

Michiyo Tsujimura's Life History

- 1888 Born on September 17 in Saitama, as a Jintaro Tsujimura's second daughter, among three sons and four daughters.
- 1909 Finished Tokyo Normal School for Women.
- 1913 In March, graduated from Tokyo Women's Higher Normal School.
In April, became a teacher at Yokohama Girl's School, Kanagawa Prefecture.
- 1917 In September, became a teacher at Saitama Normal School for Girls.
- 1920 In September, became an unpaid Assistant of Food Nutrition Laboratory, Hokkaido Imperial University. Under Professor Kinsuke Kondo, Tsujimura did research focused on the nutritional needs of silkworms.
- 1922 In April, left Sapporo to Tokyo to study Biochemistry under Professor Saburo Kakiuchi, of Biochemistry Laboratory in School of Medicine at Tokyo Imperial University, and began research on Vitamins and the Protein in ginkgo nuts.
- 1923 On September 1, the Great Kanto Earthquake destroyed much of Tokyo. Tsujimura had run from the building, where she was conducting an experiment, clutching only a balance, which was highly accurate for its time and quite valuable.
Later, Tsujimura moved to the Riken Foundation (Institute of Physical and Chemical Research). Here Tsujimura studied under Dr. Umetaro Suzuki, the distinguished agricultural chemist, discoverer of Vitamin B₁. Tsujimura began to research work on Vitamins in green tea by his request.
- 1924 Began to study on Vitamin C with Masataro Miura, and found that a pretty large amount of Vitamin C was contained in Japanese green tea. She published these findings in "Nippon Nogekagaku Kaishi", with Mr. Miura, for the first time in the world. As the results, the export of green tea increased quite large amount.
- 1926 Tsujimura reported on "Isolation of vitamin C and its chemical quality"(Riken Iho 1926, 1927).
- 1929 Isolated an astringent component of green tea, i.e. catechin for the first time (Sci.Pap.I.P.C.R.10).
- 1930 Isolated tannin of stronger astringent than catechin as an amorphous state and reported (Sci.Pap.I.P.C.R.14).
- 1931 Proved that the chemical structure of tea tannin was an ester of gallic acid with catechin by chemical synthetic procedure (Sci.Pap.I.P.C.R.15).
- 1932 Reported on "Carotene and Sterine in green tea (Sci.Pap.I.P.C.R.20).
In June of this year, Tsujimura was given the Doctorate in the field of Agriculture from University of Tokyo. The title is "On the chemical components of green tea". Here the first woman doctor in the field of agriculture in Japan was born.
- 1934 Obtained a new catechin, i.e. gallo-catechin and reported (Sci.Pap.I.P.C.R.24)
By Dr. U. Suzuki's instruction, Tsujimura published her findings on catechins in English. Since then, Tsujimura's research work has been highly evaluated among the world chemists.

- 1935 (1)Isolated tannin from green tea as the crystal form (Sci.Pap.I.P.C.R.26)
(2)Tsujimura got the patent on "The manufacturing procedure of Vitamin C from the plants" Patent No.2544(Rikagaku Kenkyujo)
- 1937 Isolated P-Coumaric acid from green tea (Sci.Pap.I.P.C.R.32).
- 1938 α β -Hexenal was isolated from green tea (Sci.Pap.I.P.C.R.34).
- 1940 Demonstrated and confirmed that a pretty large amount of Flavone (Vitamin B₂) was contained in green tea by animal feeding test and quantitative analysis (co-worker Tami Ako and Hide Sasaki, Riken Iho 19).
- 1941 Extracted elagatannin and then quercetine (a kind of flavones, yellow pigment). The results were reported in Sci.Pap.I.P.C.R.38.
- 1942 Became a co-research staff of Rikagaku Institute.
- 1943 Began to research on tannin in the plants, other than tea plant, such as an acorn etc. (Riken Iho 22).
- 1946 In February, became a Lecturer at Gakushuin.
- 1947 Prompted to a Research Staff of Rikagaku Institute.
- 1949 In August, appointed to the professor, Ochanomizu University.
- 1950 In April, appointed to the First Dean of Department of Home Economics, Ochanomizu University.
- 1951 In January, visited the U.S.A. for inspection of University Institution. Appointed the member of council for University Establishment.
- 1952 Studies on Flavin and other substances in *Laminoria japonica* was carried out by Tsujimura's idea of important substances for human body.
(Published in Nippon Nogei Kagaku Kaishi. 26. Co-worker; Tabei and Wada)
- 1953 Because of findings on flavin in *Laminoria japonica*, animal feeding test was carried out with co-worker, an assistant professor Yamanishi and an assistant Yoshimatsu.
(Published in Natural Science Report of the Ochanomizu University 4)
- 1955 Isolation of tea tannin II in Crystalline State(Published in Nippon Nogei Kagaku Kaishi. 29. Co-worker; Takasu)
- 1955 In March, resigned from Ochanomizu University.
In April, appointed to the professor, Jissen Women's University.
- 1956 Awarded the Japan Prize of Agricultural Science(Nippon Nougaku-sho).
- 1959 Prepared the derivative of tea tannin II, which melting point was different from tea tannin I.
Tea tannin II(continued) was published in Nippon Nogei Kagaku Kaishi. 33. (Co-worker; Osawa)
- 1960 "On the Tea tannin in various Japanese green teas" was published in Proc. Japan Acad. 36.
- 1961 Tannins in fresh and steamed tea leaves during green tea processing.

- 1963 State of tannins in fresh tea leaves during growing of tea plants.
- 1965 On Chemical Components in the leaves of *Acer aizurnse* Part II, On Maple Tannin.
- 1967 "On the astringency" Reported Kagaku-to-Seibutsu(Chemistry and Biology).
- 1968 Awarded the Order of the Precious Crown, Wistaria.
(勳四等寶冠章:KUNYONTO HOUKANSYO)
Invited to the Emperor's garden party(ENYUKAI).
- 1969 Passed away on June 1, at the age of 81.
Posthumously conferred JYU-GOI(従五位).
- 1981 In September, alumnae of Ochanomizu University and Jissen Women's University raised a monument in the garden of Tsujimura's niece's home. It was engraved an inscription“滋味”(daintiness) with Tsujimura's handwriting.