However, the method of preparation application (seed treatment, spraying) is an emergent factor in detoxification processes. During poisoning, the reduction in the content of active substances is slower, on average ten times, than during surface treatment, since not only the processes of detoxification of compounds take place, but also their translocation in the system " treated seeds → plant", which causes the constant supply of the active substance - plant toxicity.

Based on many years of experimental data on the dynamics of pesticide destruction, it was established that the dependence of the rate of pesticide detoxification (k) in agrocenosis on the value of their dipole moment (μ) is a correlation and can be described by the equation (formalized model): $k = a + b\mu$, where coefficient a depends on the features of the agrocenosis; b is a coefficient that characterizes the affinity of the pesticide with the environment and shows by what value the effective indicator (k) changes when the factorial (μ) changes per unit of measurement. Sequential modeling eventually allows to create screening models for forecasting the dynamics of pesticide detoxification in objects of agrocenosis under different technologies of their application.

Therefore, modeling the properties and behavior of pesticides in agrocenoses makes it possible to present the results in a concise form, to obtain a reliable quantitative and qualitative characteristic of the process using all experimental points of dynamics; to quantitatively assess the influence of aggregate factors on the behavior of pesticides in objects, which is the conceptual basis of the system of criteria for evaluating ecological hazards and ecological risks for the use of pesticides in agrotechnologies for the protection of agricultural crops.

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VARIABILITY OF PRODUCTION CAPACITY AND GRAIN YIELD IN MAIZE HYBRIDS

Maize occupies an important place in agriculture, due to the large areas it occupies through the production of grains, as well as through the multiple uses of corn grains in: human nutrition, industry, animal feed [1]. Therefore, the level of production and the economic efficiency of corn crops are issues of national interest. Market and consumer demands have driven maize breeding research to study the determinism of characters on grain quality and yield[3]. Improving the production capacity of corn is an objective that must be pursued with great perseverance. Factors that particularly contribute to increasing production capacity are the number of fertile plants per unit area, the number of cobs per plant, the weight of the cob, the number of rows of grains per cob, the number of grains per row, the percentage of grains per

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cob[2].

In this work we will study the productivity, shelling percentage and the weight of a thousand grains.

A number of 150 maize hybrid combinations, obtained within the Institute of Crop Science "Porumbeni", were studied. The maize hybrid combinations were classified into three maturity groups, according to tassel flowering period, the semi-early, middle and semi-late group.

For each of the combinations included in the research, the interaction with the environmental conditions specific to the year of experimentation at the Institute of Crop Science "Porumbeni" was studied, of the following characteristics: productivity, mass of 1000 kernelss, shelling percentage, the vegetation period expressed in the percentage of moisture in grains at harvest, the percentage of broken plants at harvest.

The results obtained from the research carried out allow us to analyze the correlation between grain production and the characters studied. In the set of hybrids with semi-early maturity group, 42 hybrids were included (tab.1).

Table 1: Values of average grain yield and some yield components, set of semi-early hybrids, FAO 301-350.

	minimum value	average value	maximum value
grain moisture, %	8,5	11,8	14,0
grain production, t/ha	3,62	6,10	8,46
shelling percentage, %	77,2	81,6	85,5
mass of 1000 kernels, g	175	260	325

Grain production had values between 3,62 t/ha and 8,46 t/ha, and the average was 6,10 t/ha. We can see a big difference in grain production between the hybrids studied in this set.

In the study year 2023, during the maturity period, there was practically no precipitation and respectively the humidity of the grains at harvest was low. The values obtained were from 8,5% to 14,0% grain moisture. The shelling percentage ranged from 77,1-2% to 85,5%, and the average was 81,6%.

From the results obtained in this set, we can see that grain production depends on grain moisture percentage and shelling percentage.

The group of hybrids with medium maturity included 51 hybrids (tab. 2). The hybrids studied in this group recorded a grain production with a minimum value of 3,10 t/ha and a maximum value of 9,49 t/ha.

Table 2: Values of average grain yield and some yield components, medium hybrid set, FAO 351-400.

	minimum value	average value	maximum value
grain moisture, %	10,2	12,1	13,2
grain production, t/ha	3,10	6,35	9,49
shelling percentage, %	75,3	81,1	87,7
mass of 1000 kernels, g	180	265	350

The shelling percentage ranged from 75,3% to 87,7% and the average was 81,1%. The grain moisture had minimum values of 10,2%, respectively 13,2% the maximum value. In this group we could observe that, at the maximum value of grain production, grain moisture was lower, as in the semi-early group of hybrids.

The hybrids studied in the semi-late maturity group were 54 and had a maximum production of 8,74 t/ha, and the maximum grain moisture recorded 13,0% (tab.3). The shelling percentage varied between 75,0% and 85,8%.

Table 3: Values of average grain yield and some yield components, semi-late hybrid set, FAO 401-450.

	minimum value	average value	maximum value
grain moisture, %	10,2	12,09	13,0
grain production, t/ha	3,76	6,42	8,74
shelling percentage, %	75,0	81,2	85,8
mass of 1000 kernels, g	185	270	365

The mass of 1000 kernels varied from 185 g to 365 g, and the average was 270 g. According to the results obtained from our study, we can see that the higher the values of the characters studied, the more the production of grains grow.

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EFFECT OF LOCATION ON WHEAT YIELD AND QUALITY IN THECONDITIONSOF CLIMATE CHANGE

Key words: wheat, climatic conditions, grain quality, harvest.

In global food production, wheat occupies the first place and does not give up its position. Wheat is the only crop that fully provides the human's needs in the necessary nutrients. Wheat is the basis of global food security in the world. The climatic changes that occurred at the beginning of the new century made it much more difficult to receive solid and high-quality wheat crop. Despite the fact that Georgia is the main center of wheat origin , since the 60s of the last century the country has mainly switched to the production of imported varieties. The territory of