24. NAČRTOVANJE GNOJENJA

FAIRWAY partner: Matjaž Glavan (UL, SI), Case study leader Katarina Kresnik, Andrej Jamšek (KGZ Maribor, SI)

Kmetijsko gozdarska zbornica Slovenije

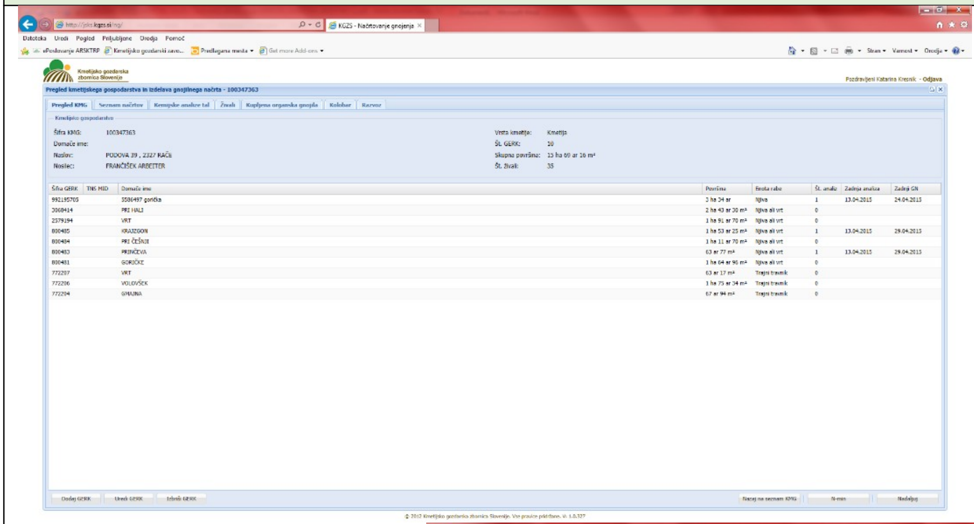
Brief description	
Načrtovanje gnojenja (Fertiliser Planning) is intended to assist agricultural advisers and farmers to optimise fertiliser use in all agricultural sectors, most notably in horticulture and field crop agriculture. With its help, we can quickly calculate the recommended quantities for phosphorus, potassium and nitrogen fertilisers, both with organic and easily soluble mineral fertilisers and the need for land liming. We can make annual or multi-year fertilisation plans, while at the same time, we can plan the correct crop rotation and take into account the amount of organic fertilisers on the farm.	
Contaminants covered (e.g. nitrate, pesticides etc.)	N, P_2O_5, K_20, 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	Defines organic and mineral fertiliser types, method of fertiliser application and timing of fertilisation (5-year crop rotation).
Platform (e.g. paper-based tool, phone app, bespoke software).	Bespoke software working via the web. Available only with a username and password. Link: 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	-

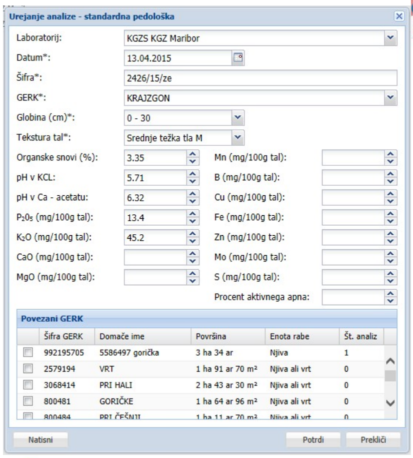
Načrtovanje gnojenja **FAIRWAY partner: Matjaž Glavan (UL, SI), Case study leader Katarina Kresnik, Andrej Jamšek (KGZ Maribor, SI)**	Kmetijsko gozdarska zbornica Slovenije
Input data required to run the DST	Information needed: - soil analysis (organic matter (C), P_2O_5, K_2O, CaO (pH)) - soil type - 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 fertiliser 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/ (only for users)

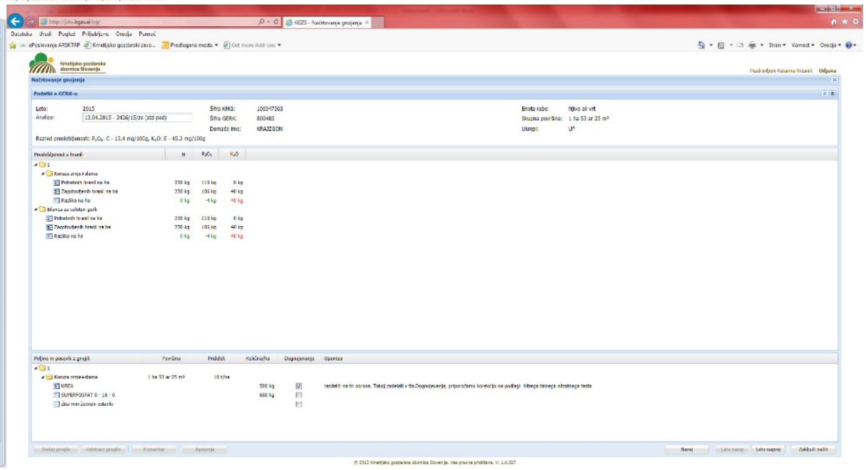
Načrtovanje gnojenja

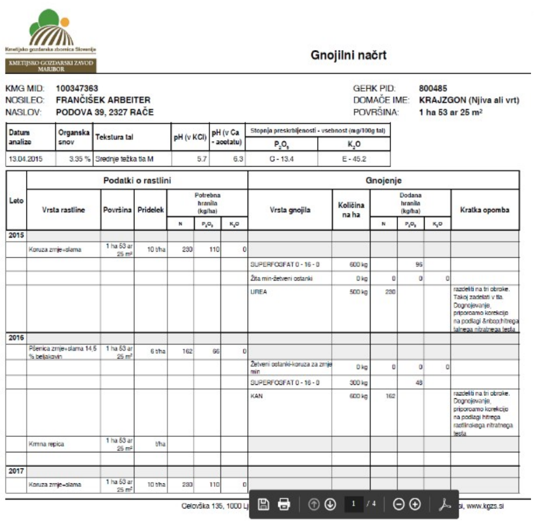
FAIRWAY partner: Matjaž Glavan (UL, SI), Case study leader Katarina Kresnik, Andrej Jamšek (KGZ Maribor, SI)

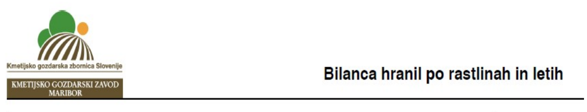
Any other useful information (e.g. screenshots of DST input/outputs)










Bilanca hranil po rastlinah in letih

LETO	Vrsta rastline	Potrebnih hranil (kg/ha)			Zagotovljenih hranil (kg/ha)			Razlika (kg/ha)		
		N	P_2O_5	K_2O	N	P_2O_5	K_2O	N	P_2O_5	K_2O
2015	Koruza zrnje+slama	230	110	0	230	106	40	0	-4	40
2016										
	Pšenica zrnje+slama 14,5 % beljakovin	162	66	0	162	68	90	0	2	90
2017	Koruza zrnje+slama	230	110	0	240	108	90	10	-2	90
2018										
	Pšenica zrnje+slama 14,5 % beljakovin	162	66	0	162	68	90	0	2	90
2019	Koruza zrnje+slama	230	110	0	240	108	90	10	-2	90
	SKUPAJ	1014	462	0	1034	458	400	20	-4	400

PRIPRAVIL:
Katarina Kresnik
Kmetijsko gozdarski zavod MARIBOR
Kmetijska svetovalna služba Maribor