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Analytical number: **21/A/27299**

Zagreb, **27.08.2021.**

Analytical report no. **21/A/27299**

Sample name:	**1. ORGANIC FERTILIZER - RELIC OF R**	**21/A/27299**
Sample type:	organic fertilizer, soil improver, growth promoter, compost, organic fertilizer	
Principal:	**DOO VUK-AS 015, SVETOZARA ÿOROVIÿA 11 - 3/26, 21000 NOVI SAD, SERBIA (OIB: 21141143)**	
Supplier: Record	DOO VUK-AS 015, SVETOZARA ÿOROVIÿA 11 - 3/26, 21000 NOVI SAD, SERBIA (OIB: 21141143)	
number: Sample	Request for examination from 04.08.2021.	
submitted: Examination	04.08.2021.	
started: 09.08.2021.		
Examination completed: 27.08.2021.		
Type of examination:	- quality of organic fertilizer - analysis according to the Ordinance on the protection of agricultural land from pollution	

Conclusion: The tested sample **meets** the requirements of Article 8 of the Ordinance on the Protection of Agricultural Land from Pollution (Official Gazette No. 71/2019), which determines the maximum permissible amounts (MDK) of heavy metals (Cd, Cr, Cu, Hg, Ni, Pb and Zn) and potentially toxic essential elements (Zn, Cu), individual and total concentrations of polycyclic aromatic hydrocarbons – PAHs, total concentrations of polychlorinated biphenyls – PCBs, insecticides based on chlorinated hydrocarbons and herbicides.

Conclusion given by: Goran froze

Head of PC Laboratory:
Goran Stuhne, B.Sc. Chemistry Eng

Notes:
This analytical report refers to the sample described above, received on the specified date, under the specified designation.
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*Methods included in the area of accreditation
*F- flexible area of accreditation
Conclusion, declaration of conformity, declarations of classification are in the field of accreditation if they refer to the tested parameters by methods included in the field of accreditation.

Soil analyzes in the sense of monitoring the state of agricultural land - Decision of the Ministry of Agriculture of the Republic of Croatia to perform soil analyzes in the sense of monitoring the state of agricultural land owned by the state (Class: UP/I-320-02/15-01/01; Registration number: 525- 07/0367-17-4; Zagreb, August 4, 2017).
Quality testing of fertilizers and soil improvers - Authorization of the Ministry of Agriculture of the Republic of Croatia to perform quality testing of mineral fertilizers (Decision of the Ministry of Agriculture of the Republic of Croatia; Class: UP/I-320-11/18-01/42; Registration number: 525-07 /0012-19-2; Zagreb, January 1, 2019).

The analytical report is a public document only with a signature certified by the stamp of Croatia Control. (OB PO 78/1 / Edition 2.)

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Analytical number: **21/A/27299**

Zagreb, **27.08.2021.**

The result of the analysis

21/A/27299: ORGANIC FERTILIZER - RELIC OF R

Sampling was done by: client:

Description of the sample: the sample delivered in its original packaging, properly labeled and in good condition;

Heavy metals and non-metals (GF-AAS; FL-AAS; Hg-analyzer; HS-AAS, ICP-MS technique)

Parameter	Unit of measure	The result	MDK	It fits	Method
Cadmium (Cd)	mg/kg	< 0.500	4	that	mod. HRN ISO 11047:2004
Chromium (Cr; total)	mg/kg	18,721	600	that	mod. HRN ISO 11047:2004
Copper (Cu)	mg/kg	595,778	600	that	mod. HRN ISO 11047:2004
Mercury (Hg; total)	mg/kg	< 0.100	7.5	that	mod. HRN ISO 11047:2004
Nickel (Ni)	mg/kg	< 0.500	375	that	mod. HRN ISO 11047:2004
Lead (Pb)	mg/kg	2,689	750	that	mod. HRN ISO 11047:2004
Zinc (Zn)	mg/kg	718,031	1000	that	mod. HRN ISO 11047:2004
Molybdenum (Mo)	mg/kg	44,871	75	that	mod. HRN ISO 11047:2004
Arsenic (Ace)	mg/kg	4,544	150	that	mod. HRN ISO 11047:2004
Cobalt (Co)	mg/kg	8,888	300	that	mod. HRN ISO 11047:2004
Pine (B)	mg/kg	215,679	-		mod. HRN ISO 11047:2004
Iron (Fe)	mg/kg	9765.099	-		mod. HRN ISO 11047:2004
Manganese (Mn)	mg/kg	5,474	-		mod. HRN ISO 11047:2004

Analyst: Goran Stuhne, B.Sc. Chemistry Eng

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Analytical number: **21/A/27299**

Zagreb, **27.08.2021.**

Quality of soil, soil improvers, substrate, organic fertilizers, digestate and plant material

Parameter	Unit of measure	The result	MDK	It fits	Method
Humidity (103°C)	%	85.8	-		HRN EN 13039:1999
Dry matter (103°C)	%	14.2	decl. 18.53		HRN EN 13039:1999
Organic matter (550°C)	%	41.5	decl. 16,24		HRN EN 13039:1999
Ash (550°C) pH	%	8.30	-		HRN EN 13039:1999
		10.02	decl. 9.5-10		Method 4.
Carbon (C; total)	%	6.73	-		CHNS analyzer
Hydrogen (H; total)	%	8.37	-		CHNS analyzer
Nitrogen (N; total)	%	0.46	-		CHNS analyzer
Nitrogen (N; organic)	%	0.31	-		HRN EN 13654-1:2001
Nitrogen (N; ammonium)	%	< 0.025	-		mod. HRN ISO 7150-1:1998
Sulfur (S; total)	%	0.066	-		CHNS analyzer
C/N ratio		14.6	-		CHNS analyzer
Phosphorus (P2O5; total)	%	10.7	-		internal method
Potassium (K2O total)	%	17.0	-		internal method
Magnesium (MgO)	%	1,1	-		Method 8.1.; Method 8.7.
Calcium (CaO)	%	10.1	-		Method 8.1.; Method 8.7.
Sodium (Na2O)	%	2.9	-		HRN ISO 11047:2004
Specific electrical conductivity (EC) mS/m		18,12	-		HRN ISO 11265:2004

Analyst: Goran Stuhne, B.Sc. Chemistry Eng

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Analytical number: **21/A/27299**

Zagreb, **27.08.2021.**

Environmental ecology - organic compounds, gas chromatography

Parameter	Unit of measure	The result	MDK	It fits	Method
Sum of polycyclic aromatic hydrocarbons (PAH)	mg/kg st	0.69	1.00	that	RU-OTV-161 (last 1)
Naphthalene	mg/kg st	<0.01	-		RU-OTV-161 (last 1)
Acenaphthylene	mg/kg st	<0.01	-		RU-OTV-161 (last 1)
Acenaphthene	mg/kg st	<0.01	-		RU-OTV-161 (last 1)
Anthracene	mg/kg st	<0.01	-		RU-OTV-161 (last 1)
Benza(a)pyrene	mg/kg st	<0.01	-		RU-OTV-161 (last 1)
Benzo(a)anthracene	mg/kg st	0.06	-		RU-OTV-161 (last 1)
Benzo(a)fluoranthene	mg/kg st	<0.01	-		RU-OTV-161 (last 1)
Benzo(g,h,i)perylene	mg/kg st	0.02	-		RU-OTV-161 (last 1)
Benzo(k)fluoranthene	mg/kg st	<0.01	-		RU-OTV-161 (last 1)
Fluoranthene	mg/kg st	0.03	-		RU-OTV-161 (last 1)
Fluorene	mg/kg st	<0.01	-		RU-OTV-161 (last 1)
Indeno(1,2,3-cd)pyrene	mg/kg st	<0.01	-		RU-OTV-161 (last 1)
Phenanthrene	mg/kg st	<0.01	-		RU-OTV-161 (last 1)
Chrysene	mg/kg st	0.22	-		RU-OTV-161 (last 1)
Pyrene	mg/kg st	0.36	-		RU-OTV-161 (last 1)
Sum of PCBs	mg/kg st	<0.01	0.5	that	RU-OTV-141 (issue 1)
PCB 28	mg/ kg st	<0.01	-		RU-OTV-141 (issue 1)
PCB 52	mg/kg st	<0.01	-		RU-OTV-141 (issue 1)
PCB 101	mg/kg st	<0.01	-		RU-OTV-141 (issue 1)
PCB 180	mg/kg st	<0.01	-		RU-OTV-141 (issue 1)
PCB 118	mg/kg st	<0.01	-		RU-OTV-141 (issue 1)
PCB 138	mg/kg st	<0.01	-		RU-OTV-141 (issue 1)
PCB 153	mg/kg st	<0.01	-		RU-OTV-141 (issue 1)

Analyst: Luka Iliÿiÿ mag. technical engineer Alimony.

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Analytical number: **21/A/27299**

Zagreb, **27.08.2021.**

Environmental ecology - pesticides

Parameter	Unit of measure	The result	MDK	It fits	Method
The sum of organochlorine pesticides	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
4,4-DDD	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
4,4-DDE	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
4,4-DDT	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
Aldrin	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
Alpha endosulfan	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
Alpha HCH	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
Beta Endosulfan	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
Beta HCH	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
Delta HCH	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
Dieldrin	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
Endrin	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
Heptachlor	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
Lindane	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
Methoxychlor	mg/kg st	<0.01	-		RU-OTV-121 (issue 1)
HCH compounds (total concentration =alpha-HCH+beta-HCH+gamma-HCH+ delta-HCH)	mg/kg st	<0.01	0.1	that	RU-OTV-121 (issue 1)
DDT7DDD/DDE (total concentration=DDT+DDD+DDE)	mg/kg st	<0.01	0.1	that	RU-OTV-121 (issue 1)
Drins (total concentration= aldrins+diealdrins+endrins)	mg/kg st	<0.01	0.1	that	RU-OTV-121 (issue 1)

Analyst: Luka Iliÿiÿ mag. technical engineer Alimony.

Soil improvers and growing media -- Determination of organic matter content and ash (EN 13039:1999)

**** Results for heavy metals and non-metals are expressed on dry matter**

***** Results for PCBs, PAHs and organochlorine pesticides are expressed on dry matter.**

---------- END OF ANALYTICAL REPORT ----------

MDK=maximum allowed quantity

Measurement uncertainty (U) is expressed at the customer's request and for a result greater than MDK