



TENDENCIES IN MINERAL FERTILIZERS APPLICATION FOR CROPS IN RUSSIA AND MEDIUM TERM FORECAST OF DOMESTIC FERTILIZERS CONSUMPTION

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Trends in mineral fertilizers application for crops in Russia and the medium-term forecast for domestic fertilizers consumption

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Structure of the presentation

- 1) **Fertilizer application statistics for crops**
- 2) **Mineral fertilizers application for main crops**
- 3) **Mineral fertilizers application and grain crop capacity**
- 4) **Forecast of mineral fertilizer application for crops (wheat example)**
- 5) **Conclusion**

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Fertilizer application statistics

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Crops covered by fertilizer application statistics

Grain crops (except corn)
grain
rice
Grain corn
Technical crops
sugar beet
long-fibred flax
sunflower
soy
Potato
Vegetables
Melons and gourds
Forage crops
silage corn, green forage
planted herbs (annual and perennial)
Perennial plantings (gardens, berry and tea plantations, vineyards, mulberries, etc.)
Natural hayfields
Protected soil

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Planted acreages included in the statistics of mineral fertilizer application

Crops (groups of crops)	Planted acreages covered by statistical monitoring, %*				
	2004	2005	2006	2007	2008
Wheat	76	73	70	68	68
Grain corn	56	55	59	62	67
Sunflower	65	62	57	55	55
Sugar beet	85	83	81	79	85
Potato	5	5	5	5	7
Silage and green corn	96	96	96	97	94
Planted herbs (annual and perennial)	85	83	80	79	82
ALL CROPS	77	74	71	69	70

* % of total planted crop acreages in RF

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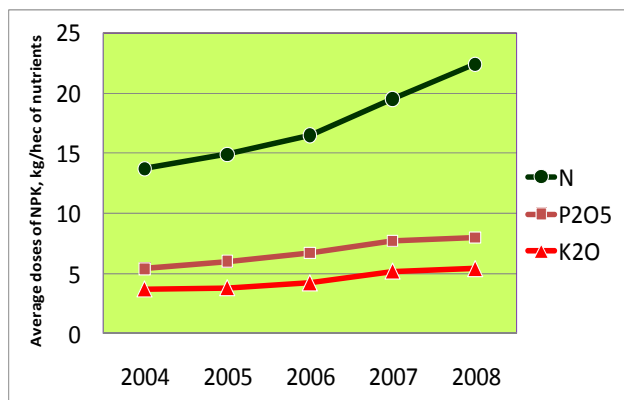
Mineral fertilizer application for main crops in the agricultural enterprises



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NPK application for all crops

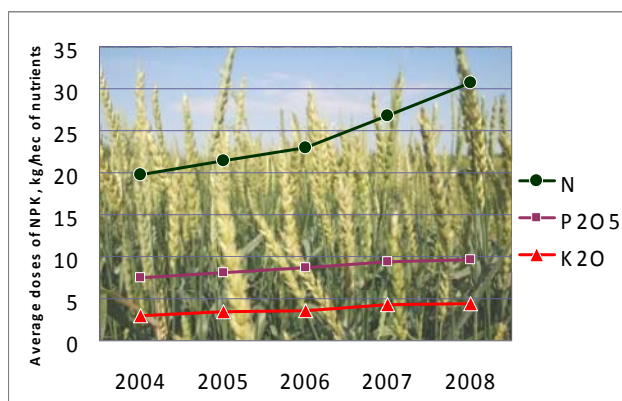


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NPK application for wheat

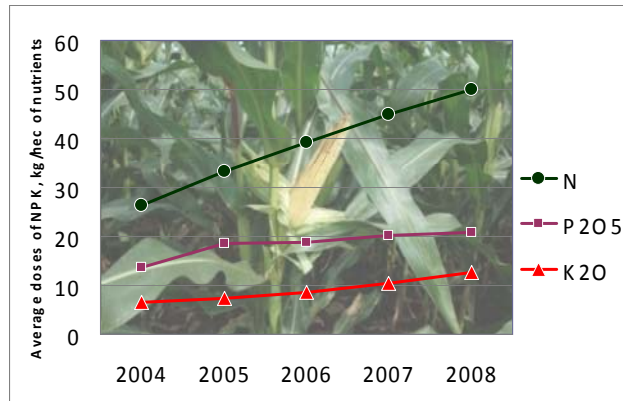


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NPK application for corn

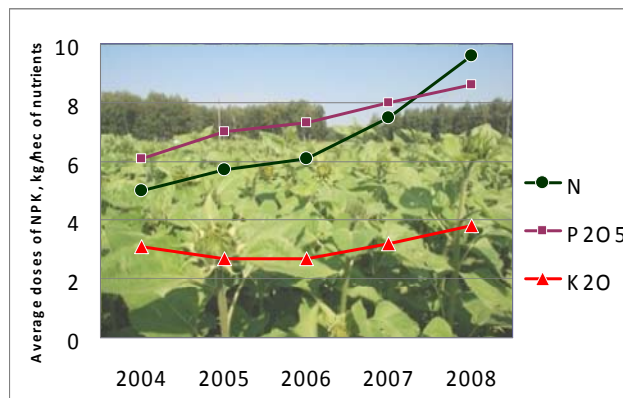


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NPK application for sunflower

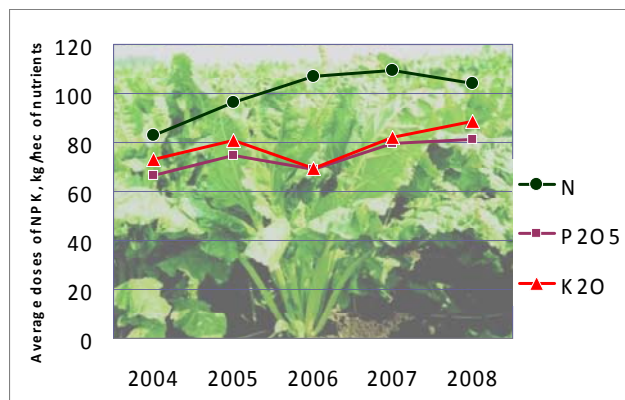


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NPK application for sugar beet

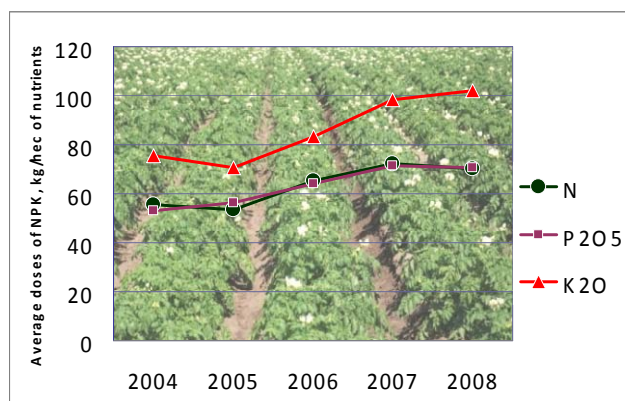


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NPK application for potatoes

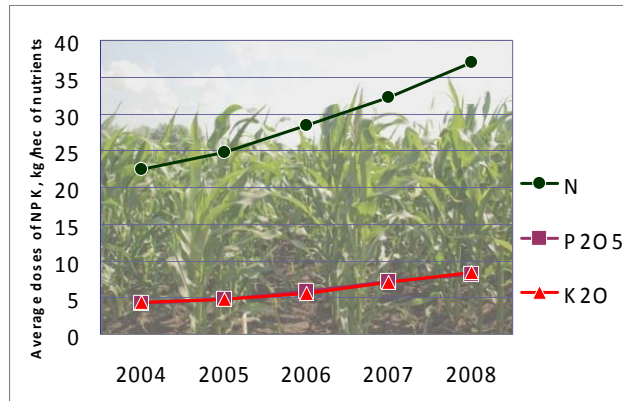


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NPK application for silage and green forage

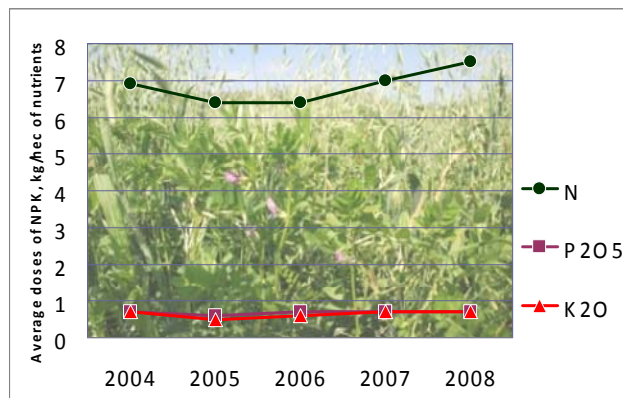


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NPK application for planted herbs (annual and perennial)



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Correlation N:P₂O₅:K₂O for crops

Crops (groups of crops)	N:P ₂ O ₅ :K ₂ O				
	2004	2005	2006	2007	2008
Wheat	1:0.38:0.15	1:0.38:0.16	1:0.38:0.16	1:0.35:0.16	1:0.32:0.14
Grain corn	1:0.52:0.25	1:0.56:0.22	1:0.48:0.22	1:0.45:0.23	1:0.42:0.25
Sunflower	1:1.23:0.63	1:1.23:0.47	1:1.21:0.44	1:1.06:0.42	1:0.89:0.39
Sugar beet	1:0.80:0.88	1:0.78:0.84	1:0.65:0.65	1:0.73:0.75	1:0.78:0.85
Potato	1:0.95:1.36	1:1.05:1.32	1:0.98:1.28	1:0.99:1.36	1:1.00:1.45
Silage and green corn	1:0.19:0.19	1:0.20:0.19	1:0.21:0.20	1:0.22:0.22	1:0.22:0.23
Planted herbs (annual and perennial)	1:0.11:0.10	1:0.10:0.09	1:0.10:0.10	1:0.10:0.10	1:0.10:0.09
ALL CROPS	1:0.40:0.27	1:0.40:0.26	1:0.40:0.25	1:0.39:0.27	1:0.36:0.24

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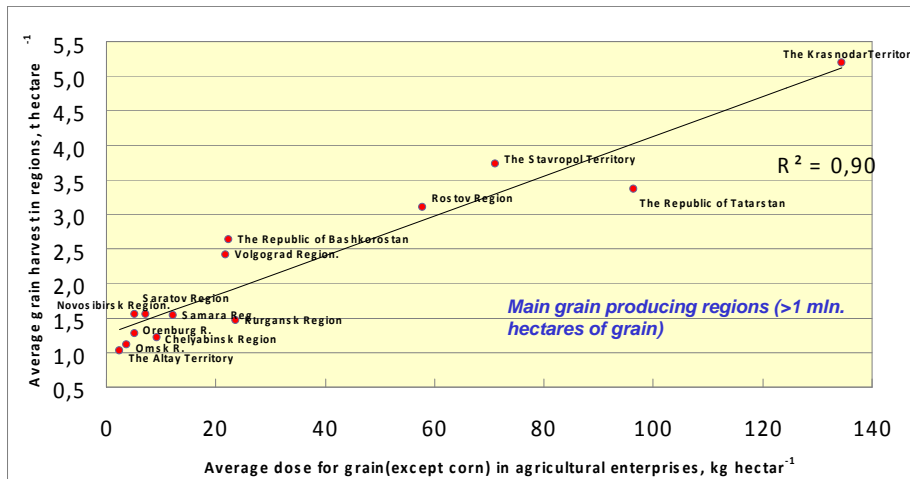
Mineral fertilizer application and grain crop capacity



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The correlation between NPK application and grain crop capacity (2008)



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IPNI AgriStats: forecast of mineral fertilizer application for crops (the example of wheat)



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Expert evaluation: crop forecasting

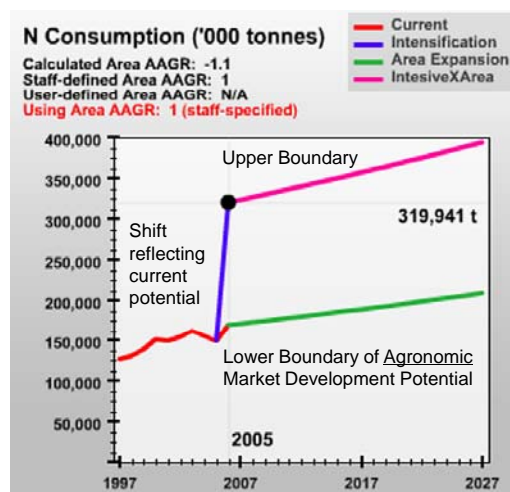
- Achievable crop capacity
- Achievable fertilizers' doses
- Achievable fertilized area
- Long-term forecast of planted acreage dynamics

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Forecast of mineral fertilizer application, An example



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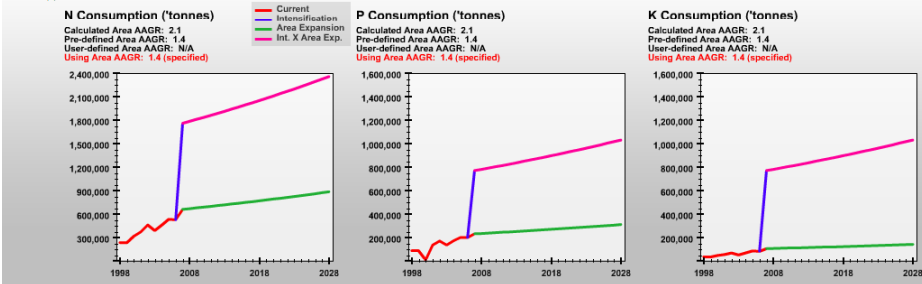
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Forecast of NPK application for wheat

Russian Federation - Wheat

Source(s) & Definitions



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Forecast of acreage increases : Three scenarios

- **Use staff-estimated growth rates** (*long-term IPNI expert evaluation in the changes of planted acreage*)
- **Calculate growth rate using past data** (*based on average annual increase of the planted acreage for the last 10 years*)
- **Specify your own growth rate** (*independent user's forecast*)

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Resume

- 1) Mineral fertilizer application in the Russian Federations has considerably increased in the previous years, but it is still below recommended levels. At the same time grain fertilization becomes more unbalanced.
- 2) Sugar beet fertilization is the nearest to the optimal (scientific-based) level compared to other crops (as sugar beet cropping is conducted by the most advanced farms).
- 3) The worst situation arises in the fertilization of sunflowers and feed crops (annual and perennial plants).

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Thank you!



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