## Accepted Manuscript

Technologies for obtaining nitrogen fertilizers prolonged effect in wheat

Eldar Gugava, Avtandil Korokhashvili

PII: S1512-1887(18)30020-4

DOI: 10.1016/j.aasci.2017.12.003

Reference: AASCI 161

To appear in: Annals of Agrarian Sciences

Received Date: 25 September 2017

Accepted Date: 15 December 2017

Please cite this article as: E. Gugava, A. Korokhashvili, Technologies for obtaining nitrogen fertilizers prolonged effect in wheat, *Annals of Agrarian Sciences* (2018), doi: 10.1016/j.aasci.2017.12.003.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



### TECHNOLOGIES FOR OBTAINING NITROGEN FERTILIZERS PROLONGED EFFECT IN WHEAT

Eldar Gugava<sup>a</sup> Avtandil Korokhashvili<sup>b,\*</sup> <sup>a</sup>Iv.Javakhishvili Tbilisi State University, Petre Melikishvili Institute of Physical and Organic Chemistry 5a Politkovskaia Str., Tbilisi, 0186, Georgia <sup>b</sup>Agricultural University of Georgia 240, David Agmashenebeli Ave., Tbilisi, 0159, Georgia Received: 25 September 2017; Accepted: 15 December 2017

Corresponding author: Avtandil Korakhashvili a.korakhashvili@agruni.edu.ge

#### ABSTRACT

Increase of productivity of agricultural crops should be achieved by the using of mineral fertilizers so as not to contribute to global environment pollution. This resolution of the problem can be achieved through obtaining of nitrogen fertilizers of prolonged action and using these fertilizer's contaminants under cereal crops like wheat. In this case the hectare norm of nitrogen defined by agrarian rules will decrease with 40-50%, and it w l be very urgent with economic and ecologic point of view.

*Keywords:* Cereals, Wheat, Nitrogen Fertilizers, Prolong effect, Soil accumulation, Environment Protection

#### INTRODUCTION

At the current stage global environment pollution threatens the population of the whole world and it is contributed greatly by application of mineral fertilizers in agriculture. It is known that in the world, annually more than 200 million ton mineral fertilizer is used under agricultural crops. Due to the fact that all of these fertilizers (mostly ammonium nitrate) are well soluble in water, only 40-50% of the introduced fertilizer is assimilated by plants, 20% is washed-off to soil, which conditions global contamination of environment (rivers, seas, water reservoirs, ground waters). Accumulation of nitrates in potable water and food products conditions heavy diseases (metahaemoglobogenia, leukemia, malignant tumors), 20% is evaporated and reaches upper strata of atmosphere thus resulting destruction of ozone layer, as a result of which stream of ultraviolet rays to the Earth increases. Only 10% of nitrates undergo transformation into the form of reserves in soil. All these factors, alongside with the great economic effect, create extremely dangerous ecologic threat to the population and animals. But due to the fact that mineral fertilizers still are the source to receive highly productive crops. We have to preserve the yields of agricultural products and to protect environment from global pollution. These problems should be resolved at the expense of development of new technologies and their intense application [1,2]. Studies and their results respond to the issue of resolution of this problem.

Download English Version:

# https://daneshyari.com/en/article/7228537

Download Persian Version:

https://daneshyari.com/article/7228537

Daneshyari.com