CONCENTRATED COMPLEX NATURAL LIQUID FERTILIZER AND THE PROCESS FOR PREPARING IT

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ABSTRACT

This paper presents an example of success by using a natural fertilizer made from animal manure from farmers' households, after a minimal processing method to enrich the soil with elements of N, P and K without disturbance on natural ecosystems.

INTRODUCTION

In the context of return to organic agriculture practical work has shown that natural fertilizers have been and remain the most effective and most healthy. For a certain period, chemical fertilizers presented the advantage that in a short time and with a small amount of substances could ensure fertilization.But this type of fertilizer went beyond in the sense that it became almost exclusive, with serious consequences for humans and the environment. It is known that every animal species resulting from their droppings different natural chemicals that have a role in the harmonious development of the plants.

MATERIAL AND METHOD

Patented innovative product, is a natural fertilizer, complex liquid form, obtained from manure from different animals (cattle, sheep, goats and poultry), in a certain proportion.

The material was collected from local farms in Izbiceni village, Olt county, Romanian village recognized for outstanding results in the field of vegetables.

The manure is collected in winter, when the concentration of nutrients is greater and the product is prepared in summer when high temperatures increase fermentation compounds.

They are placed in a package of the textile material and immersed in a water tank for a certain period of time, sufficient enough for transfer of substances. It gradually raises the bale with manure, to leak fluid into the pool almost complete.

This concentrated liquid product is bottled in containers with a cup, usually 2 liter plastic bottles with labels containing information on how to use.

The remaining viscous elements can be dried and used further by spreading on the soil, so that in production pilot plant does not remain any residue.

RESULTS AND DISCUSSIONS

Innovative product obtained patent number**128996 / 2014** (Fig. 1) – CONCENTRATED COMPLEX NATURAL LIQUID FERTILIZER AND THE PROCESS FOR PREPARING IT.

The best results on the concentrations of chemical elements and qualities, commercial called "FOLAREX" were also recognized by bulletins tests performed in specialized laboratories of the National Institute of Research and Development for Soil Science, Agrochemistry and Environmental Protection - ICPA Bucharest (Fig. 2) .

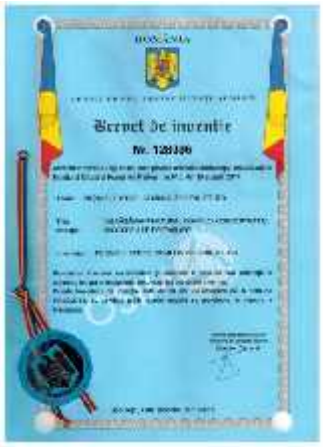
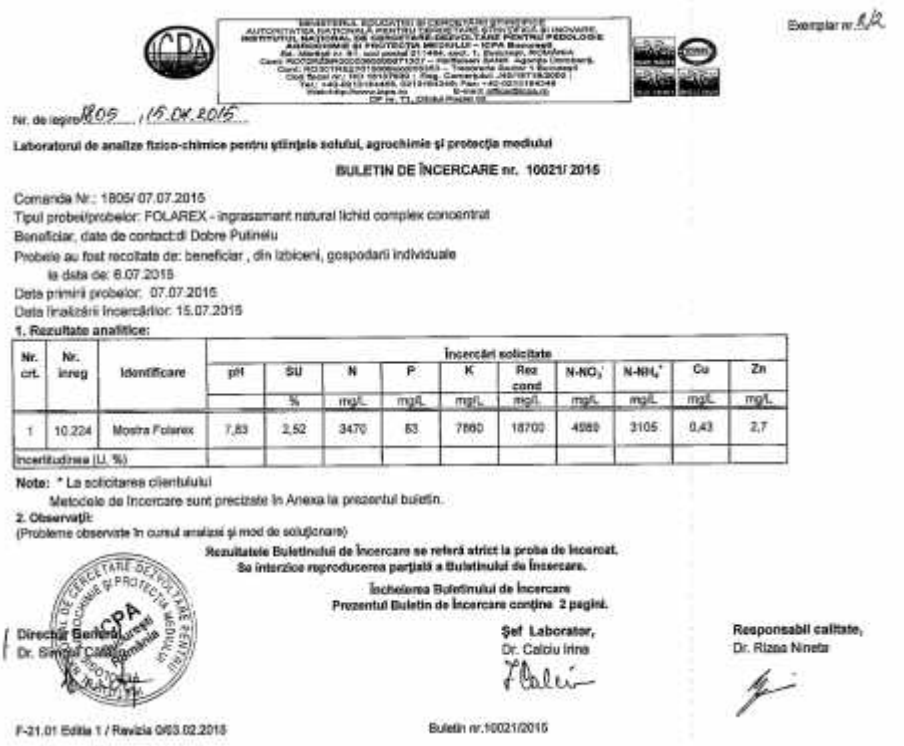


Fig. 1
Patent No. 128996 /2014



Nr. de ieşire 805 / 15.07.2015

Laboratorul de analize fizico-chimice pentru ştiinţele solului, agrochimie şi protecţia mediului

BULETIN DE ÎNCERCARE nr. 10021/ 2015

Comanda Nr.: 1805/ 07.07.2015
Tipul probei/probelor: FOLAREX - ingrasamant natural lichid complex concentrat
Beneficiar, date de contact:dl Dobre Putinelu
Probele au fost recoltate de: beneficiar , din Izbiceni, gospodarii individuale
la data de: 6.07.2015
Data primirii probelor: 07.07.2015
Data finalizării încercărilor: 15.07.2015

1. Rezultate analitice:

Nr. crt.	Nr. înreg	Identificare	Încercări solicitate									
			pH	SU	N	P	K	Res cond	$N\text{-}NO_3^-$	$N\text{-}NH_4^+$	Cu	Zn
				%	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
1	10.224	Mostra Folarex	7,83	2,52	3470	83	7860	18700	4580	3105	0,43	2,7
Incertitudinea (U, %)												

Note: * La solicitarea clientului
Metodele de încercare sunt precizate în Anexa la prezentul buletin.

2. Observaţii:
(Probleme observate în cursul analizei şi mod de soluţionare)

Rezultatele Buletinului de încercare se referă strict la proba de încercat.
Se interzice reproducerea parţială a Buletinului de încercare.

Încheierea Buletinului de încercare
Prezentul Buletin de încercare conţine 2 pagini.

Director General
Dr. Simion Călin

Şef Laborator,
Dr. Calciu Irina

Responsabil calitate,
Dr. Rizea Nineta

F-21.01 Editia 1 / Revizia 0/03.02.2015

Buletin nr.10021/2015

Fig. 2 – Bulletin test

Also, numerous assessments of fertilizer users fertilizer are specified the economic advantages and quality of the obtained products.

The product was also presented at the Symposium organized by INMA Bucharest INMATEH to Academy of Agricultural and Forestry Sciences "Gheorghe IonescuŞişeşti", in Bucharest, on 10 July 2013 (Fig. 3).

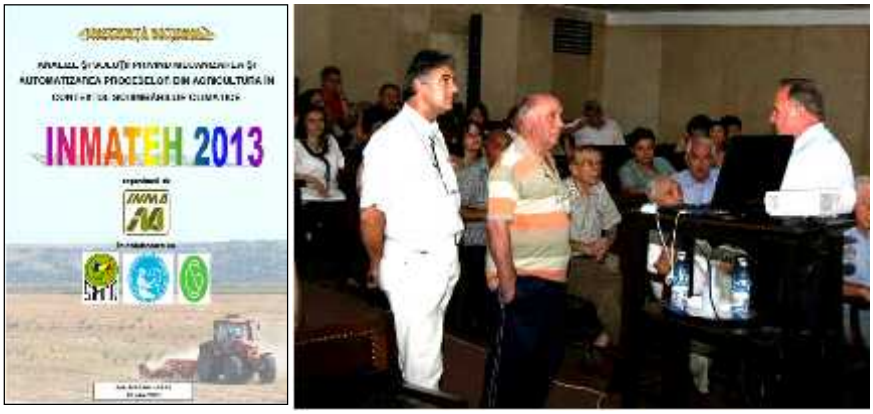


Fig. 3 – Aspect during the product presentation at ASAS

National Institute of Research Development for Machines and Installations designed for Agriculture and Food Industry - INMA Bucharest started a collaboration on a project for producing a pilot station for industrial production of fertilizer through a full technology involving the transport of raw material tank system, support and exhaust valve, bottling

line, hydraulic press friendly residues, natural drying platform and installation of briquetting plant which will beimplementedwithin Izbiceni farm.

The product is under certification by the Ministry of Agriculture and Rural Development, after being presented at numerous national and international salons invention, which was awarded with diplomas and medals (Fig. 4 and 5).

Fig. 4 -Comercial product presented at Fair INDAGRA Bucharest, 2015

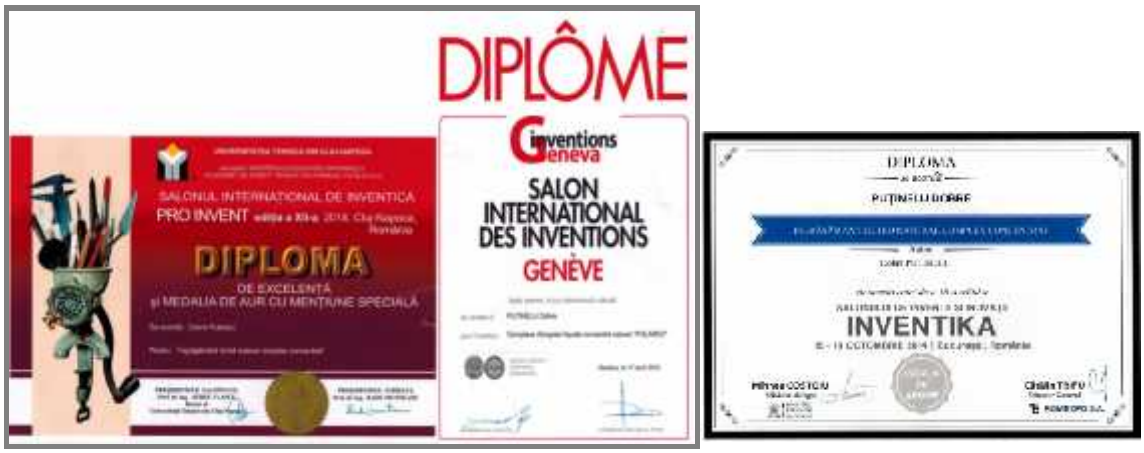


Fig. 5 -Diplom with Medals

CONCLUSIONS

Among the advantages of using this natural fertilizer can be mentioned:

-existence of abundant raw materials;
-simple technology production;
- avoid the risk of weed;
- easy management, both through the soil, root and foliar in simple; sprayer, atomizer, sprayer or sprayer installations;
- possibility of increasing the concentration of N, P, K and others in relation to the kind and age of plant;timp relativ lung de valabilitate;
- total absence of toxicity, including for bees;
- can be applied in any soil and climate conditions;
- avoid the risk of waste stocks through their use by spreading it on the field or by briquetting for fuel thermal plants that operate with solid fuels;
- halving the use of chemical treatments by creating a natural immunity;
- maintains and prooves the fertility of the soil;
- reduce costs by 60 %;
- high degree of assimilation in soil and plants.

This product can be successfully used for vegetables grown in greenhouses and solariums, fruit trees, vines or cereals and technical plants, according to the administration proposed the manufacturer.

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