

PROBLEMS CAUSED BY MINERAL FERTILIZERS USE

- **Systematic use of fertilizers** leads to the **DISAPPEARANCE OF MANY MICROELEMENTS**. Their mobile forms transform into inactive and become unavailable for plants normal growth and development. This leads to the **REDUCTION OF THE YIELD, LAND DEGRADATION** and **LOSS OF AGROBIODIVERSITY**
- **Absence of subsidies** on organic fertilizers, **lack of real-life examples** that can be experienced firsthand, and **lack of awareness** about the quality and advantages of organic fertilizers lead to **INCREASE OF MINERAL FERTILIZERS USE**
- **The technology of mineral fertilizers production** also leaves a lot to be desired. For example, the efficiency coefficient for ammonium production is 10-15%, i.e. the manufacture of **1 ton** of that mineral fertilizer **PRODUCES 6-10 TONS OF WASTE** released into the environment

● **Annually, due to mineralization,** black soil of Kazakhstan **LOSES** up to

14 million tons

of humus, and due to erosion – up to

19 million tons

USE of mineral fertilizers
DECREASED by

2810 tons per year,

pesticides by **14 tons** per year

8 farms on

14,050 hectares

administer organic fertilizers
instead of synthetic mineral
fertilizers

6 farms obtained
THE CERTIFICATES OF
ORGANIC PRODUCTION

1 farm is in conversion period

1 farm is going through
certification procedure

During the project
implementation about

4,500 people

were **CONSULTED**.
Within the project activities
Association of Organic
Agriculture in collaboration
with partners held several
dozens of field days, roundtables
on different level, trainings,
seminars, conferences

More than

50 farms

(in Kostanay, Aktobe, Akmola,
North-Kazakhstan, Almaty regions)
RECEIVED THE CONSULTATIONS
and practical advices about
organic farming, transition
requirements, certification
procedures, and options
for organic products
distribution

- Organic agriculture promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. The impact of organic agriculture on natural resources favours interactions within the agro-ecosystem that are vital for both agricultural production and nature conservation

- Organic fertilizers help to improve the condition of the land, they are able to increase productivity and quality of agricultural products

- Within the project technical support was provided for farmers who were interested in the application of organic fertilizers instead of synthetic (mineral) fertilizers

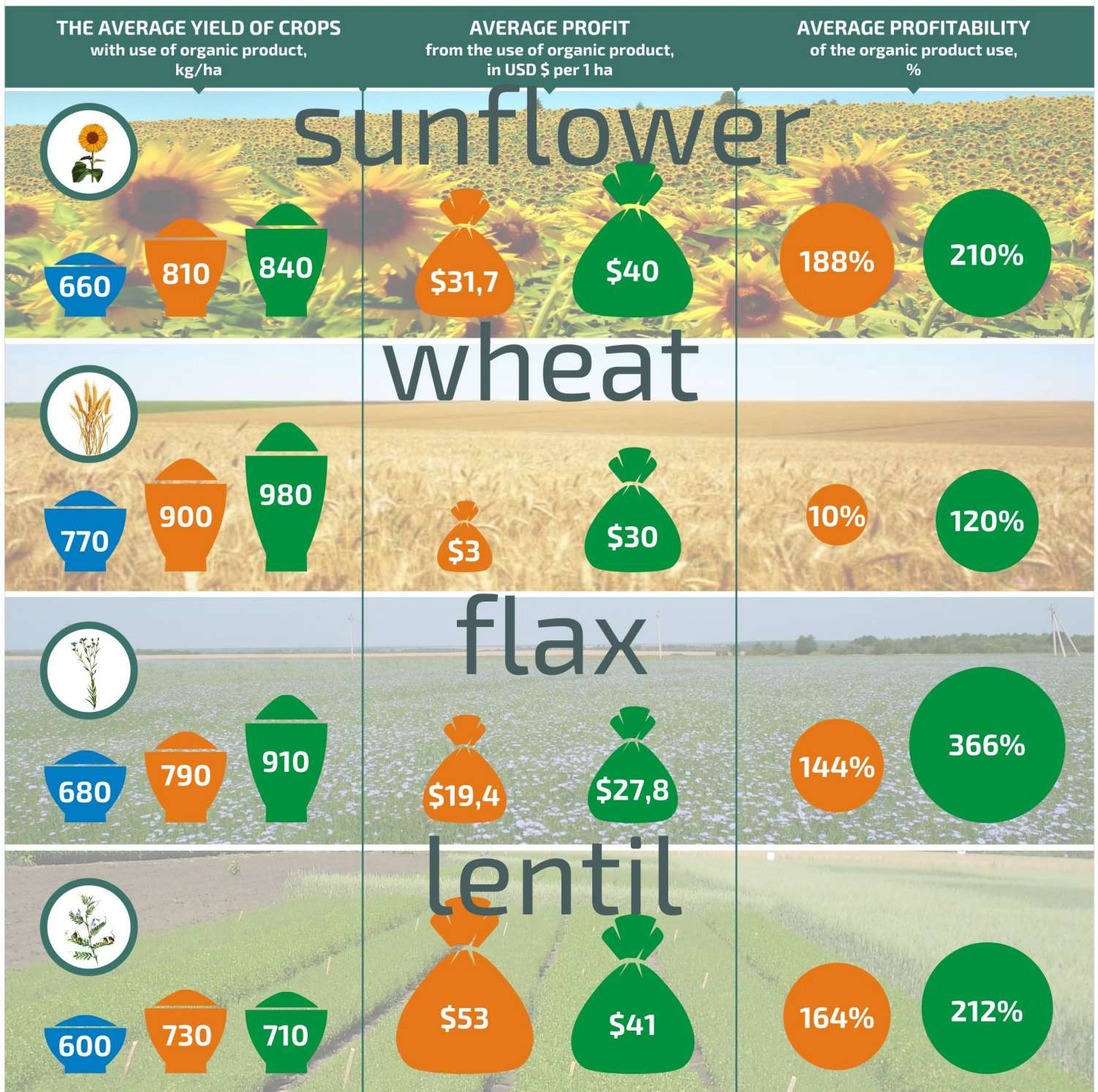


"Association of Organic Agriculture" together with representatives of the Ministry of Agriculture of the Republic of Kazakhstan, Kazakh Parliament, FAO participated in the development of the bill on "Organic farming." At the request of the Ministry of Agriculture of Kazakhstan, "Kazakh Research Institute of Agribusiness Economics and Rural Development" made calculations concerning the necessity of subsidizing of organic fertilizers and organic production, and the necessity of subsidies for organic certification.

PROJECT RESULTS AND PROPOSED APPROACHES

DEMONSTRATION OF THE PROFITABILITY OF USING ORGANIC FERTILIZERS INSTEAD OF MINERAL FERTILIZERS ON THE PILOT FARMS TERRITORIES

PRACTICAL RESULTS of the use of organic fertilizer "Riverm" in the pilot farms of Kostnanay oblast



According to the findings there was an increase in yield with both methods of organic fertilizer use: pre-sowing treatment of seeds and product deposition in soil. The highest yield increase is noted with product deposition in soil for flax (+230 kg/ha), and a minimum for lentil (110 kg/ha). But profit performance for lentil is the highest due to the market prices of lentil.

All farms gain profits from the use of organic fertilizer for all mentioned above cultures from the first year of application. The highest profitability exceeding 200% is observed for the production of flax, lentil and sunflower when organic fertilizer is deposited in soil.

Wheat had also shown a high rate of profitability of 120% with product deposition in soil, but under the pre-sowing treatment of seeds, the profitability is only 10%.

Thus, the project results demonstrate the high economic efficiency of the organic product application. Current market provides a wide range of organic products, which deserve special attention from both: farmers and the government, where government can support the use and production of organic fertilizers.

-  **Control**
-  **Riverm 0.3/t**
pre-sowing treatment of seeds
-  **Riverm 5 l/ha**
product deposition in soil