



24. NAČRTOVANJE GNOJENJA FAIRWAY partner: Matjaž Glavan (UL, SI), Case study leader Katarina Kresnik, Andrej Jamšek (KGZ Maribor, SI)		 Kmetijsko gozdarska zbornica Slovenije
Brief description		
Načrtovanje gnojenja (Fertiliser Planning) is intended to assist agricultural advisers and farmers to optimize fertilizer use in all agricultural sectors, most notably in horticulture and field crop agriculture. With its help, we can quickly calculate the recommended quantities for phosphorus, potassium and nitrogen fertilizers, both with organic as well as with easily soluble mineral fertilizers, as well as the need for land lime. We can make annual or multi-year fertilization plans, while at the same time we can plan the correct crop rotation and take into account the amount of organic fertilizers on the farm.		
Contaminants covered (e.g. nitrate, pesticides etc.)	N, P ₂ O ₅ , K ₂ O, pH (acidity of a soil)	
Intended end users (e.g. farmer, water quality manager, policy maker)	Advisors, Farmers	
Level of expertise and/or training required	Moderate level of expertise and training required to use the software.	
Geographical resolution (e.g. field, catchment, national)	Field scale.	
Temporal resolution (e.g. daily, annual, long-term).	Annual	
Real-time component (e.g. live weather data, soil moisture data feeds etc.)	None	
Number and type of mitigation measures included	Organic and mineral fertiliser types and application method and timing (5 year crop rotation).	
Platform (e.g. paper-based tool, phone app, bespoke software).	Bespoke software working via web. http://jsks.kgzs.si/ng/	
Frequency of updates	Every few years.	
Cost/availability	Not free. Available only to public agricultural advisors service under Chamber of agriculture and forestry of Slovenia. Farmers receive fertilisation plan only.	
Number of users or number of copies distributed/downloaded/purchased	Used exclusively by public agricultural advisors service only under Chamber of agriculture and forestry of Slovenia. In use for between 8.000 and 8.500 farms.	
Links to demo material and other relevant information (e.g. user guides).	Not available. Users' guide is not public.	
Additional comments	-	

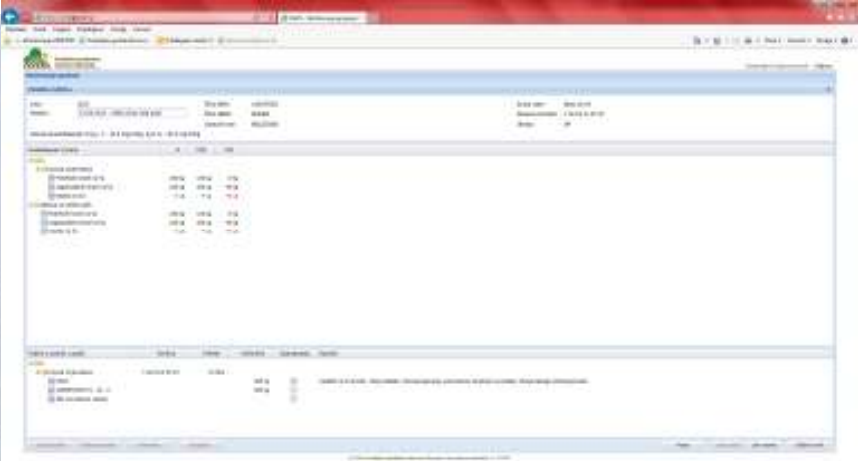
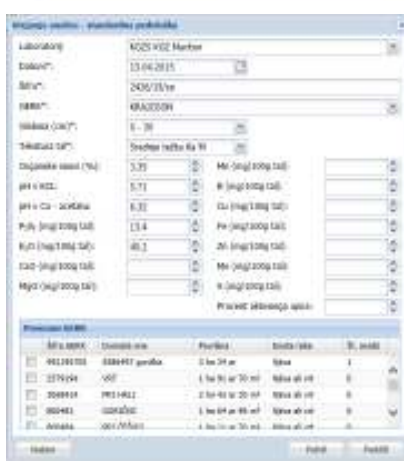
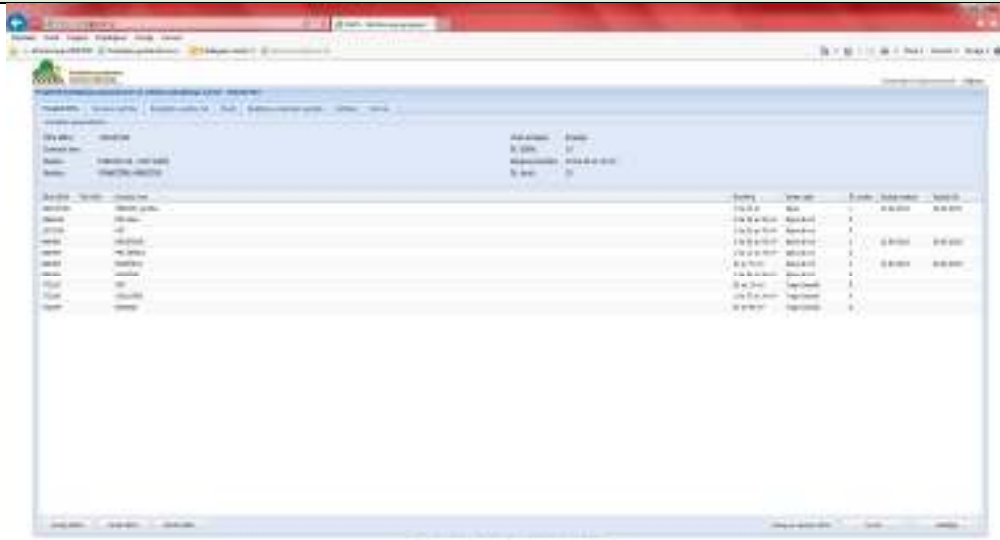
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Input data required to run the DST	Information needed: <ul style="list-style-type: none"> - soil analysis (organic matter (C), P₂O₅, K₂O, CaO (pH)) - soil type - information about land parcel (crop, area) - manure type at farm and application method - future crops (5 years)
Outputs (including links to water quality and economic or financial aspects)	Fertiliser plan (amount of selected fertilisers per field per individual year (5)) to reach medium/good stocked soil.
Age/provenance of supporting data used to develop the DST	Based on Guidelines for professionally based fertilizer use https://www.program-podezelja.si/sl/knjiznica/26-smernice-za-strokovno-utemeljeno-gnojenje/file
Country-specific calibration or data requirements (including restrictions on use)	No.
Details of validation and testing	No special details. Model results are validated each time new soil analysis is done for the same parcel (5-years cycle)
Date developed/released (or planned release date)	First developed in 2003; current version released 2013. Updates are planned.
Author/developer names and affiliations	Anton JAGODIC Chamber of Agriculture and Forestry of Slovenia
Member state(s) where developed	SI
Member State(s) where currently used	SI
Key publication references (including url)	http://jsks.kgzs.si/ng/ (only for users)

Načrtovanje gnojenja

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Any other useful information (e.g. screenshots of DST input/outputs)



Gnojilni načrt

OGRAJENI: 100047362 OGRANČENI: 80008
 KČOZ: 012 PRAMČEK ARBITER OGRANČENI: 80008 (Njiva ali vin) KČOZ: 00004 (Njiva ali vin)
 NALOŽEV: PODOBA 80, 2027 B&E POUČEVNA: 1 ha 80 ar 50 ar²

Časovna enota	Opisna enota	Mineralni	pH (v KCl)	pH (v Ca-azotni)	Način vzorčenja	Opisna enota	Opisna enota
1000	1000	1000	0,1	0,1	0,1	0,1	0,1

Leto	Prejeto iz rastlin				Ograjeno			
	Prejeto iz	Prejeto iz	Prejeto iz	Prejeto iz	Prejeto iz	Prejeto iz	Prejeto iz	Prejeto iz
2023	Njiva	Njiva	Njiva	Njiva	Njiva	Njiva	Njiva	Njiva
2024	Njiva	Njiva	Njiva	Njiva	Njiva	Njiva	Njiva	Njiva

Bilanca hranil po rastlinah in letih

LETO	Vrsta rastline	Prejeto iz hranil			Zagotovljeno iz hranil			Razlika (kg/ha)		
		N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
2023	Njiva	230	110	0	230	100	40	0	-4	-40
2024	Njiva	180	90	0	180	90	30	0	0	30
2025	Njiva	230	110	0	230	100	40	0	-4	-40
2026	Njiva	180	90	0	180	90	30	0	0	30
2027	Njiva	230	110	0	230	100	40	0	-4	-40
2028	Njiva	180	90	0	180	90	30	0	0	30
2029	Njiva	230	110	0	230	100	40	0	-4	-40
	SKUPAJ	1974	882	0	1974	480	180	20	-4	-480

PRIPRAVE:
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 Kmetijsko gozdarski zavod MARIBOR
 Kmetijska svetovalna služba Maribor