PROFITABILITY OF GRAIN FARMING IN THE URALS

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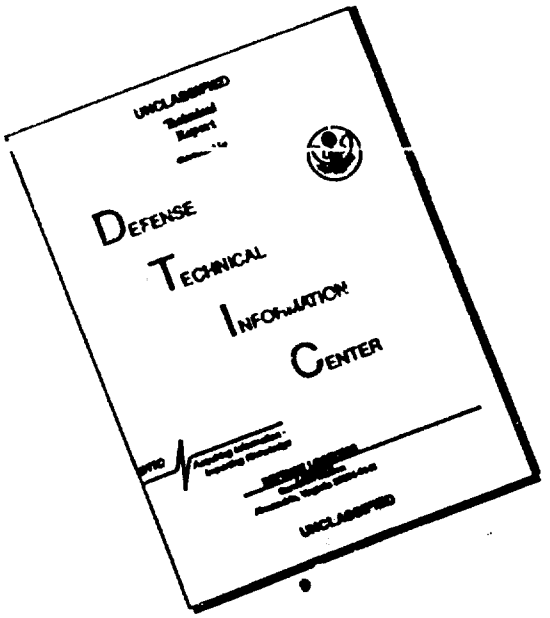

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Within the jurisdiction of the Ural'skiy Economic Region are 6 oblasts and an autonomous republic with well-developed production. Grain production is concentrated largely in the southern and central Urals.

The basic indicators analyzed in determining the efficiency of grain farming in the different zones of the Greater Urals were: man-days consumed per production unit, cost of 1 centner of grain, specific capital investment, and a synthetic cost indicator - the annual total of expenditures which includes not only yearly operating expenditures but that portion of capital investment applicable to one year as derived from the standard remuneration period (Table 1).

As indicated by the data in Table 1, the efficiency of grain farming in the different zones of the Greater Urals varies widely. It costs more to produce a centner of grain in the central than in the southern Urals since the cost of labor (man-days) is considerably greater in the former case, as well as cost of production and specific capital investment. In addition, the central Urals are not in themselves homogeneous. Grain production is more costly in the northwestern zone than in the central Urals as a whole and particularly in the northeastern regions where Sverdlovskaya Oblast is quite different from Tyumenskaya Oblast. In the southern Urals the lowest specific expenditures are found in grain farming in Kurganskaya and Orenburgskaya Oblasts.

Soil and climatic conditions are far from identical throughout the area of the Ural'skiy Economic Region. This is a basic reason for the variable efficiency of grain production since in the Urals grain farming has not been irrigated and on the majority of farms fertilizers were not applied or were used in minimal amounts over limited areas.

TABLE 1

Efficiency of Grain Production in the Urals on the Centner Basis. Average Indicators for Sovkhoz Production for 7 Years (1956-1962)

(a) Область и республика	(b) Производительность труда (затраты чел.-дн.)	(c) Себестоимость 1 ц зерна (руб.)	(d) Капитальные вложения (руб.)	(e) Приведенные затраты (руб.)	(f) Средняя урожайность зерновых (ц/га после доработки)
Column 1					
Свердловская	0,46	5,3	5,4	6,6	10,3
Тюменская	0,34	4,9	4,8	6,1	8,3
Северо-восточная зона	0,41	5,1	5,1	6,4	9,3
Пермская	0,65	6,4	6,1	7,9	8,0
Удмуртская АССР	0,61	6,4	4,7	7,6	7,6
Северо-западная зона	0,63	6,4	5,2	7,7	7,8
Всего по Среднему Уралу	0,44	5,3	5,1	6,6	9,1
Челябинская	0,26	4,3	5,2	5,6	8,7
Курганская	0,21	3,5	3,2	4,3	11,0
Юго-восточная зона	0,24	4,0	4,4	5,1	9,6
Оренбургская южная зона	0,21	4,0	4,8	5,2	7,5
Всего по Южному Уралу	0,22	4,0	4,6	5,1	8,5
Уральский экономический район	0,26	4,2	4,7	5,4	8,6

Key: a--Oblast and Republic; b--labor productivity (man-days); c--cost per centner of grain (rub.); d--capital investments (rubles); e--reduced expenditures (rubles); f--average grain yield (centner/hectare after processing)

Column 1

Sverdlovskaya; Tyumenskaya; Northeastern zone
Permskaya; Udmurtskaya ASSR; Northwestern zone
Total central Urals; Chelyabinskaya; Kurganskaya; Southeastern zone; Orenburgskaya southern zone; Total southern Urals; Ural'skiy Economic Region

Among the various elements making up the picture of expenditures on grain production through the Ural'skiy Economic Region for a three-year period (1960-1962) that of fertilizers contributes approximately 1%, while for the southern Urals it is 0.3 and in the central Urals 2% of the total operating expenses.

The total (commercial) cost of 1 centner of grain in the southern Urals during the period 1956-1962 averaged 3.8 rubles while in the central Urals it was 4.9 rubles, including 6.5 rubles in the northwestern areas. The profitability of grain production during this period was extremely varied. In the southern Urals, i.e. in the virgin lands, the profit norm was +18% while for the central Urals as a whole there was a deficit (-4%).

The profit level depends not only on the objective indicator (total cost) but on the established price per centner of grain of the base condition on which actual deliveries depend. For example, with grain having a total cost of 5.0 rubles per centner in Sverdlovskaya Oblast, the profit norm was +10% while in Tyumenskaya Oblast with a total cost of 4.6 rubles, i.e. a smaller cost, grain production was unprofitable (-9%). In Chelyabinskaya Oblast the total cost was 4.0 rubles but grain production in this oblast was unprofitable (-4%).

If we compute the profitability of grain production for all oblasts and republics with an identical price per centner (4.5 rubles actual realized price on sovkhozes of the entire Urals area during the 7-year period 1956-1962), then the picture we have for these oblasts is different (Table 2). While in the first variant grain production in Sverdlovskaya Oblast was profitable, in the second it was unprofitable. In Chelyabinskaya Oblast, on the other hand, it was unprofitable but became profitable. In the second variant the unprofitableness of grain production in Tyumenskaya Oblast was reduced by more than a factor of two. But for the larger natural geographical zones of the Urals conclusions as to the efficiency of grain production coincide for both variants. In the southern Urals grain production is profitable but in the central Urals it is unprofitable, being still more unprofitable in the northwestern zone.

Of course a differentiation in prices in the different zones and oblasts must occur. But on what must it be based?

As the result of an analysis of the efficiency of grain production we may draw the conclusion that the differentiation in prices for grain crops must be based on actual data for the total (commercial) cost of 1 centner of grain for a period of no less than 5 years in order to be able to analyze the cost elements in years with different climatic conditions. Other indicators of the efficiency of grain production (labor expenditure, production cost, capital investment, accounting expenses) must also be kept in mind. Usually these indicators are interrelated and must serve as a basis for determining the level of price differentiation for market production.

It is interesting to compare indicators for total (commercial) cost for a centner of spring wheat, determined as an average for 6 years (1956-1961), with current delivery prices for this crop in basic condition. On sovkhozes of Chelyabinskaya Oblast this cost is 3.90 rubles, on sovkhozes of Sverdlovskaya Oblast 4.64 rubles, which is 119% of that for Chelyabinskaya Oblast sovkhozes.

Consequently the differentiation in delivery prices for these oblasts must be developed at approximately the level of this interval. At the same time the actual price since 1961 as determined for Sverdlovskaya Oblast is 6.9 rubles for 1 centner of basic condition grain or 133% of the price proposed for Chelyabinskaya Oblast (5.18 rubles).

TABLE 2

Indicators of Profitability for Grain Production as an Average For 7 Years (1956-1962); Based on Data for Sovkhoz Production and Sale to the Government, etc.

(a) Область и республика	(b) На 100 руб. затрат приходится выручки* (руб.)	(c) Рентабельность или убыточность * (%)	(d) На 1 ц реализованной продукции (руб.)			(h) Рентабельность или убыточность (%) при одинаковой цене для всех областей**
			(e) полная себестоимость	(f) выручено*	(g) разница*	
Column 1						
Свердловская	110	+10	5,0	5,5	+0,5	—10
Тюменская	91	—9	4,7	4,3	—0,4	—4
Северо-восточная зона	96	—4	4,8	4,6	—0,2	—6
Пермская	86	—14	6,4	5,5	—0,9	—30
Удмуртская АССР	102	+2	6,6	6,7	+0,1	—32
Северо-западная зона	95	—5	6,5	6,2	—0,3	—31
Всего по Среднему Уралу	96	—4	4,9	4,7	—0,2	—8
Челябинская	97	—3	4,0	3,9	—0,1	+12
Курганская	136	+36	3,3	4,5	+1,2	+36
Юго-восточная зона	108	+8	3,8	4,1	+0,3	+19
Оренбургская южная зона	126	+26	3,9	4,9	+1,0	+15
Всего по южному Уралу	118	+18	3,8	4,5	+0,7	+18
Уральский экономический район	116	+16	3,9	4,5	+0,6	+16
РСФСР	129	+29	3,5	4,5	+1,0	+29

* По фактическим реализационным ценам в каждой области;
** По 4,5 руб. за 1 ц для всех областей и республик Урала. Это фактическая реализационная цена в целом по Уралу.

Key: a--Oblast and republic; b--receipts per 100 rubles spent*; c--profit or loss (%); d--per centner of actual production (rubles) e--total cost; f--returns*; g--difference; h--profit or loss (%);at same price for all oblasts**.
*Actual realized prices in each oblast;
**at 4.5 rubles per centner for all oblasts and republics. This is the actual realized price for the Urals as a whole.

Column 1

Sverdlovskaya; Tyumenskaya; Northeastern zone; Permskaya; Udmurtskaya ASSR; Northwestern zone; Central Urals (total); Chelyabinskaya; Kurganskaya; Southeastern zone; Orenburgskaya southern zone; Southern Urals (total); Ural'skiy Economic Region; RSFSR

Thus at current prices for a leading market crop - spring wheat - Chelyabinsk farms, including dozens of the largest grain sovkhozes, gain considerably less from a material point of view than their neighbors - Sverdlovsk suburban and livestock farms.

The actual realized price on sovkhozes depends not only on the established delivered price but on the quality of the grain which in turn depends greatly on how much reaches the elevators and grain procurement points directly from the harvesting crews, i.e. without preliminary cleaning or drying. It has been found that in Chelyabinskaya Oblast in past years a rather large amount of grain was transported to procurement points without postharvest processing while the latter was always practiced in Sverdlovskaya Oblast with the consequence that the return per centner was always lower than in Chelyabinskaya Oblast farms, since, in addition to natural refraction [?], sizeable monetary sums were held back for uncleaned and undried grain (at the same delivery prices up to 1961).

From the government's point of view of transportation of market grain directly from the combine to the elevator is practical for the nearest farms since there are large cleaning and drying units at the procurement points. In such cases specific conditions for the purchase and payment of grain crops must be established; this has not been done heretofore.

An analysis of the indicators of efficiency of grain production was made for the different zone within each oblast. The fact is that at present prices have been established by oblast and not natural economic zones. At the same time the oblasts of the Urals showed marked differences in soils and climates in their different zones. For instance, Chelyabinskaya Oblast can be divided into three natural zones on the basis of land forms: forest, forest-steppe and steppe. The rayons of the trans-Urals region are a transition zone toward the West Siberian Lowland toward which these rayons trend.

The location of industry creates specific economic conditions. All rayons of the mountain-forest zone of the Urals have a highly developed industry while the majority of rayons in the trans-Ural region are agricultural. Sverdlovskaya like Chelyabinskaya Oblast is also highly heterogeneous. Here some rayons are located in the taiga forest zone and others in the forest-steppe. The Ural range separates the oblast into two unequal parts, one of which is European (Cis-Urals) and the other Asiatic (Trans-Urals). Industry is concentrated largely in the mountain-forest zone of the Urals, along the crest of the Urals.

An analysis of indicators in Table 3 gives us reason to conclude that the lowest efficiency for grain production is in the mountain-forest zones of Sverdlovskaya and Chelyabinskaya Oblasts where grain production is, as a rule, unprofitable. Grain crops are also unprofitable in the forest zones and even in the steppe zone. On the other hand sovkhozes in the forest-steppe zones almost always show a profit from the sale of grain by the end of the year. Thus the differentiation in prices only at the oblast level leads to placing different sovkhozes in completely different conditions.

TABLE 3

Efficiency of Grain Production in Different Natural Economic Zones of the Central Ural Oblasts Expressed in Terms of Centners. Averages for Sovkhoz Production For 10 Years (1953-1962)

(a) Зона	(b) Производительность труда (затраты, чел.-дн.)	(c) Себестоимость зерна 1 ц (руб.)	(d) Капитальные вложения (руб.)	(e) Приведенные затраты (руб.)	(f) Средняя урожайность зерновых (ц/га)	(g) Рентабельность или убыточность (% в среднем за 7 лет, 1956—1962) по фактич. реализац. ценам
Column 1						
Челябинская	0,27	4,3	5,2	5,6	8,7	—2
в т. ч. горнолесная зона	0,54	5,7	6,4	7,3	9,4	—39
» лесостепная	0,29	3,9	5,1	5,2	10,5	+5
» степная	0,24	4,4	4,9	5,6	7,9	—9
Свердловская	0,47	5,3	5,4	6,6	10,5	+8
в т. ч. горнолесная	0,64	7,8	9,9	10,3	9,0	—17
Предуралье						
лесостепная	0,49	5,2	3,8	6,1	10,0	+6
лесная	0,57	6,4	5,0	7,6	9,0	—25
Зауралье						
лесостепная	0,40	4,4	4,1	5,4	11,8	+25
лесная	0,56	6,4	5,9	7,9	9,2	—3

Key: (a) Zone (b) Labor productivity (Costs per man-hour); (c) Cost of grain per centner (rubles); (d) Capital investments (rubles); (e) Reduced costs (rubles); (f) Average grain yield (rubles); (g) Profit or loss (average percent for 7-year period 1956-1962) based upon actual prices.

Column 1

Chelyabinskaya; mountain forest zone; forest-steppe zone, steppe zone; Sverdlovskaya, mountain forest zone; Cis-Ural region, forest-steppe zone, forest zone; Trans-Ural region, forest-steppe zone, forest zone.

Differentiation in delivery prices must be tied up with the rational location and specialization of agricultural production. In the mountain forest rayons the soils are nutritionally poor and heavy from the physical point of view, the surface of the land is highly irregular with the result that water erosion is well advanced. For this reason grain production costs more here.

During the period 1959-1962 the mountain sovkhozes of Sverdlovskaya Oblast imported concentrated feed (in exchange for grain) in a quantity twice as much as the amount of grain which they sold on the market. This crosshauling leads to large unjustified expenses.

In the forest-steppe zones the situation is quite satisfactory but for sovkhozes in the steppe zone of Chelyabinskaya Oblast it would be better to have the price established for the neighboring sovkhozes in Orenburgskaya Oblast.

CONCLUSIONS

Grain production must be concentrated in the steppe and forest-steppe zones of the southern and central Urals, i.e. largely in the regions reclaimed from virgin and fallow lands, and in addition partially in the forest plain rayons.

The establishment of differentiated prices for grain crops is practical only for the zones producing marketable grain, using average indicators of a number of years for the commercial and production cost and taking into consideration a number of economic indicators. For conditions prevailing in the Urals one must limit oneself to establishing prices not on the basis of oblasts but on the basis of larger natural economic zones within the oblasts.

Special conditions for the procurement and payment of grain must be worked out where grain is transported directly from the harvesting machines to the elevators.

Farms of the mountain zone should produce largely forage grain so as to eliminate crosshauling and avoid economic loss from grain production.