

**Paper title**

SOYA PLANT CULTIVATION TECHNOLOGY SEARCH TAKING INTO ACCOUNT ITS BIOLOGICAL CHARACTERISTICS AND ENVIRONMENTAL CONDITIONS.

**Abstract**

Global warming is presently considered to be hothouse effect. People activities strengthen this effect by emissions of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and other gases. Ukraine occupied 5 place on harmful emissions in atmosphere among the developed countries and countries with transitive economy in 1990. Then because of the productivity slowdown emission decrease Ukraine occupied 10 place among 35 countries of Enclosure №1 of the **U.N.O.** Frame Convention about climate change (1997) in 1998. In 2005 the quantity of harmful emissions in atmosphere increased by 7,2 % relative to 2004. But their quantity was two times lower in comparison with 1990. Thus, the stronger tendency of emissions in atmosphere during last years was observed.

Under such circumstances a foreground trend of agriculture is adaptation to the conditions given. For this purpose rational use of fertilizers, research of their influence upon plant organism, studying of variety specificity to climatic conditions and to the certain chemical fertilizers is necessary. New agroclimatic division into districts is necessary.

To date a most important problem in Ukraine is not rational, baseless use of various doses of chemical fertilizers. A high doze of nitric fertilizers use is practiced for getting a big harvest. Agriculturists are not always well informed about crop quality and consequences of such fertilizer application. Superfluous entering of nitric fertilizers is the reason of superfluous nitrogen quantity in soil, in plants, and later in atmosphere.

Consequence of this is significant N<sub>2</sub>O maintenance increase at atmosphere. Nitric oxide is dangerous environmental pollutant which act is negatively upon normal functioning of living creatures. Besides it was established, that NO is the important signal molecule. NO is known to be an endogenous regulator of growth, maturing and ageing of plants; Also NO is a signal molecule for an induction of plant protective reactions against pathogen action and oxidative stress. Therefore studying distress and eustress nitric oxide action upon plant is very important.

In this work adaptive reactions of plants (nonenzymatic and enzymatic protection system) grown up at various dozes of nitric fertilizers are studied. Search of nitric fertilizer optimum doze for the certain agricultural crops (a Soya and wheat) taking into account soil type is performed. We developed systems approach for definition of various fertilizer action upon plant constitution. The biochemical and physiological parameters of the plants are taken into consideration herewith.

Nitric fertilizer dose dependent influence upon photosynthetic membrane composition depended in turn upon plant ontogenesis stage. The high concentrations of nitrogen fertilizers (N<sub>180</sub>P<sub>60</sub>K<sub>60</sub>) affect negatively upon physiological and biochemical parameters - chlorophyll a, sulphoquinovosyldiacylglycerol in leaves; saccharose and ascorbic acid in Soya's seed content decrease were observed. Seed qualitative indexes were at the control level while nitric fertilizer high doze use.

**BIOGRAPHY**

I was born 4 November 1979 in small cities Makarov, Kiyv region. My nationality is ukrainian. I am single. Now I am live in Kyiv.

My education: Kyiv National Taras Shevchenko University, Biology Faculty, Plant Physiology and Ecology Department. Graduated in 2002. Degrees obtained: Plants Physiologist; Teacher of Biology. Now I am post-graduate (Ph.D.) student in Kyiv National Taras Shevchenko University, Biology Faculty, Plant Physiology and Ecology Department.

I have teaching practice at Chair of Biochemistry Kyiv Medical University.

My native language: Ukrainian. I know such foreign languages: English, Spanish, Russian.

I am Member of The Plant Physiology Society of Ukraine, member of The Biochemical Society of Ukraine and member of Non-government organization "Women in science".

My research interest:

- . Molecular mechanisms of the heavy metal and pollutant toxicity
- . Ecological aspects of toxin produced by microorganism
- . Gender invastigation in high education of Ukraine.

**Institutional affiliation**

Kyiv National Taras Shevchenko University, Biology Faculty, Plant Physiology and Ecology Department.