

**METHODOLOGICAL APPROACHES TO MARKET TRANSFORMATION
OF STATE-OWNED INSTITUTIONS INTO IP ORIGINATORS**

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Trends and nature of development of the global and domestic grain markets were analyzed in the light of transformation vectors of a state-owned breeding institution. A high degree of regimentation and regulation of the global wheat market was revealed. The coefficient variation (V%) of the absolute indices of production, offer, consumption, trade and transient stocks (mln. tons) for 2011-2015 was below 10% (weak variation). At the same time, the share of significantly differing marketing years was 60%, excluding the consumption index (80%). Comparison of indicative factors of the global wheat market (offer, consumption, trade and transient stocks) related to production (%) showed even lower variation ($v\% = 1.64-2.82\%$). The share of significantly differing marketing years in terms of offer and consumption was 60% (trade - 40% and transient stocks - 80%). It was shown that the variation of production and export of Ukrainian grain (mln. tons) in 2004-2015 was higher than the global values ($v\% = 23.7\%$ and 51.0% , respectively). Analysis of dynamics variations of production and export related to the previous year (%) demonstrated similar values in Ukraine with $v\% = 33.1\%$ and 101.2% , respectively. It was established that prediction could use appropriate approximation of the export index of the domestic grain market ($R^2 = 0.872$). Assessment of current and prospective areas of specialization of the PPI NAAS (model object) for breeding objects of transfer and their shares in the amount of the implementation sum enabled identifying the most rationalized ones: general innovation - marketing specialty -82.8%; late spring crops - 64.7% and hybrid market - 67.9%. As exemplified by the Plant Production Institute nd. a VYa Yuriev NAAS, simulated stages of innovation transformation of a state-owned breeding institution were outlined and grouped by their baseline and pragmatism levels and orientation of mechanisms involved.

Key words: grain market, IP originator, simulated transformation stages

Formulation of the Problem. Within European integration of Ukraine, systemic approaches to transformation of economic and scientific units is gaining increased relevance. Regarding the agricultural sector and agricultural research as its component, such approaches are mainly based on the existing complex of competitive advantages and resource potential as well as on the partially realized export potential. From on the above-mentioned, it is strategically important for a state-owned research institution (as exemplified by the Plant Production Institute nd. a VYa Yuriev NAAS) to transform into an intellectual property (IP) originator with a managerial market-oriented type of structural and functional organization.

It is logical that academic institutions like PPI NAAS should take into account multifactorial and differently directed approaches in their activities when creating and transferring competitive breeding/seed production and technological innovations. Proceeding from this, the declared innovation-investment vector of agribusiness development concerning research trends should be based on systematic monitoring of factors of internal and external consumption systems with their specialized markets and consumer audiences.

Taking into consideration the whole chain of motivations and appropriate rationale of demand formation and further sustainable application of science-driven products in the form of innovations, monitoring and analysis of the functioning dynamics of international and domestic grain markets (as exemplified by wheat) seem logical.

The analytical studies show that, despite rather optimistic forecasts concerning increased exports of Ukrainian grain, the existing mechanisms that will restrain this process are clearly seen. Based on the existing demand and appropriate incentives of industry, specialization, channels and sales of breeding/seed production and technological innovations within market-oriented transformations are put in place.

Research Methodology. The research was conducted in compliance with the objectives of Scientific-Technical Program 32 (2004-2005), Scientific-Technical Program 46 and Scientific-Technical Program 47 (2006-2010), Exploratory-Scientific Investigation 41 (2011-2015) and Exploratory-Scientific Investigation 44 NAAS (2016) in the head institution “Center of Scientific Support of Agribusiness in Kharkiv Region” - Plant Production Institute named after VYa Yuriev of NAAS (PPI NAAS). The above facts and estimates are components of corresponding analytics and monitoring in areas of raw material and technological security; sustainable development of agribusiness and rural territories; and transfer methodology of top-to-bottom technologies. Given the specificity of the institution, the research subject was components of the global and Ukrainian grain markets as well as analysis of factors and transformation vectors of a state-owned breeding institution. As exemplified by the Plant Production Institute nd. a VYa Yuriev of NAAS, simulated stages of innovation transformation were grouped according to their baseline levels, levels of pragmatism and orientation of mechanisms involved. Developing working models, we took into account the institution’s position, structural and hierarchical features of the system, formalization and systematic approach based on cross-cutting coordination. In our research, we used statistical information from USDA, Faostat, Statista, State Statistics Service of Ukraine, Agribusiness-Inform, and statistical reports of PPI NAAS. The data were processed by variance, variation and regression analyses.

Results. Relying on the basic concepts of marketing, production (including science) should be pragmatically oriented on the existing demand and the corresponding level of consumption. When modifying this concept for a state-owned breeding institution (model object - PPI NAAS) in the system of creation and preparation of innovations for further transfer, one should distinguish increased importance of the methodological/analytical unit with clear orientation of simulations and breeding trends to specialized markets (Fig. 1).

Here, one can come to any stage from monitoring, analysis and prediction in this chain, but orientation to and satisfaction of demand through an appropriate system of targeted markets looks the most pragmatic way. Proceeding from this, one should consistently take into account approaches of SWOT analysis and strategic planning when forming and testing action plans in the course of creation of breeding/ seed production and technological innovations.

At present, given the capacity and position of Ukraine in the global export of grain, marketing research should include the status and trends of the global and domestic specialized markets for institutions with the orientation and level of PPI NAAS. The analysis of relevancy and variations of the main indicative factors of the global wheat market for the last 5 years (2011-2015) and 2016 prediction* largely confirmed reasonableness of this approach (Table 1).

Table 1. Analysis of Relevancy and Variations of the Main Indicative Factors of the Global Wheat Market, 2011-2016, mln. tons

Marketing years (MY)	Production	Offer	Consumption	Trade	Transient stocks
2011-2012	700.9	897.6	691.4*	148.8	197.4
2012-2013	660.0*	857.7*	684.2*	142.4*	176*
2013-2014	715.6	891.6	693.9	156.8*	188.4
2014-2015	732.9*	921.3*	712.9*	155.8*	202.6*
2015-2016	728.4*	929.6*	721.9*	150	201.8*
Mean)	707.6±13.1	899.6±12.6	700.9±7.1	150.8±2.6	193.2±5.0
Share of significantly different MY, %	60.0	60.0	80.0	60.0	60.0
V%	4.15	3.06	2.26	3.87	5.78

Footnote: 1) * Significantly different marketing years, 2) variation at v: <10% - weak; 11-25% - moderate; > 25% - significant

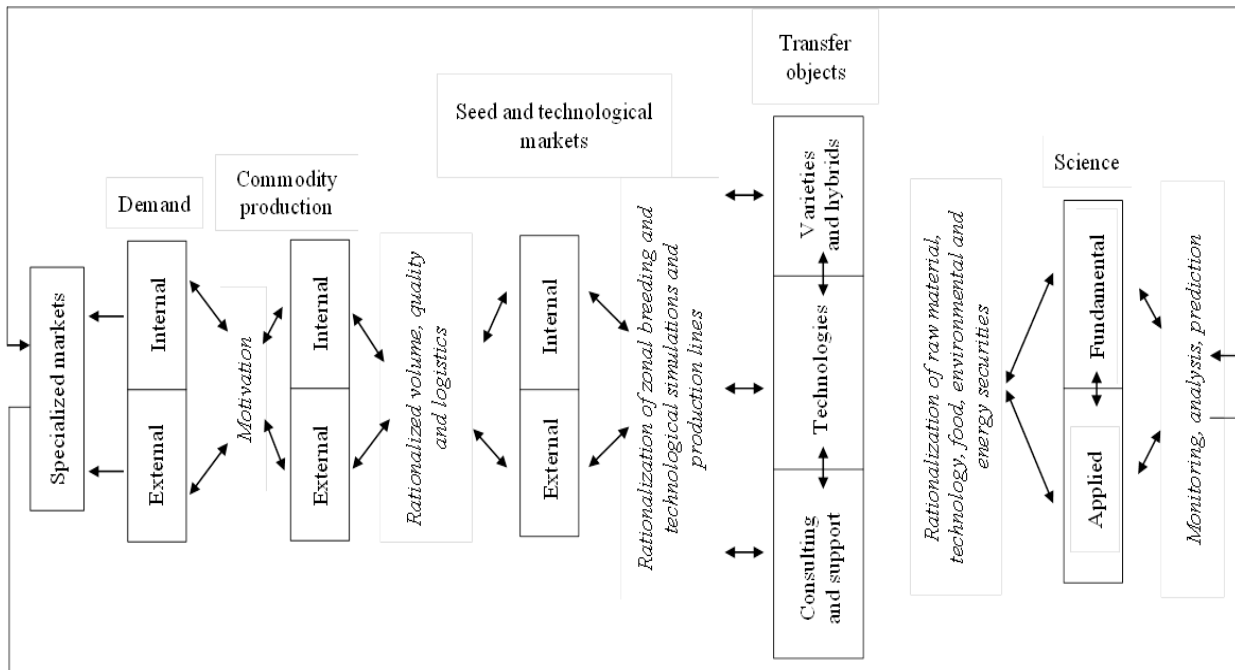


Fig.1. Formalized Logistic Scheme of Key Stages, Vectors and Transfer Objects within Transformation of a Breeding Institution into an IP originator (as exemplified by PPI NAAS).

We revealed a high degree of regimentation and regulation of the global wheat market. The variation coefficient (V%) of the absolute indices of production, offer, consumption, trade and transient stocks (mln. tons) for 2011-2015 was below 10% (weak variation). At the same time, the share of significantly differing marketing years was 60%, excluding the consumption index (80%). Within each of the indicative factors, values across the marketing years were similar, which can be considered as evidence of a substantial regulation of the market. The difference in the nature of interactions between the indicative indices of the global wheat market was only observed 2012-2013, when consumption exceeded production (Fig. 2).

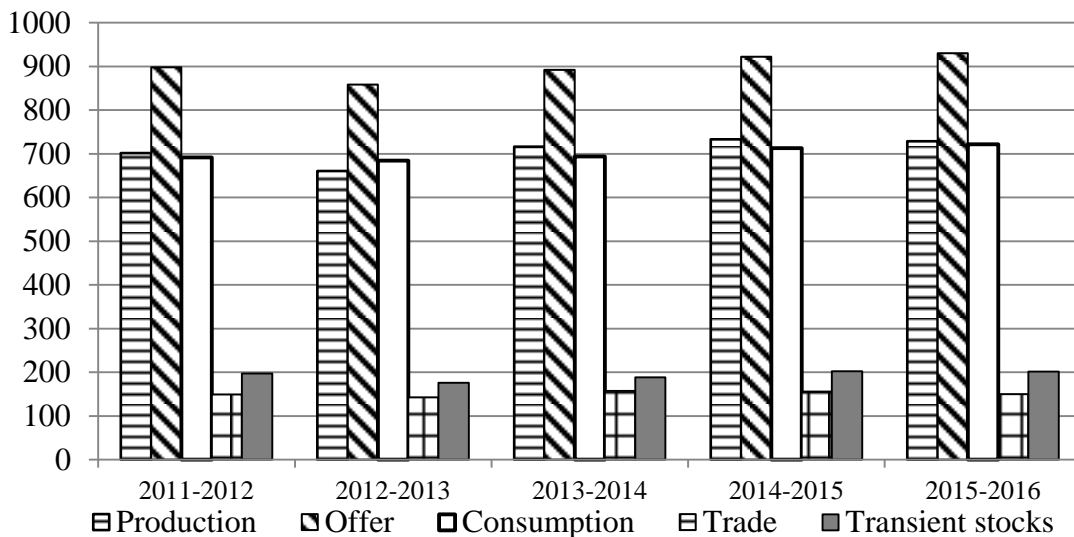


Fig.2. Analysis of the Functioning Dynamics of the Global Wheat Market (see Table 1) (calculated from analytical forecasts of USDA, Faostat, Statista), mln. tons.

Comparison of the indicative factors of the global wheat market (offer, consumption, trade and transient stocks) with the main index - production (%) (Table 2) - described lower levels of variation ($v\% = 1.64-2.82\%$) related to the absolute indices (Table 1).

Table 2. Comparison of the Indicative Factors of the Global Wheat Market with Production Level, 2011-2015, %

Marketing years (MY)	% related to production level			
	Offer	Consumption	Trade	Transient stocks
2011-2012	128.0	98.6	21.2	28.1*
2012-2013	129.9*	103.6*	21.5	26.6*
2013-2014	124.5*	96.9*	21.9*	26.3*
2014-2015	125.7*	97.2*	21.3	27.6
2015-2016	127.6	99.1	20.6*	27.7*
Середнє)	127.1±0.94	99.1±1.2	21.3±0.21	27.3±0.34
Share of significantly different MY, %	60.0	60.0	40.0	80.0
V%	1.64	2.21	2.29	2.82

Footnote: 1) * Significantly different marketing years

This can be considered as a pragmatic acknowledgment of adjustability of the global wheat market specifically and grain market in a broader sense. The averaged (simulated) ratios between the indicative factors (related to production) with some fluctuations across the marketing years can be used for reconnaissance forecasts in analytics. Thus, the consumption level is almost the same as the production level (99.1%); transient stocks amount to 27.3% of production; and the offer of 127.1% is almost the sum of consumption and transient stocks. The share of significantly differing marketing years in terms of offer and consumption was 60%; of trade - 40%; and of transient stocks - 80%.

Analysis of the production dynamics and grain export in Ukraine (y) as a component and noticeable player at the global specialized grain market (2004-2016) demonstrated a positive trend both in production and in export (Fig. 3).

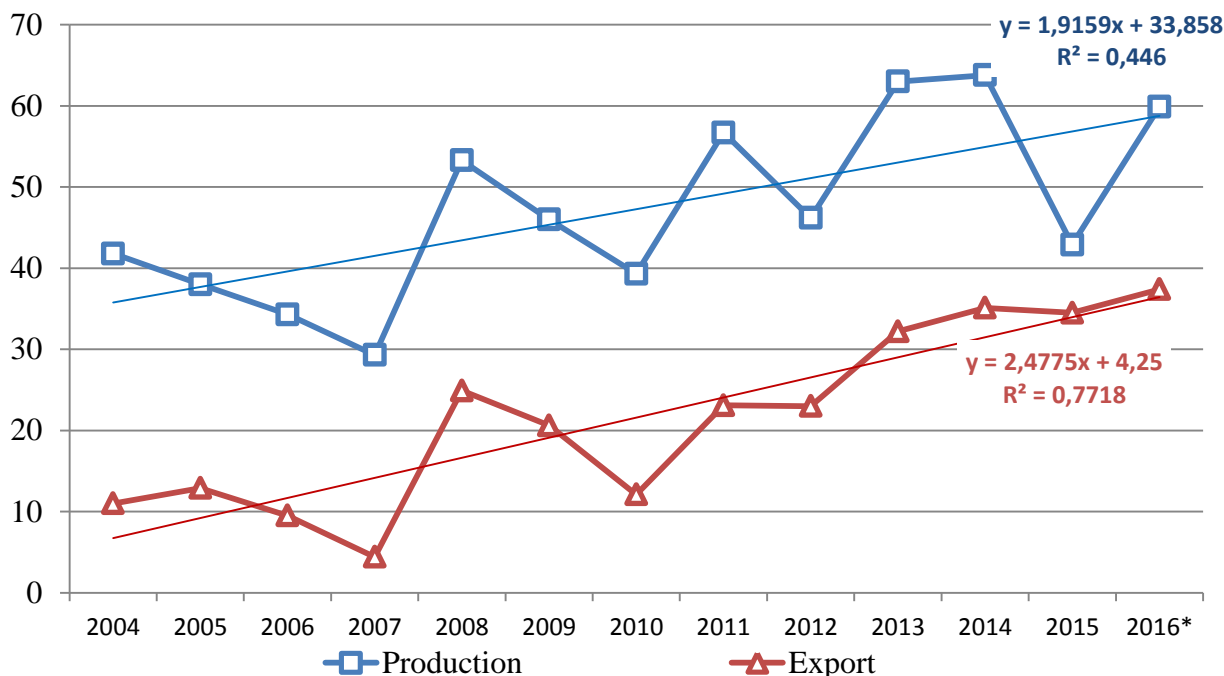


Figure 3. Dynamics of Grain Production and Export in Ukraine, 2004-2016, mln. tons (data for 2004-2015 - from the State Statistics Service Ukraine; data for 2016 – predictions of USDA and Agribusiness-Inform).

Footnote: approximation and prediction accuracy with determination coefficient R^2 of: > 0.95 - high; 0.8 - 0.95 - acceptable; 0.6-0.8 - satisfactory; <0.6 - poor.

Apposition of experts' forecasts for 2016 * (simulated object) with the real data of 2004-2015 (Table 1) more systematically fit in terms of exports, while in terms of production cyclicality is more prominent. Of all others, this is an indirect confirmation of the strategic need for a stronger compensation capacity of technologies involved, transfer of top-to-bottom technological solutions and novel organizational approaches based on cross-cutting coordination. Approximation of the indices of production and export (for predicted 2016 *), as it had been expected, showed poor approximation for production (determination coefficient $R^2 = 0.446$), and approximation for export was satisfactory (determination coefficient $R_2 = 0.7718$).

Consideration of the above named approach in the light of possible use in the short and medium terms (within 5 years) from the perspective of correction of innovative trends in an institution - IP originator distinguishes it as one of the possible and pragmatic vectors (Table 3).

On average, the multi-year grain production in Ukraine for the monitoring period (2004-2015) amounted to 46.2 ± 3.17 mln. tons at the index variation $v\% = 23.7$. The variation of production compared to the previous year' value was higher: $v\% = 33.1$. If we compare these figures to the corresponding global ones (Table 1), challenges of sustainable production logically outstand. Parallel analysis of the dynamics of Ukrainian grain export showed much greater variation compared to production ($v\% = 51.0$ and 101.2 , respectively), which highlights the strategic need for systemic actions and transformations, including the level of institutions - IP originators. Evaluation of the export share related to production demonstrated its considerable variation $v\% = 40.8$ in the range from 15.1 to 80.4%, which necessitates selection of different basic monitoring periods for assessment.

Table 3. Relevancy Level and Variations in Grain Production and Export in Ukraine, 2004-2016, mln. tons.

Year	Production		Export		
	mln. tons	% related to the previous year	mln. tons	% related to the previous year	% related to production
2004	41.8	-	11.0	-	26.3
2005	38.0	90.9	12.9	117.2	33.9
2006	34.3	90.2	9.5	73.6	27.6
2007	29.3	85.4	4.4	46.3	15.1
2008	53.3	181.9	24.9	565.9	46.7
2009	46.0	86.3	20.6	82.7	44.7
2010	39.3	85.4	12.1	58.7	30.7
2011	56.7	144.2	23.1	190.9	40.7
2012	46.2	81.4	23.0	99.5	49.7
2013	63.0	136.3	32.2	140.0	51.1
2014	63.8	101.2	35.1	109.0	55.8
2015	42.9	67.2	34.5*	98.2	80.4*
Mean for 2004-2015	46.2±3.17	104.58±10.43	20.275±2.99	143.8±43.88	41.9±4.93
Standard deviation	10.98	34.59	10.34	145.52	17.08
Variation coefficient (V,%)	23.7	33.1	51.0	101.2	40.8
Prediction					
2016	59.9*	139.6	33.2**/37.4***	96.2**/115.7***	55.5**/62.4***
2017	62.4	104.2	34.6**/38.9***	104	55.5**/62.4***
2018	65.0	104.4	36.0**/40.5***	104	55.5**/62.4***
2019	67.7	104.2	37.5**/42.2***	104	55.5**/62.4***
2020	70.5	104.2	39.1**/43.9***	104	55.5**/62.4***

Footnote: * current predictive data; ** predictive data adjusted for the dynamics of the last 5 years *** predictive data adjusted for the dynamics of the last 3 years

Testing approaches, we highlighted the dynamics of the last 5 and 3 years, and 104% (mean over 2004-2015) was taken as the basic annual rate of production increase. The forecast for the short (2016) and medium term (2016-2020) showed that, without notice of some leading factors and with maintaining positive dynamics till 2020, Ukrainian grain production can hypothetically and provisionally be expected on the level of 70 mln. tons. At the same time, the average annual grain production for 2016-2020 is expected to be 65.1 mln. tons, while the export is expected to be 55.5-62.4% of production. Without systemic transformation of the agricultural sector and agricultural scientific complex (in our case, institutions – IP originators) and balanced system of internal and external consumption, implementation of such plans is hardly possible or extremely difficult. Especially since the share of Ukraine in the wheat and grain markets is supposed to grow at least twice, and given adjustability of the global grain market, this is a significant challenge for plant production (Fig. 4).

If we break down the monitoring years and prediction period (2004-2020) into corresponding stages by the traditional five-year approach and by simulated dynamics of the development of Ukrainian grain market, the average yield of cereals amounts to 4.06 t/ha. At present, corn only rightly meets these (average grain yield ≥ 3.0 t/ha). On the other hand, earlier research of PPI NAAS showed that in the medium term one could expect 70% level (currently it is on average $> 50\%$) resulted from realization of genetic potential of productivity (RGPP) in a possible optimistic case.

The high simulated potential productivity of 10 t/ha in production provided 50% RGPP will give the output of 5 t/ha, while 70% RGPP with the same approaches will ensure 5 t/ha with potential yield of around 7 t/ha. Therefore, solutions of the general problems are primarily seen in systematicity based on cross-cutting coordination, transition to standardized raw material resources and transfer of top-to-bottom technologies. In this regard, the trends of methodological support of innovation transfer in agribusiness, which are developed at the Plant Production Institute nd. a VYa Yuriev NAAS largely enable starting consistent transformation of this state-owned breeding institution into IP originator. It is clear that such actions should be based on management decisions and novel organizational approaches and models. It was established that, within the current analytics and forecasts, appropriate approximation of export index of the domestic grain market ($R^2 = 0.872$) could be used.

Proceeding from the above named, consideration of crops from the standpoint of their compliance level with transfer objects, standardized raw materials, top-to-bottom technologies and other parameters is quite reasonable. To confirm the validity of this approach, we can present estimates of existing and prospective areas of specialization of PPI NAAS (model object) for breeding objects of transfer and their shares in the amount of sales (Table 4). At present, the most feasible areas for specialization and marketing component are:

a) Pool of general innovative-marketing specialization of the Institution with the aggregate segment of 82.8% covering the potential of 4 crops and being a dramatic confirmation of Pareto rule in practice;

b) Poole of late spring crops with the aggregate segment of 64.7% covering the potential of 3 crops;

c) Poole of market-oriented hybrids with the aggregate segment of 67.9% covering the potential of 3 crops.

Therefore, review of crop assortment from the standpoint of effective transfer objects and, using them, guarantee of competitive advantages and integral food, raw material, technology, energy, biological and ecological safety of Ukraine is essential both for production and for an IP originator. With this in mind, the role of methodological, analytical-forecasting, marketing, organizational and logistical lines is rising manifold to state-owned breeding institutions (potential IP originators). For this very reason, appropriate motivation, vectors and algorithms of development of specialized markets and transformation of state-owned breeding institutions into IP originators should be pragmatically selected and implemented (Table 5). As exemplified by the Plant Production Institute nd. a VYA Yuriev NAAS, we highlighted and grouped simulated stages of innovative transformation of state-owned breeding institutions according to their baseline and pragmatism levels as well as according to orientation of the mechanisms involved.

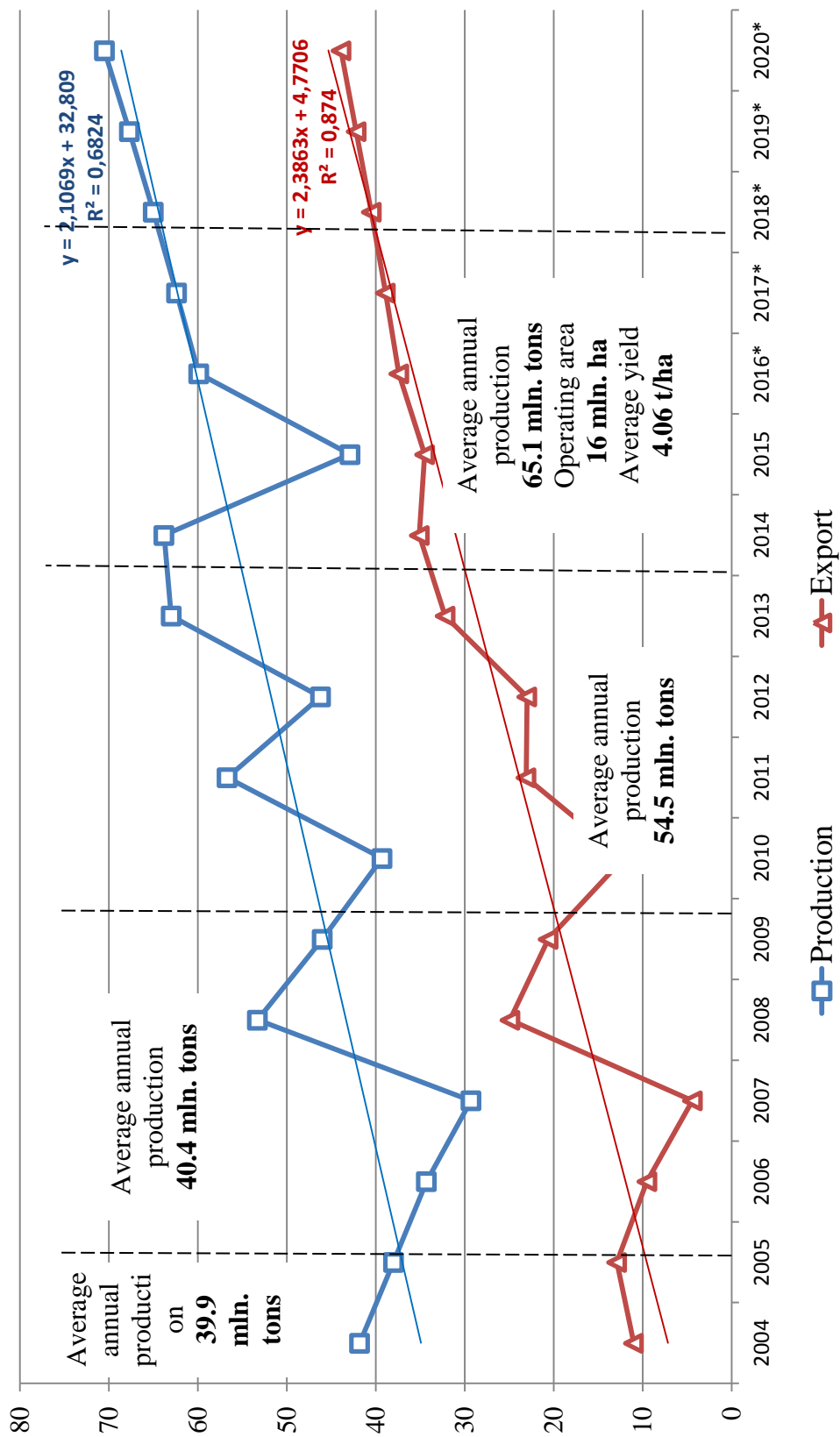


Figure 4. Analytical Prediction of the Dynamics of Grain Production and Export in Ukraine, 2016-2020*, mln. tons.

Table 4. Assessment of Existing and Prospective Areas of Specialization of PPI NAAS (Model Object) by Breeding Objects of Transfer and Their Shares in the Amount of Sales, 2015, %

Orientation and estimate	Crop	Segment, %	Aggregate segment, %	Level at specialized markets
General innovative-marketing specialization	Sunflower	43.7	82.8	The highest level of strategic planning and innovation orientation. Diversification sale and use areas. Extensive cooperation and profound integration. Priority resource support
	Corn	20.7		
	Winter wheat	10.2		
	Pea	8.2		
Marketing/commercial rationalization	Winter wheat	10.2	18.4	The greatest attention and assistance
	Pea	8.2		
Winter crops	Winter wheat	10.2	17.3	Autumn market (calendar specialization)
	Winter rye*	3.5		
	Winter triticale	3.6		
Spring crops	Spring wheat	2.5	18.3	Spring market (calendar specialization)
	Spring barley	3.3		
	Spring triticale	1.8		
	Pea	8.2		
	Millet	2.2		
	Soybean	0.3		
	Soybean	0.3		
	Corn	20.7		
Late spring crops	Sunflower	43.7	64.7	Spring market (calendar specialization)
	Corn	20.7		
The most problem-plagued segment	Spring triticale	1.8	4.3	The need for fundamental systemic transformation and active organizational mechanisms
	Millet	2.2		
	Soybean	0.3		
Hybrid market	Sunflower	43.7	67.9	Tried and true mechanisms of collecting royalties and controlled turnover of breeding and seed production innovations. High degree of additional cost and adaptability to manufacture
	Corn	20.7		
	Winter rye*	3.5		
Variety market	Winter wheat	10.2	35.6	Problems of controlled turnover of IP and stable collection of royalties. Lack of standardized raw materials and unsatisfactory adaptability to manufacture
	Winter rye*	3.5		
	Winter triticale	3.6		
	Spring wheat	2.5		
	Spring barley	3.3		
	Spring triticale	1.8		
	Pea	8.2		
	Millet	2.2		
Soybean	0.3			

Footnote: * winter rye includes areas of hybrid and variety breeding.

Table 5. Motivation, Vectors and Algorithms of the Development of Specialized Markets and Transformation of State-Owned Breeding Institutions into IP Originators (analytics on the level of approaches of the Plant Production Institute nd. a VYA Yuriev NAAS).

Stage	Orientation and mechanisms	Pragmatism level	Baseline
Political and economic motivation	Identification and detection of problems, goals and vectors	Mostly proclamatory	Results of statistical research and a start response to challenges
Monitoring and analytical support	Determination of nature, specificity and dynamics of processes and trends	Rationalization, start of planning	Identification of available real mechanisms for realization
Breeding/genetic realization	Breeding/seed production innovations – technology components	Creation of standardized raw materials	Genetic basis of inheritance of traits, genetic resources
Technological realization	Principles of cross-cutting coordination, zonal specialization	Transfer of top-to-bottom technologies, integration in other areas	Realization of the complex of competitive advantages and national safety
Ecological realization	National safety	Response to global climatic changes and changes of the system of production and consumption	Realization of the complex of competitive advantages and national safety
Diversification of use	Transition to standardized raw materials	Equilibrium of internal and external consumption	Rational use of resources, realization of the complex of competitive advantages
Logistics	Reduction in non-productive expense	Effective system of production, consumption and utilization	Rational use of resources, realization of the complex of competitive advantages
Zone specialization	Reduction in non-productive expense, efficient use of soil, climatic and geographical factors	Effective system of production, consumption and utilization	Crop-specialized zones, logistics, resources, processing, specialized markets
Cross-cutting coordination	Use of synergy and potentials of sectors	Realization of vectors of innovation and investment development	Methodology of innovation transfer
Marketing orientation	Development of export (external) and internal specialized markets	Commercial component	Geographical, soil, climatic, productive and logistical potential of Ukraine
Resource orientation	Reduction in usage of non-renewable fossil resources	Raw material and resource safety	Realization of the complex of competitive advantages and national safety
Infrastructure	Practical fulfilment of transfer	Innovation and investment development and refinancing of science	System transformation

It is clear that this list includes far from every most problematic and strategic positions. Nevertheless, even on such a formalized level there are all possibilities to make an appropriate roadmap, which is an integral part of the development of innovative infrastructure, realization of innovation and investment vector of development, design and implementation of business plans and pilot projects within transformation of state-owned breeding institutions into IP originators, which is a core of specialized cluster structures and a scientific/methodological center of technology transfer.

Conclusions. 1. Effective realization of competitive advantage of national agribusiness in plant production is possible provided realization of the strategic role of agricultural science, active transfer of top-to-bottom technologies, transition to the principles of standardized raw materials and launch of cross-cutting coordination principles.

2. For the foreseeable future, to focus on the selection and realization of directions of market transformation and development of innovative infrastructure is strategically important for a state-owned research institution (potential IP originator).

3. Methodological approaches to transfer of technological innovations and analytics are specific scientific products with consistently increasing demand.

4. According to the achieved level, accumulated potential, experience, reputation, approaches and most components of innovation transfer in agribusiness, the Plant Production Institute and a VYA Yuriev NAAS can be legitimately distinguished as a systematic scientific and methodological pilot center of reformation of the national agrarian science.

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МЕТОДОЛОГИЧЕСКИЕ ПОДХОДЫ РЫНОЧНОЙ ТРАНСФОРМАЦИИ ОРГАНИЗАЦИИ С ГОСУДАРСТВЕННОЙ ФОРМОЙ СОБСТВЕННОСТИ ДО УРОВНЯ ОРИГИНАТОРА ОПИС

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Ключевые слова: рынок зерна, оригинатор ОПИС, модельные этапы трансформации

С позиций векторов трансформации селекционной организации с государственной формой собственности проанализированы направления и характер трендов развития мирового и отечественного рынков зерна. Выявлена высокая степень регламентации и регуляции мирового рынка пшеницы. Коэффициент вариации ($V\%$) абсолютных показателей производства, предложения, потребления, торговли и переходящих запасов (млн. т) за 2011-2015 гг. был ниже 10 % (слабая вариация). При этом доля существенно отличных маркетинговых лет составила 60 %, за исключением показателя потребления (80 %). Сравнительный анализ индикативных показателей мирового рынка пшеницы (предложения, потребления, торговли и переходящих запасов) в сравнении с производством (%) характеризовался еще более низким уровнем вариации ($v\% = 1,64-2,82\%$). Доля существенно отличных маркетинговых лет по показателям предложения и потребления составила 60 % (торговли – 40 % и переходящих запасов – 80%). Установлено, что варьирование производства и экспорта украинского зерна (млн.т.) за 2004-2015 гг. является более высоким чем мировые показатели ($v\% = 23,7\%$ и $51,0\%$) соответственно. Анализ варьирования динамики производства и экспорта в сравнении с уровнем предыдущего года (%) продемонстрировал подобные показатели по Украине на уровне $v\% = 33,1\%$ и $101,2\%$. Установлено, что при прогнозировании может быть использована приемлемая аппроксимация показателя экспорта отечественного рынка зерна ($R^2 = 0,872$). Оценка имеющихся и перспективных направлений специализации ИП НААН (модельный объект) по селекционным объектам трансфера и их сегментов в сумме реализации выделила как наиболее обоснованные: генеральную инновационно - маркетинговую специализацию - 82,8 %; поздние яровые культуры - 64,7 % и рынок гибридов - 67,9%. На примере Института растениеводства им. В. Я. Юрьева НААН выделены и сгруппированы модельные этапы инновационной трансформации селекционной организации с государственной формой собственности по их базовому уровню, уровню прагматичности та направленности задействованных механизмов.

МЕТОДОЛОГІЧНІ ПІДХОДИ РИНКОВОЇ ТРАНСФОРМАЦІЇ УСТАНОВИ З ДЕРЖАВНОЮ ФОРМОЮ ВЛАСНОСТІ ДО РІВНЯ ОРИГІНАТОРА ОПВ

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Ключові слова: ринок зерна, оригінатор ОПВ, модельні етапи трансформації

З позицій векторів трансформації селекційної організації з державною формою власності проаналізовано напрями і характер трендів розвитку світового та вітчизняного ринків зерна. Виявлено високий ступінь регламентації і регуляції світового ринку пшениці. Коефіцієнт варіації (V%) абсолютних показників виробництва, пропозиції, споживання, торгівлі і перехідних запасів (млн. т) за 2011-2015 рр. був нижче 10 % (слабка варіація). При цьому частка істотно відмінних маркетингових років склала 60%, за винятком показника споживання (80 %). Порівняльний аналіз індикативних показників світового ринку пшениці (пропозиції, споживання, торгівлі і перехідних запасів) у порівнянні з виробництвом (%) характеризувався ще більш низьким рівнем варіації ($v \% = 1,64-2,82 \%$). Частка істотно відмінних маркетингових років за показниками пропозиції і споживання склала 60 % (торгівлі – 40 % і перехідних запасів – 80 %). Встановлено, що варіювання виробництва і експорту українського зерна (млн.т) за 2004-2015 рр. є вищим, ніж світові показники ($v \% = 23,7 \%$ і $51,0 \%$) відповідно. Аналіз варіювання динаміки виробництва і експорту в порівнянні з рівнем попереднього року (%) продемонстрував подібні показники по Україні на рівні $v \% = 33,1 \%$ і $101,2 \%$. Встановлено, що при прогнозуванні може бути використана прийнятна апроксимація показника експорту вітчизняного ринку зерна ($R^2 = 0,872$). Оцінка наявних і перспективних напрямів спеціалізації ІР НААН (модельний об'єкт) з селекційним об'єктам трансферу і їх сегментів в сумі реалізації дозволила виділити як найбільш обгрунтовані: генеральну інноваційно-маркетингову спеціалізацію -82,8 %; пізні ярі культури - 64,7 % і ринок гібридів -67,9 %. На прикладі Інституту рослинництва ім. В. Я. Юр'єва НААН виділено і згруповано модельні етапи інноваційної трансформації селекційної організації з державною формою власності за їх базовим рівнем, рівнем прагматичності та спрямованості задіяних механізмів.