1998 I have participated in 12 courts of Defence of thesis of Doctorate in Agricultural and Technical Sciences, in quality of: President, Member, and Opponent. In quality of professor I gave classes in 7 courses of post degrees, in 6 seminars and 2 training. I have given 34 scientific technical conferences in different thematic. From 1994 to 1998 I gave classes of the subject Economy for the evaluation of projects, in the Masters of Irrigation and Drainage in the Research Institute of Irrigation and Drainage, attached to the High Institute of Agricultural Sciences of Havana. I have received 13 courses of post degrees.

The Superior Institute of Farming Sciences of Havana granted me in 1995 the category of attached titular professor, who was defended in the university court of granting of educational categories. To request of the Cuban Education Ministry, I wrote in 1995 the text book "the Irrigation", to satisfy the study program for technicians of Irrigation and Drainage, of the Technical and Professional Education.

DISTINCTIONS AND RECOGNITIONS

By the technical scientific work developed and the introduction and generalization of the results of science and the technique in the conditions of the production, I have received 13 distinctions and recognitions. Such they have been granted by different Institutions in which they are included: Cuban Sciences Academy , Superior Education Ministry, Agriculture Ministry, Farming National Union, National Union of Architects and Engineers of Cuba, National Association of Havana City Rationalizing Innovators , National Research Institute of Irrigation and Drainage, Tobacco Research Institute, Youth Technical Brigades, the Central Council of the Bulgarian Unions.

- In recognition of the investigative work, I was decorated by the Youth Technical Brigades in 1976, with the medal and order "Builders of the Future".

- At the national meeting of extension and generalization of the achievements of investigations 1981, I was awarded a certificate of appreciation for the contribution to agricultural development in the country until 1981. The jury was composed of workers of the National Union of Agricultural Workers, the Academy of Sciences and the Ministry of Higher Education.

-At the V-Meeting Balance of research and extension held in Havana in the 1983 year, was made an acknowledgement by the Farming National Union and the Academy of Sciences, to the "Collective Researchers and introducing most outstanding results" for having contributed significantly to the introduction, extension and widespread irrigation in forecasting economic crops. The group obtained the result was composed of 9 researchers, including part.

- Recognition of the National Union of Architects and Engineers of Cuba for scientific development technician reached in the Science and the Technical until 1985.

- In 1986 I was honoured with the distinction "Vanguard in emulation of the VII five years," by the ambassador of Bulgaria in Cuba, in recognition of the close linkage with Bulgarian specialists, compliance in emulation Association and Scientific-Technical activity developed. The distinction was granted by "The Central Council of Trade Unions Bulgarians" and "The Party Central Committee Bulgarian", in coordination with "The National Union of Agricultural and Forestry Workers of Cuba."
- In 1989 an investigator group of the Research Institute of Tobacco and Research Institute of Irrigation and Drainage got recognition by the Academy of Sciences of Cuba highlighted by the outcome of the national scientific-technical activity during the year 1988.
- In 1991, I got a recognition of the Cuban Sciences Academy by the scientific work developed in the group of technical experts from the scientific programme " Integral technology of tobacco crops during period 1986-1991"
- In 1991, the Superior Scientific Council of Cuban Sciences Academy gave me a recognition by the work carried out in the Food Programme of Calimete Municipality, in the province of Matanzas.
- In 1992, the Academy of Sciences of Cuba, granted me "The coin commemorating the 30 anniversary of the Sciences Academy of Cuba, covering the period 1962-1992," in recognition of the contribution to scientific development of the country.
- In 1993 MINAG and the National Union of Agriculture conducted a scientific recognition of the outcome "Irrigation of the main economic crops" for his contribution to the country's development. The group obtained the result was composed of 10 investigators, including part.
- In 1994 the Research Institute of Irrigation and Drainage of Cuba gave me an appreciation for the work in the development and strengthening of irrigation and drainage in the country for over 20 years.
- In 1995, the National Association of Innovation and Rationalization of Havana, granted me an appreciation for the activity conducted in science and technology.
- In 1997, the National Union of Agriculture gave me the distinction "Marcos Marti" in recognition for being employed in farming-related irrigation for more than 25 years.
- In 1997, in the activities of the Municipal Forum XII of Science and Technology in Havana I took an appreciation for the contribution to scientific technician development of the Country Agriculture in urban conditions.