Better Crops/Vol. 95 (2011, No. 1)

consideration the nutrient demand of modern maize hybrids. This adjustment could be based on field experiments that need to be conducted in the different soil-climatic conditions of the maize growing regions. This will allow both to improve economic returns on fertilizer investments and to maintain soil fertility. Results of recent shortterm field experiments conducted in Southern Russia allow us to conclude that later-maturing hybrids responded better to fertilizer compared to early maturing hybrids.

Dr. Nosov is Director, IPNI Southern and Eastern Russia Region; e-mail: vnosov@ ipni.net. He is located in Moscow. The author ac-

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Table 3. Agronomic efficiency of applied NPK (N+P₂O₅+K₂O) in maize from recent short-term field experiments conducted in Southern Russia.

			Number	kg N/ha + kg	Agronomic Efficiency	
		Number	of	$P_2O_5/ha + kg$	of NPK	
Region	Soil type	of years	hybrids	2 K_{2}^{3} O /ha	(kg of grain/kg NPK)	Reference
Annual rainfall 500-600 mm						
Stavropol Krai	Common chernozem	3	6	1201+90+90	1.8 - 3.5	Bagrintseva and Sukhoyarskaya, 2009
	Leached chernozem	3	8	110 ² +80+80	2.7 - 17.2	Kravchenko, 2009
Rostov Oblast	Common chernozem	2	4	60+40+30	4.2 - 4.6	Beltyukov and Tyurin, 2009
	Leached	3	3	90+60+30	5.6 - 5.8	
Kabardino-Balkar Republic	chernozem Common chernozem	3	3	90+60+30	5.4 - 5.7	Karova and Shavaev, 2009
Annual rainfall 450-550 mm						
Stavropol Krai	Common chernozem	1	12	80+80+80	0 - 7.6	Kravchenko et al., 2009
	Common chernozem	3	3	60+60+60	1.2 - 10.5 ³	Bagrintseva et al., 2009

 $^{^{1}90 \}text{ kg N/ha}$ applied in the fall prior to tillage + 30 kg N/ha applied in the spring prior to cultivation.

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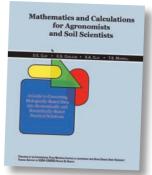
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Mathematics and Calculations for Agronomists and Soil Scientists Book Available

The authors of this publication set out to develop a teaching tool that will enable current and future natural resource managers in learning how to integrate mathematics and related technological information into practical decision-making. The book contains 230 pages in 25 different chapter topics, plus three appendix sections. It begins with a review of basic mathematics and progresses through understanding the scientific methods, understanding how experiments are conducted and analyzed, and knowing how to develop and test conceptual and mathematical models.

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 $^{^280 \}text{ kg N/ha}$ applied in the fall prior to tillage +30 kg N/ha applied in the spring prior to cultivation.

³Figures for maximum plant density in this experiment (70 thousand plants/ha).