

Using of nanodispersed SiO₂ in agriculture

© **Vadim V. Potapov**,^{1*} **V.A. Sivashenko**,² and **Valery N. Zelenkov**

¹ *Research Geotechnological Center of Far East Branch of Russian Academy of Sciences. Severo-Vostochnoe Road, 30. Petropavlovsk-Kamchatsky, 683002. Russia.*

Phone: +7 (84152) 49-54-35. E-mail: vadim_p@inbox.ru

² *Kamchatka Research Institute of Agriculture. Central St., 4. Sosnovka Village. District Yelizovo. Kamchatka Kray, 684000. Russia. Phone: +7 (8924) 780-62-47. E-mail: sivashenko@inbox.ru*

³ *All Russian Research Institute of Vegetable Breeding of RAS. District Vereya. Ramenskoye Area. Moscow Region. Russia. Phone: +7 (910) 451-37-45. E-mail: zelenkov-raen@mail.ru*

*Supervising author; †Corresponding author

Keywords: amorphous nanodispersed silica, gel and nanopowder of silica, hydrothermal solution, toxicity, additive in forage, using with agrochemicals, Ca-P exchange.

Abstract

The article discusses the possibility and viability of the use of nanodispersive silica (NDS) obtained from hydrothermal solution. It is shown that the NDS has a non-toxicity and biofilicity. It is shown rising potato harvest by treatment tubers of NDS and by addition of NDS in soil with N, P, K containing fertilizer. When NDS used as additive in forage for cows it is received the data on influence of NDS dose on morphometric characteristics and rising of Ca, P concentration in blood, optimization of Ca/P.