Modern black currant cultivars bred in Russia exposed to changing climatic conditions

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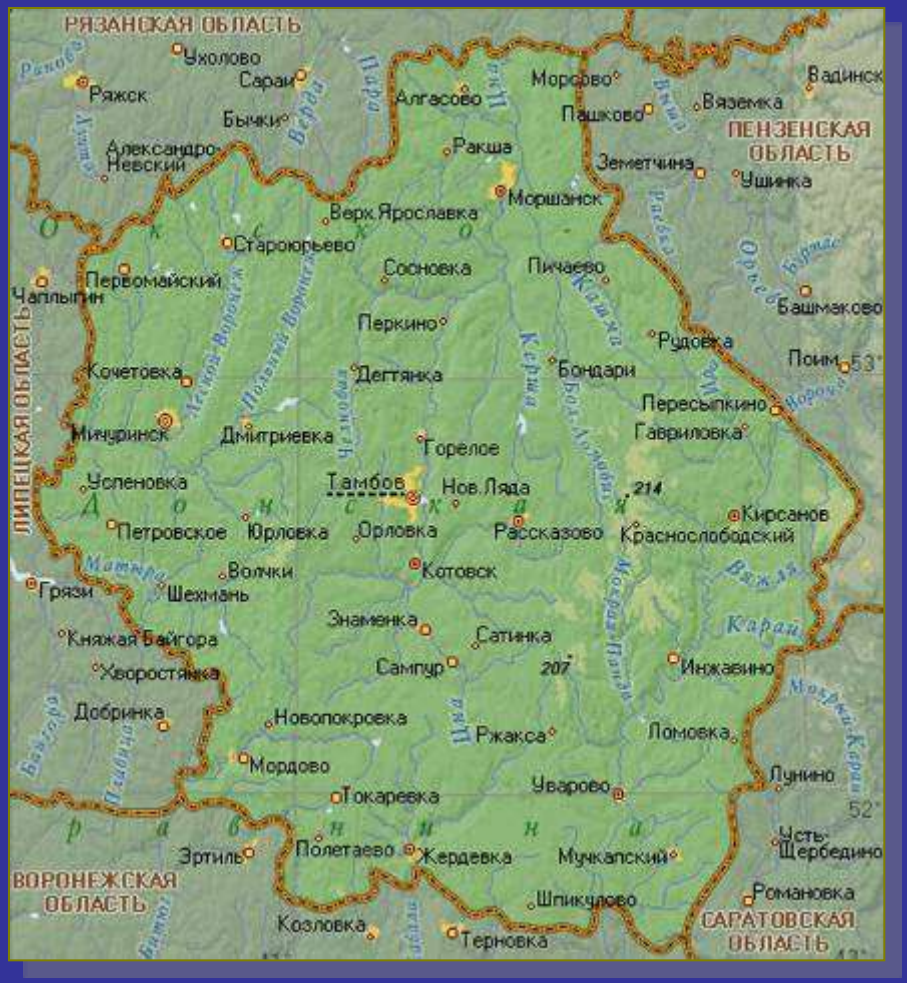
Tambov region

It is situated in the southern part of Eastern – European valley. The area is 34462 square kilometes. The zone is forest steppe. The development of agro industrial complex is a priority trend in the economy of Tambov region.



Michurinsk-naukograd of RF

It was established in 1635 as Kozlov fortress for the defense against Crimea Tatars. It was renamed in 1932 in honor of the outstanding natural scientist and breeder I.V. Michurin

VNIIS was established in 1931 on I.V. Michurin initiative. The Institute is aimed at improvement of the assortment of top and soft fruits, development of cultural practices on plant raising and harvesting, methods and systems of pest and disease control in horticultural crops, methods and aids of production process mechanization.

I.V. Michurin monument

Building of VNIIS im. I.V. Michurina

Initiator of training in research on black currant breeding at VNIIS im. I.V. Michurina

K. D. Sergeeva and T.S. Zvyagina
are first black currant breeders at VNIIS im. I.V. Michurina

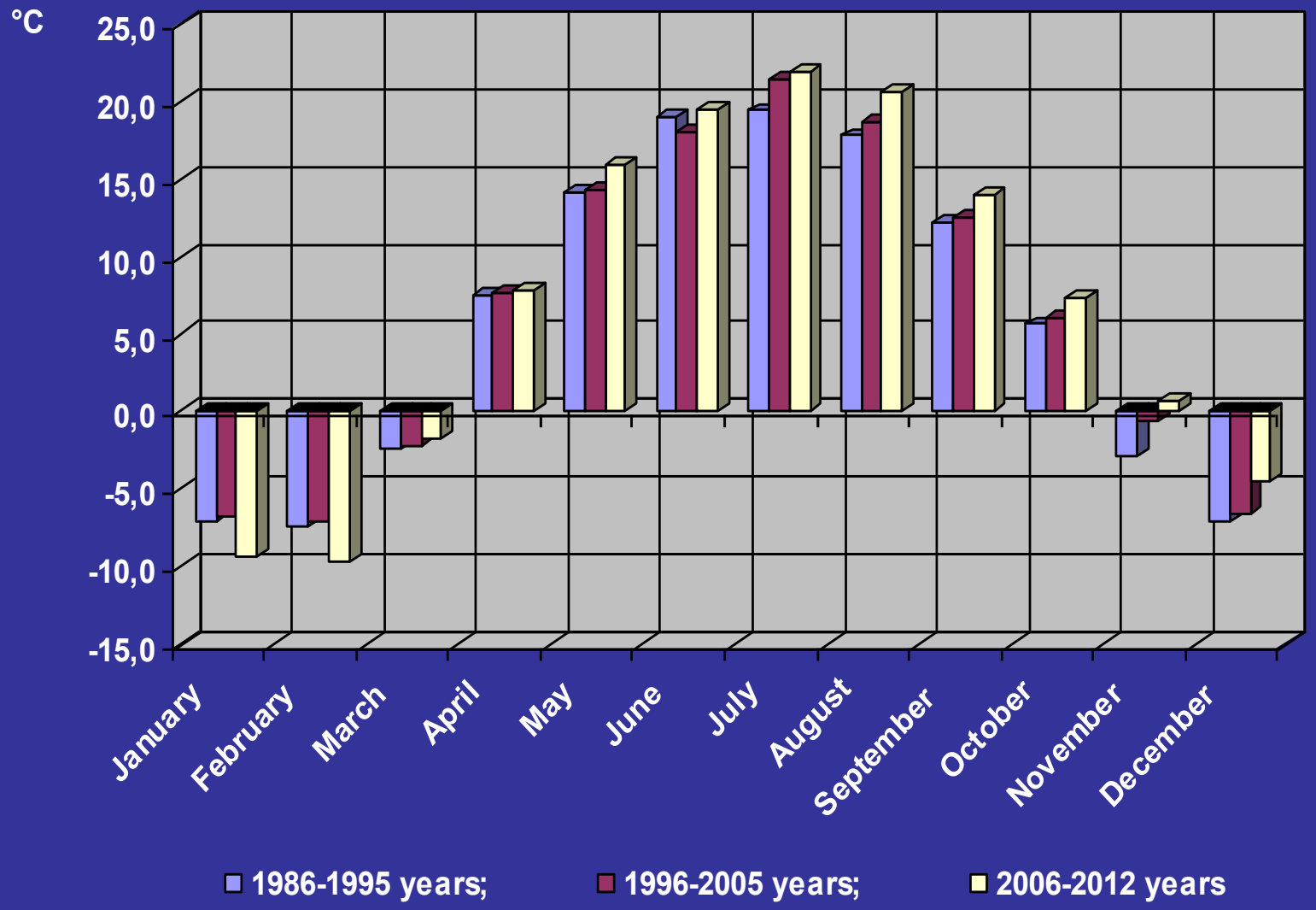
Ye. P. Kuminov
is a supervisor on soft fruit research from 1984 up to 2006

Young generation of researchers

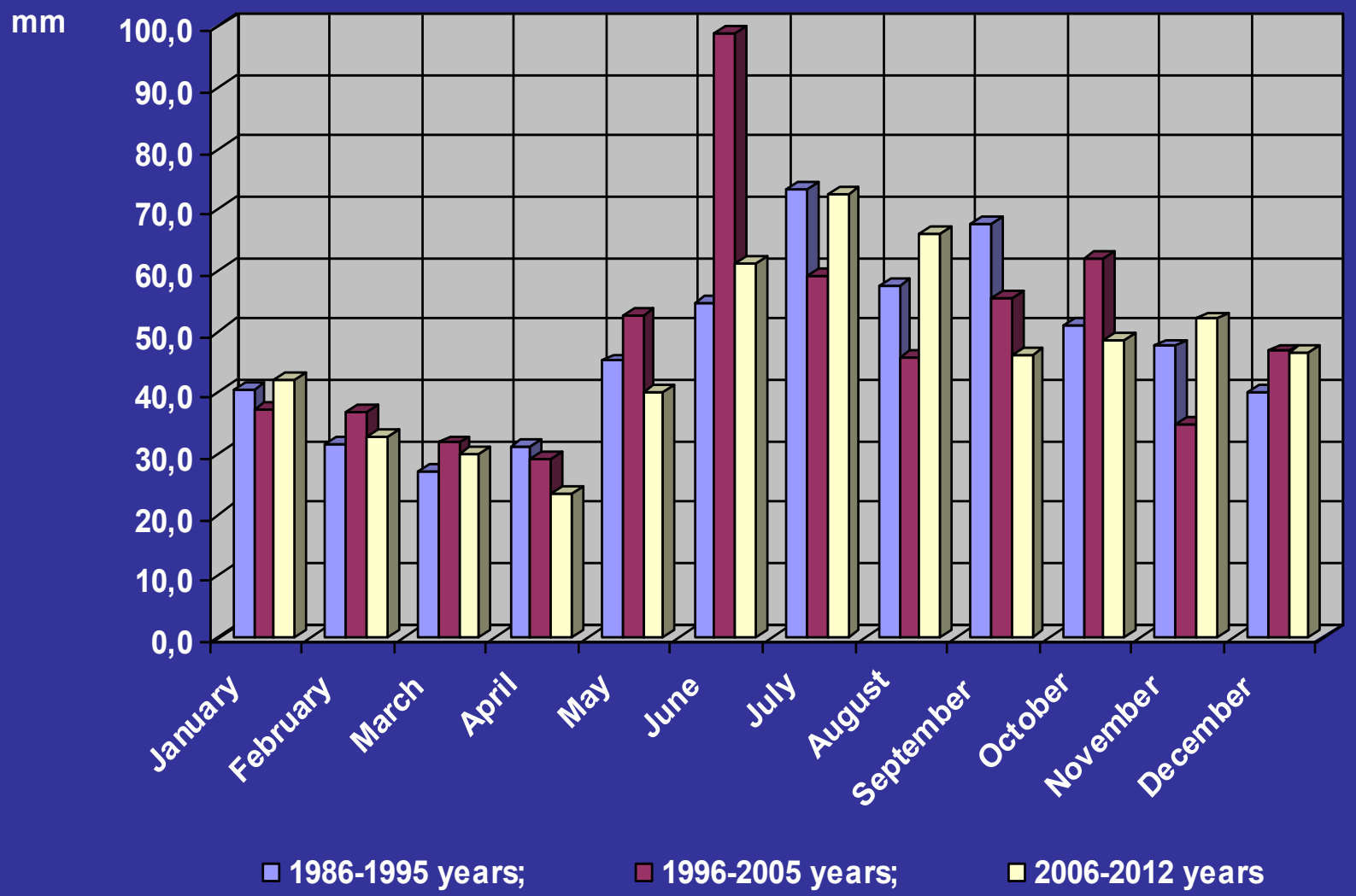
Ol’ga Rodyukova, PhD-is, a specialist on currant cultivars

Young researchers: Oxana Sirotkina (nutrition of currant and gooseberry), Nikolai Khromov, PhD (saskatoon, aronia, mountain ash, bird cherry), Saida Magomedova, PhD (currant), Dmitry Bryksin, PhD (honeysuckle, sea-buckthorn, dog rose, European barberry, blueberry).

Dynamics of average air temperature variation per month for decades



Variation of precipitation sum by months for decades



Cultivar - Tat’yanin den’

Late-season cultivar. The bush is medium-vigorous, medium-spread. Precocious. High winter-hardiness, medium drought resistance. Resistant to fungous diseases and medium-resistant to gall mite. Racemes are medium, long, cylindrical shape, medium firmness, straight. Fruits are medium and large-sized (1.2-1.4 g), black, round, glossy with dry scar, sweet and sour. Average yield is 10 – 11 t/ga.

Region are allowed commercial production of the cv Zelyonaya dymka (blue fruited) in the territory of R.F.

Cultivar - Divo Zvyaginoi

An early mid-season cultivar. The bush is medium-vigorous, medium-spread, precocious, self-fertile. High winter-hardiness, medium drought resistance. Resistant to fungous diseases and gall mite. Racemes are medium, firm, hanging. Fruits are medium and large-sized (1.3-1.8 g), black, round, dull, sweet and sour. Intensive type, average yield is 10 – 11 t/ga.

Cultivar - Izumrudnoye ozherel’ye

Late mid-season cultivar. The bush is medium-vigorous, medium-spread. Self-fertile. High winter-hardiness, medium drought resistance. Resistant to fungous diseases and gall mite. Racemes are medium and long, firm, hanging. Fruits are medium (1.1 – 1.2 g), uniform, light-yellow with a slight play of green, sweet and sour. Average yield is 8.0 – 9.0 t/ga.

CHARACTERISTICS OF BLACK CURRANT CULTIVARS BRED AT THE I.V.MICHURIN RESEARCH INSTITUTE FOR RESISTANCE TO ABIOTIC FACTORS

Cultivar	Winter-hardiness	Plant condition after winter	Drought resistance
DIVO ZVJAGINOJ	High	4,5	Medium
ZELYONAYA DYMKA	High	5,0	High
IZUMRUDNOE OZHEREL'JE	High	4,3	Medium
KARMELITA	High	5,0	Medium
MALEN'KIJ PRINC	High	4,7	High
SENSEJ	High	4,7	Medium
TAMERLAN	High	5,0	Medium
TAT'JANIN DEN'	High	4,5	Medium
CHERNAVKA	High	4,8	Medium
SHALUN'JA	High	5,0	Medium

CHARACTERISTICS OF INTRODUCED BLACK CURRANT CULTIVARS FOR RESISTANCE TO ABIOTIC FACTORS

Cultivar	Winter-hardiness	Plant condition after winter	Drought resistance
Cultivars from Gorno-Altaisk:			
ZHURAVUSHKA	High	4,0	High
SOKROVISHHE	High	4,5	Medium
Cultivars from Novosibirsk:			
GLARIOZA	High	4,5	High
MAR'YUSHKA	High	4,0	Medium
Cultivars from Snt. Peterburg:			
BINAR	High	4,0	Medium
UVERTYURA	High	5,0	Medium
Cultivars from Sverdlovsk:			
DOBRYI DZHIN	High	4,5	High
MUSHKETYOR	High	4,0	Low

RESISTANCE OF BLACK CURRANT BRED AT I.V. MICHURIN RESEARCH INSTITUTE TO BIOTIC FACTORS

Cultivar	*Sphaerotheca mors-uvae*	*Pseudopeziza ribis*	*Septoria ribis*	*Eriophyes ribis*
DIVO ZVJAGINOJ	High	High	Medium	High
ZELYONAYA DYMKA	Medium	Medium	High	Medium
IZUMRUDNOE OZHEREL'JE	High	High	High	High
KARMELITA	High	Medium	Medium	High
MALEN'KIJ PRINC	High	High	High	Low
SENSEJ	High	Medium	High	High
TAMERLAN	High	Medium	High	Medium
TAT'JANIN DEN'	Medium	Medium	High	Medium
CHERNAVKA	High	Medium	High	High
SHALUN'JA	High	Medium	Medium	High

RESISTANCE TO BIOTIC FACTORS OF BLACK CURRANT CULTIVARS INTRODUCED INTO CENTRAL CHERNOZEM'E

Cultivar	*Sphaerotheca mors-uvae*	*Pseudopeziza ribis*	*Septoria ribis*	*Eriophyes ribis*
Cultivars from Gorno-Altaisk:				
ZHURAVUSHKA	High	Medium	High	Low
SOKROVISHHE	High	Medium	High	High
Cultivars from Novosibirsk:				
GLARIOZA	High	Medium	Medium	Medium
MAR'YUSHKA	High	Medium	High	Medium
Cultivars from Snt. Peterburg:				
BINAR	High	High	High	High
UVERTYURA	High	High	High	Medium
Cultivars from Sverdlovsk:				
DOBRYI DZHIN	High	Medium	High	High
MUSHKETYOR	High	High	High	Medium

Processed products of M-KONS (Michurinsk). Fruit, berry and vegetable processing.

Thank you for your time!

Tat'yana Vladimirovna Zhidyokhina, the Head of soft fruits department, PhD
Since 1987 she is working at VNIIS im I.V. Michurina. She develops physiological backgrounds of black currant breeding for high and sustainable productivity. The originator of 11 black currant cultivars, 3 raspberry cultivars, 3 dog rose cultivars and 1 hawthorn cultivar.