

KNOWLEDGE ON THE STATUS OF  
**NUTRIENT BOOKKEEPING**  
IN THE BALTIC SEA COUNTRIES

Speaker  
Institution  
Russia



Workshop ..... 2015

# There are three main types of nutrient balances

- • The balance of nutrients of an individual field or ecosystem;
- • The balance of nutrients of a farm, which may include livestock. This so-called Gate balance;
- • The balance of nutrients in the scale of the district \ region \ country (includes a combination of the first and second approaches).

In Russia, both the first and third approaches are actively used.

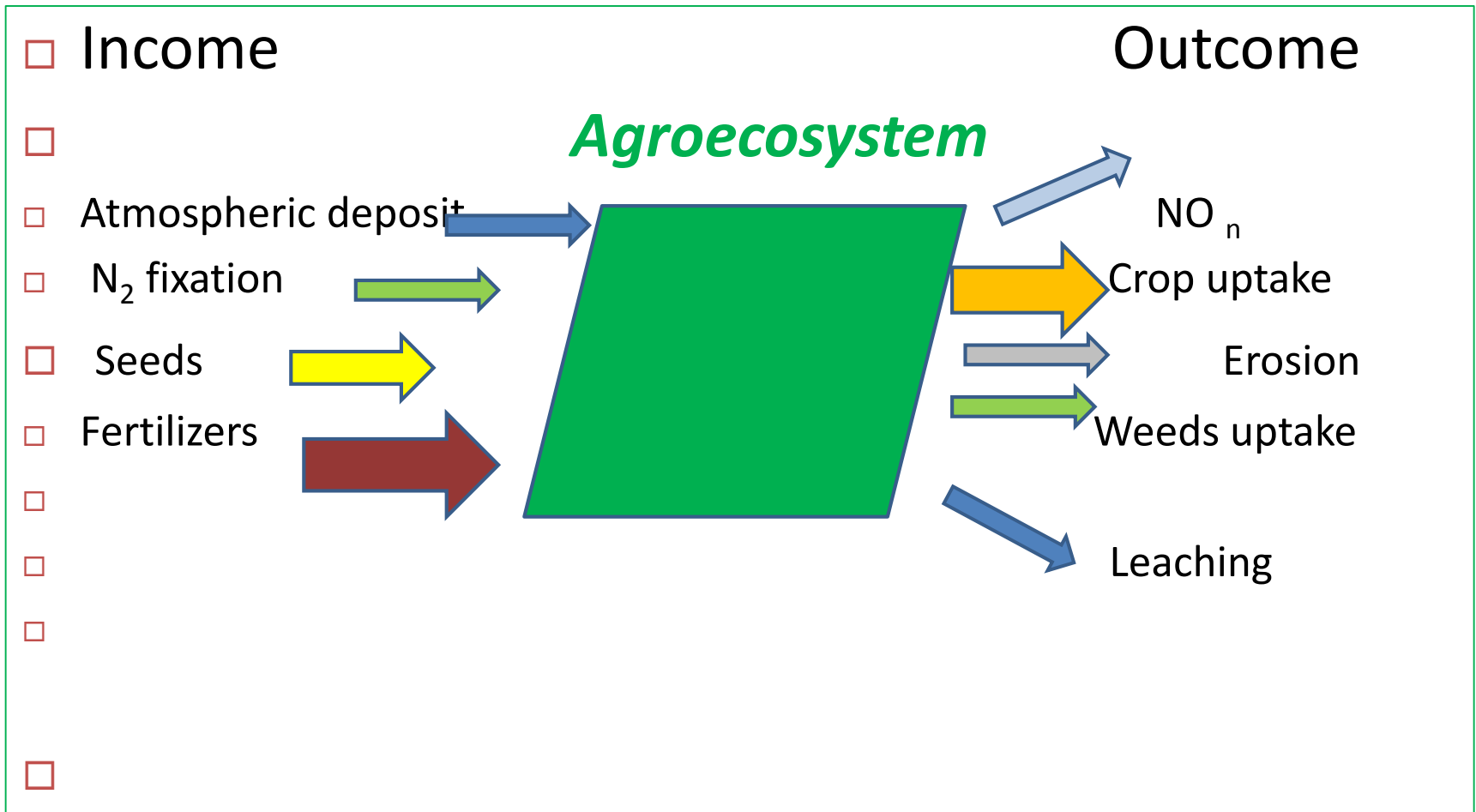


- Balance calculation is recommended for farms and it is an indispensable tool for institutions engaged in monitoring of soil fertility, primarily for government centers and regional stations agrochemical service.

# The methodological guidelines for determining the nutrient balance of N, P, K, Ca and Humus

- The Guideline was issued in the 2000
- The task of the Guidelines is to ensure the state control over the formation of soil fertility and the development of measures for its conservation and improvement.

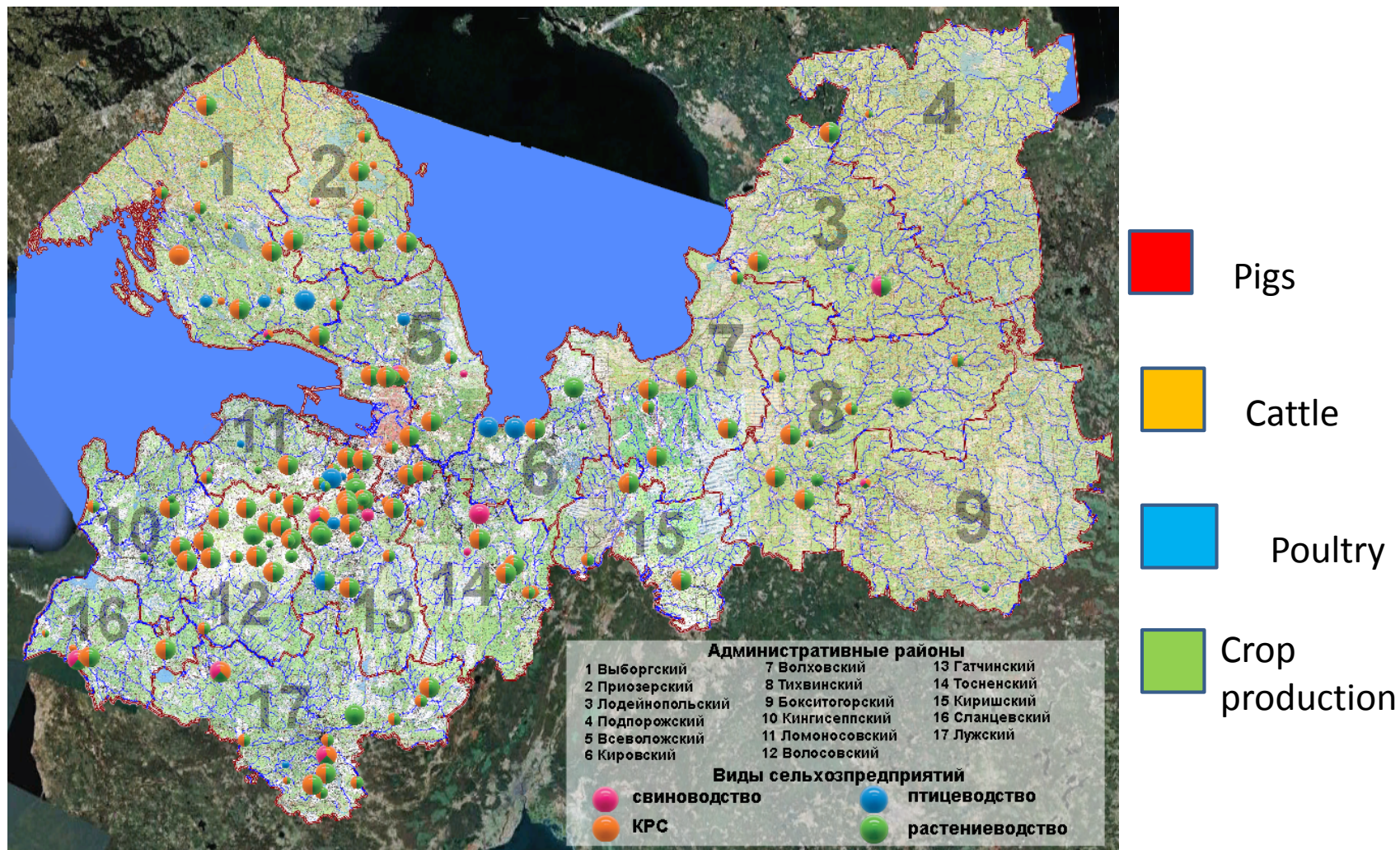
# The nutrient balance of an individual field



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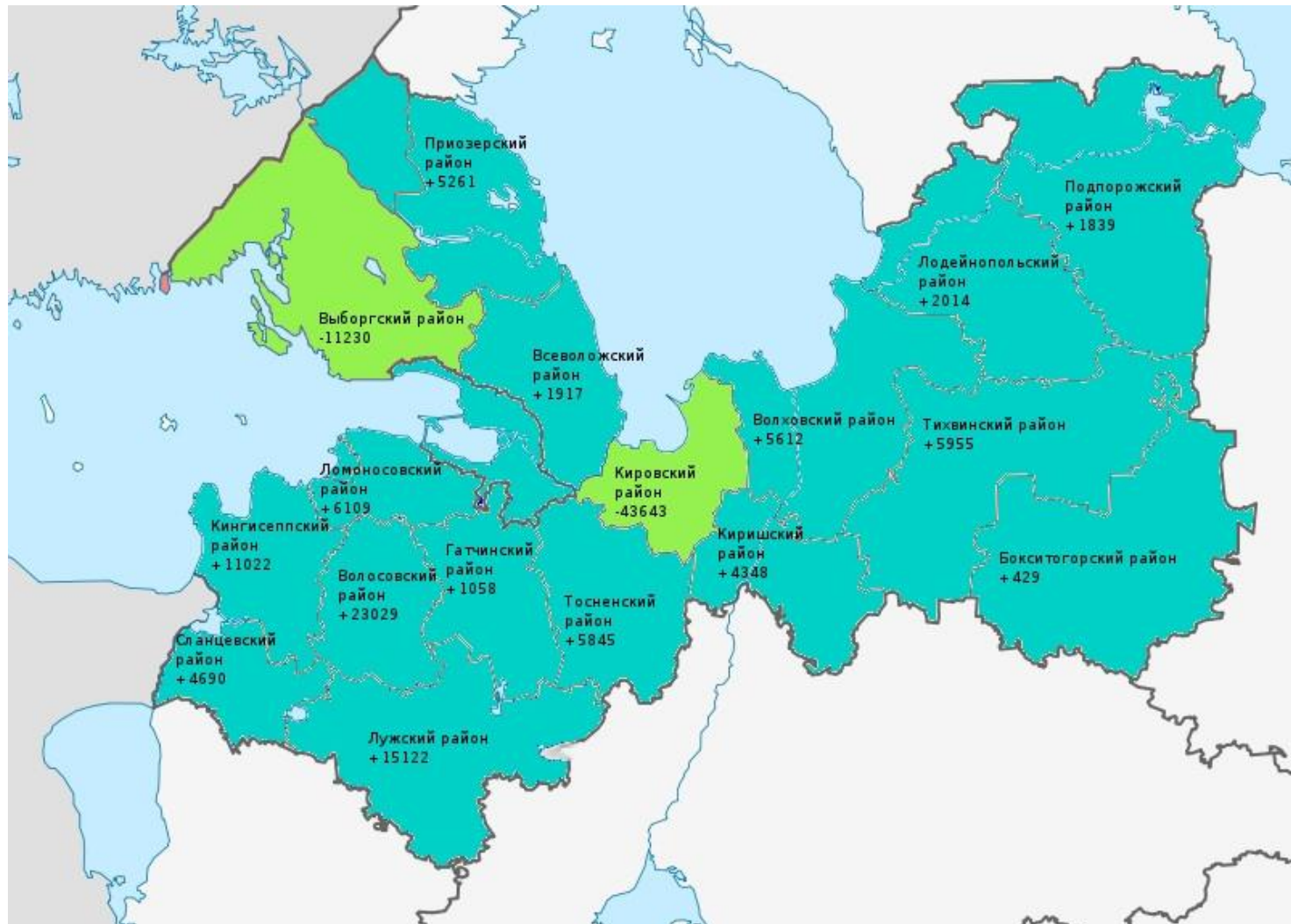
- In 2013 - 2014 according to the request of the Committee on Agriculture and Fisheries of the Leningrad Region the institute carried out the detailed study of the distribution of livestock and poultry farms, the volume of generated manure and agricultural lands.

# Farm distribution in Leningrad region





Which area of agricultural lands is required in the administrative districts of Leningrad oblast to apply manure in accordance with the HELCOM recommendation (170 kg N/ha)





Since 2013, the institute has been calculating Gate balances for individual farms (arable land area of the farm 1800 ha)

Indicators	Milk farm		Meat cattle farm	
	2011	2012	2011	2012
<b>N</b>				
<b>Nef. (output/input)</b>	<b>0.27</b>	<b>0.34</b>	<b>0.21</b>	<b>0.21</b>
<b>N surplus (N input-N output) kg/ha</b>	<b>29.5</b>	<b>41.9</b>	<b>48.3</b>	<b>57.6</b>
<b>P</b>				
<b>Pef. (output/input)</b>	<b>0.2</b>	<b>0.26</b>	<b>0.2</b>	<b>0.25</b>
<b>P surplus (P input-P output) kg/ha</b>	<b>20.10</b>	<b>16.00</b>	<b>12.24</b>	<b>11.14</b>

# Proposals

- 1. To develop a common Baltic methodology for calculating the nutrient balance in agriculture;
- 2. To conduct additional studies to assess the data which are not be available from statistics (Nitrogen fixation, denitrification, leaching under different conditions);
- 3. Create a common database of nutrients content in different products (this information is necessary for the nutrient balance calculation, and each country may have its own value).