

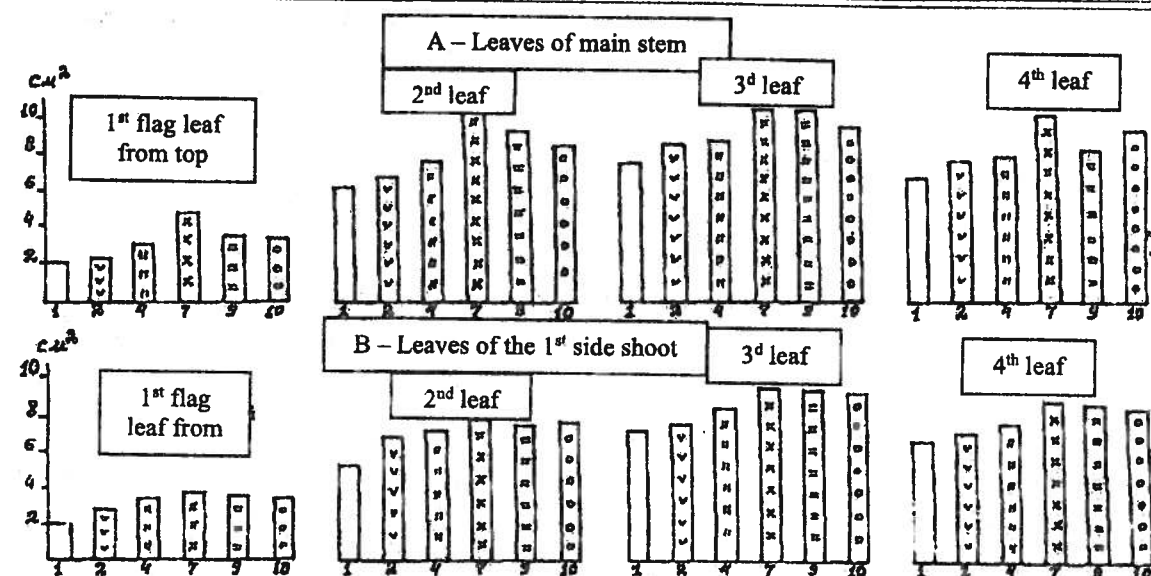


Figure 2 - Barley main stalk (A, cm²) and 1st lateral shoot (Rosava cultivar) leaves area depending on dosages and means of mineral fertilizer treatment. Experiment options: 1 - N0P0; 2 - P90; 4 - N90P90; 7 - N90P90+N30+N30; 9 - N120P90+0+N30; 10 - N120P90

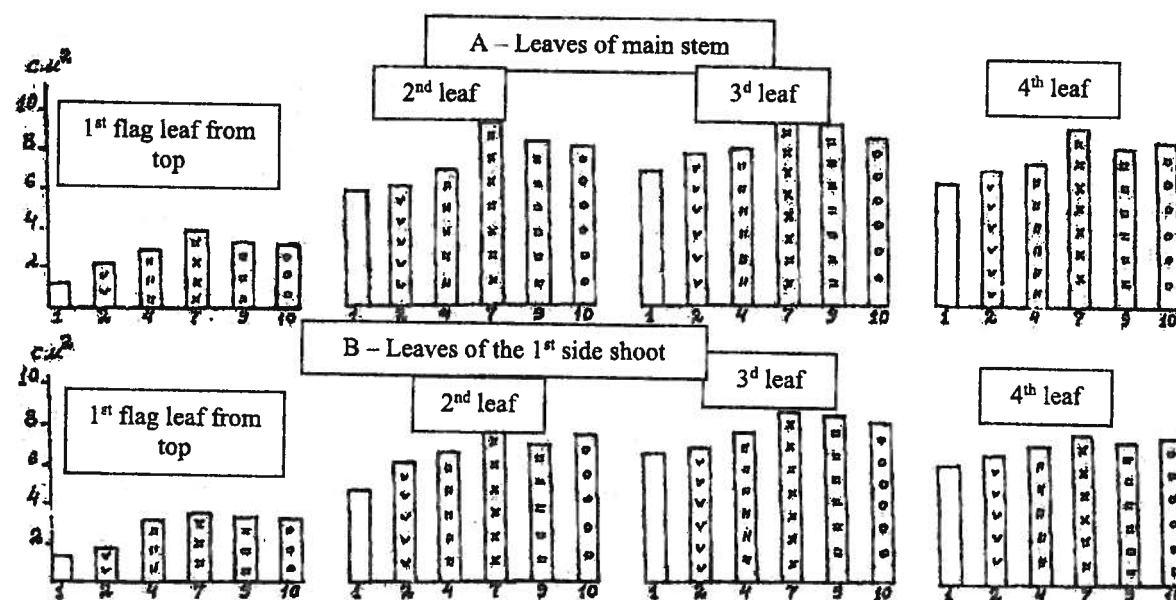


Figure 3 - Area of leaves (A, cm²) of the main stalk and the 1st lateral shoot (B, cm²) of barley (Assem cultivar) depending on the dosage and means of mineral fertilizers application
Types of experiments: 1 - N0P0; 2 - P90; 4 - N90P90; 7 - N90P90+N30+N30; 9 - N120P90+0+N30; 10 - N120P90

Formation of the barley crop goes on in interaction of genotype and morphophysiological features of plants with soil-and-ameliorative, engineering-and-technical and agroecological conditions. In this connection, based on the generalization of one's own research results and those of other scientific research organizations and the leading experience, ecological, agroecological, technological and morphological factors having effect on formation of high and quality barley grain crop were determined (table 3).

Table 2 - Effect of Dosages and Methods of Mineral Fertilizers Application on Barley Grains Agroecogenesis Formation and Yield Capacity

Dosages and Methods of Mineral Fertilizers Application, kg/ha	Number of Plants before Harvesting, pcs./m ²	Number of Productive Stalks, pcs./m ²	Tilling Capacity, pcs./plant	Share of Lateral Shoots in Formation of Crops, %	Grain Yield, centner/hectare
Rosava Cultivar					
1. N0P0 (control)	245	315	1.28	22.2	13.5
2. P90	251	366	1.46	31.4	17.3
3. N90P90	240	448	1.87	46.4	22.2
4. N90P90+N30	253	651	2.57	61.2	36.7
5. N90P90 + 0 + N30	247	588	2.38	58.0	31.4
6. N120P90	238	591	2.48	59.7	32.3
HCPs- pcs/m ² or h. centner/hectare	12.3	13.7	-	-	3.14

Note: N30 - additional fertilization in the beginning of tillering period; N30 - additional fertilization in the beginning of ear formation period.

Table 3 - Ecological, Agroecological, Technological and Morphophysiological Factors having Effect on Barley High Crop Formation

Factors having effect on production of high-yielding and ecologically clean barley crop in Aral Sea area			
Ecological Factors	Agroecological Factors	Technological Factors	Morphophysiological Factors
1. Soil and climate particular features of the region; 2. Aral sea parameters dynamics; 3. Water and salt inflow in sea; 4. Great and little Aral mode dynamics; 5. Surface water level and its mineralization; 6. Humus content and soil productive capacity.	1. Agroecological changes in the region; 2. Irrigated land suitability; 3. Morphological and physical properties of soil; 4. Agrochemical parameters and nutrients content in soil; 5. Soil secondary salinization degree.	1. Rice and other cultures productivity; 2. Crop position rotation; 3. Soil processing, sowing and crop tending; 4. Optimization of dosages, time and methods of fertilizers application; 5. Irrigation mode optimization; 6. Growth stimulants application; 7. Agriculture and cultivation biologizing.	1. Formation of phytomers as growth units; 2. Formation of photosynthetic system and storage organs (grains); 3. Morphophysiological features of plants growth, tilling capacity, formation of main and lateral shoots, heads and root systems; 4. Formation of highly-productive agroecogenesis.
Highly productive agroecogenesis of barley: number of plants before harvesting - 240-260 pcs./m ² ; number of productive stalks - 640-680 pcs/m ² ; tilling capacity - 2.70-2.85 pcs./plant; share of lateral offshoots in crop formation - 62.4-64.8%; yield capacity - 33.1-36.7 h. centner/hectare; increase in output yield - 17.7-21.3 h. centner/hectare.			
Application of N90P90 h.kg/ha prior to sowing; additional application of nitrogen fertilizer N30 kg/ha in the tilling phase beginning. Irrigation mode - 70-75-70% of MHC.			

Conclusions. Highly-productive barley agroecogenesis is formed in the period of plants preservation prior to harvesting 240-260 pcs./m² formation of productive stalks 640-680 pcs/m², tilling capacity of 2.70-2.85 pcs./plant, share of lateral offshoots in formation of crop was 62.4-64.8%, which contributed to increase in the yield of grain to 33.1-36.7 h. centner/hectare and increase in the crop by 17.7-21.3 h. centner/hectare. This highly productive agroecogenesis (sowing) in production conditions is formed when 4-5 mln. germinable seeds when N90P90 kg/ha is added prior to sowing and additional application of nitrogen fertilizer N30 kg/ha in the beginning of tillering period, irrigation mode 70-75-70% of the full field water capacity (FFWC) as well as in the course of other agronomical methods application in due time and of due quality.