AGROCHEMISTRY AND SOIL SCIENCE. No. 83. Kharkiv: NSC ISSAR, 2015

**UDK 631.445.4:631.427.2**

**APPLICATION OF MICROBIAL PREPARATION POLYMYXOBACTERIN AT SUNFLOWER CULTIVATION IN ORGANIC FARMING**

**O.E. Naydyonova, G.O. Tsygichko, L.A. Shedey, O.P. Syabruk, R.V. Akimova, V.B. Gvozdyk**

**National Scientific Center "Institute for Soil Science and Agrochemistry Research named after O.N. Sokolovsky", Kharkiv, Ukraine**
*(oxana-naydyonova@mail.ru)*

In the stationary field experiment we studied the efficacy of microbial preparation Polymyxobacterin at sunflower cultivation under organic farming. We found a positive effect of Polymyxobacterin on the number of microorganisms which belong to main ecological and functional groups in the soil root zone of plants, enzymatic activity, trophic regime, yield of sunflower. The results show a promising of using microbial preparation Polymyxobacterin under organic farming

***Key words:*** *organic farming, biological preparation Polymyxobacterin, soil microbial communities, soil enzymatic activity.*

**References**

1. *Naydyonova O.E., Makliuk O.I., Tsyhichko G.O.* et al. Influence of the long-term using of organic farming systems on the state of microbial communities of podzolized chernozem in grain and fodder crop rotation. Agrochemistry and Soil Science. 2013. Is. 80. Pp. 82-92. (Ukr.).

2. *Mel'nyk S.Sh., Zhylkin V.A., Gavrilyuk M.M.* et al.. Recommendations for effective application of microbial preparations in technologies of growing crops. K., 2007. 52 p. (Ukr.).

3. *Volkogon V.V., Nadkernichna E.V., Kovalevska T.M., Tokmakova L.N.* et al. Microbial preparations in agriculture. Theory and practice. Edit. V.V. Volkogon. K.: Agrarian science. 2006. 312 p. (Ukr.).

4. *Miroshnichenko M.M., Dotsenko O.V., Makliuk O.I., Naydyonova O.E., Nikonenko V.M., Golota E.V.* Application of bacterial preparations in resource saving agricultural technologies on chernozem of the Left-bank Forest Steppe of Ukraine (recommendations). Kharkiv: FOP Fedorko L.V. 2013. 24 p. (Ukr.).

5. *Naydyonova O.E.* Application of agricultural measures on activation of soil microbial resources in crops production technologies under organic farming conditions. Agrarian Bulletin of South. 2014. Is. 1. Pp. 27-36. (Ukr.).

6. *Zvyagintzev D.G., Aseeva I.V., Babyeva I.P., Myrchink T.G.* Methods of Soil Microbiology and Biochemistry. Edit. by D.G. Zvyagintzev. M.: Moscow university Press, 1980. 224 p. (Rus.).

7. *Mishustin E.N.* Associations of soil microorganisms. M.: Science, 1975. P. 24. (Rus.).

8. *Aristovskaya T.V., Chudyakova J.A.* Methods for study of soils microflora and its vital functions. Methods of stationary study of soils. M.: Science, 1977. Pp. 141-286. (Rus.).

9. *Muha V.D.* About indices reflecting intensity and orientation of soil processes. Collection of scientific works KACI. Vol. 273, Kharkiv, 1980. Pp. 13-16. (Rus.).

10. *Azzi G.* Agricultural ecology. Translation from English by N.A. Yemelyanova, O.V. Lisovskaya, M.P. Shikedanz. Edit. V.E. Pisarev. M.: Publishing house of foreign literature, 1959. Pp. 242-243. (Rus.).

11. *Haziev F.H.* Fermentative activity of soils. M.: Science, 1976. Pp. 39-40. (Rus.).]

12. *Karyagina L.A., Michaylovskaya N.A.* Determination of polyphenol oxidase and peroxidase activity in the soil.ina, // News of AS BSSR, series agricultural sciences. Minsk, 1986. № 2. Pp. 40-41. (Rus.).

**ПРИМЕНЕНИЕ МИКРОБНОГО ПРЕПАРАТА ПОЛИМИКСОБАКТЕРИНА ПРИ ВЫРАЩИВАНИИ ПОДСОЛНЕЧНИКА В ОРГАНИЧЕСКОМ ЗЕМЛЕДЕЛИИ**

**О.Е. Найдёнова, Л.А. Шедей, О.П. Сябрук, Р.В. Акимова, В.Б. Гвоздик**

**Национальный научный центр «Институт почвоведения и агрохимии имени А.Н. Соколовского»,**
*Харьков, Украина*
*(oxana-naydyonova@mail.ru)*

В стационарном полевом опыте определена эффективность применения микробного препарата Полимиксобактерина при выращивании подсолнечника в условиях органического земледелия. Установлено положительное влияние Полимиксобактерина на численность микроорганизмов основных эколого-функциональных групп в почве прикорневой зоны растений, ферментативную активность, трофический режим, урожайность подсолнечника. Полученные результаты демонстрируют перспективность применения микробного препарата Полимиксобактерина в условиях ведения органического земледелия.

***Ключевые слова:*** *органическое земледелие, биопрепарат Полимиксобактерин, микробные сообщества почвы, ферментативная активность почвы.*