

ANALYSIS

ACTUAL CONDITION OF THE SOWING OF GRAIN CULTURES IN THE COUNTRY

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Data have been submitted for the grain yield in our country in the years of the 21st century.

The tendencies in the yield were described so as the changes in the proportions between cultivation of field cultures and their actual part in the Bulgarian agriculture. A detailed analysis for the reasons for the good condition of the seeds of the winter wheat was performed. The preconditions for good grain harvest have been noted by professional connection between correct and opportune agronomical projects and the real influence of the nature.

During this autumn in the country there are near 14 millions decares winter grain cultures. The wheat is near 11.9 – 12.0 millions of decares, the barley takes near 1.8 – 1.9 millions of decares but the rest fields are sowed with rye and Triticosecale (till 100 000 decares) and of course 5-10 000 decares of spelt. In general the fields are approximate as such as the past 2013.

During the past years R. Bulgaria has transformed to a serious producer of wheat, rye and Triticosecale. Unfortunately the fields sowed with barley progressively decreased partially because the invasion of the colza in the country during the past 10 years partially because of the stock-breeding decreasing. Despite the economic alterations in the field culture cultivation proportions, their real part in the Bulgarian agriculture is still notable. (Fig. 1).

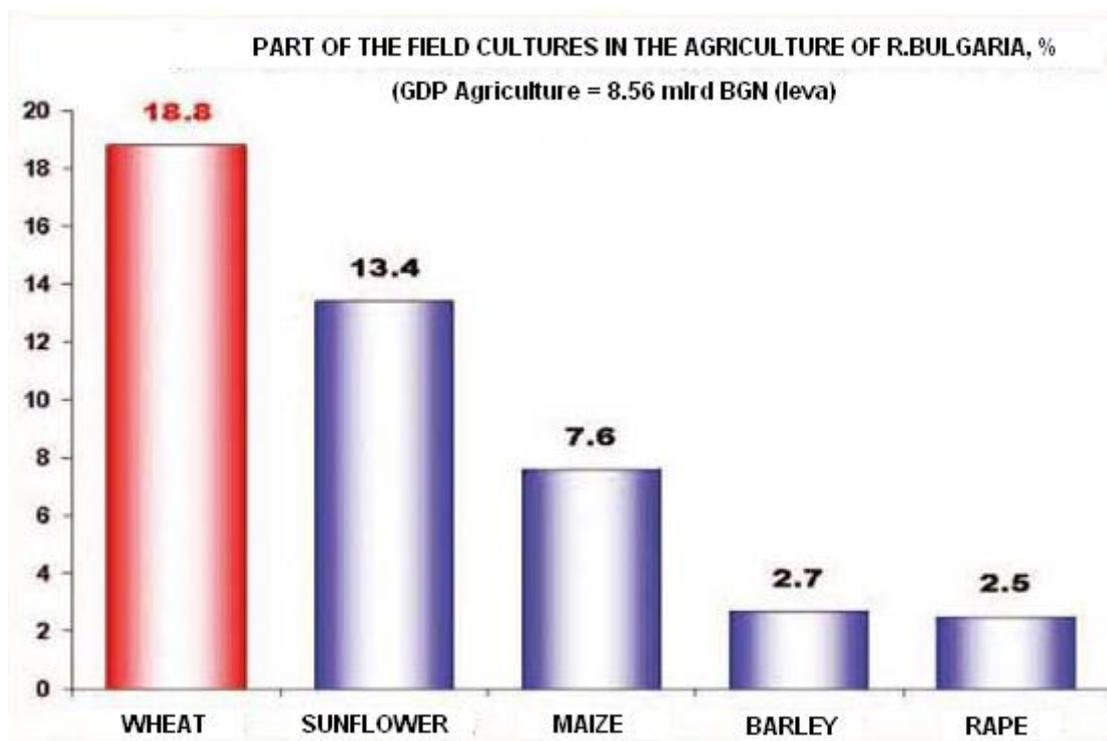


Figure 1: Part of the field cultures in the agriculture of the country

At the wheat the common yield in the country since 2008 has held back over 40 millions of tones. Slowly and gradually the wheat yield became near the level in 1989 when a historical record yield was reported on near 5.29 millions of tones. The analysis of the 30th year's data wheat yield in our country describes that at near relative field 10- 12 millions of decares, the main volume yield factor is the yield per decare. Namely its size that during the last years is permanently over 400kg/decare is the reason for this great yield.

The crops this year of all grain cultures at the moment (the beginning of March) are in good common state. Over 95% of the crops are in bushiness period. There are crops of density 4-6, which is a precondition for good economical results. The weakest crops are at the beginning of the bushiness period. During December and January there were moments of raised worry by the farmers but it past on during the first rains. At the moment the moisture of the soil is near the normal for the different climate grain fields of the country (Table 1). The moisture in the soil is significantly more superficially especially in Southern Bulgaria. There in spite of the enough rain falls (200-220l/sq. m), the soils are clay and they keep the moisture on the top which provokes floods of the terrains.

Region of the country	Rain falls mm/sq. m.		Moisture in depth, cm		Average temperature, 12 March 2014	
	2014	Normal	2014	Normal	2014	Normal
North-eastern	280	280	140	150	5.5	4.0
North-western	230	260	100	120	5.2	4.6
South-eastern	220	280	90	130	5.0	7.8

Table 1: Temperature and moisture in the soil during winter 2014 (according satellite data)

It is considered that if the autumn-winter moisture storage in the soil (1 October – 31 March) is over 240 – 260l/sq. m, this is a serious precondition for high yields from the grain cultures especially from the wheat. Factors which influence directly on the grain plants may be group by particular

environmental conditions of growth and movement, and human activity over the cultivation. For our joy the conditions in the period after the sowing till now have predominant positive influence.

First: favorable combination between the basic meteorological parameters (temperature, moisture of the soil and light) during the whole autumn period from October to December.

Second: relatively warm winter season with variable temperatures and rains, but in norm.

Third: qualitative sowing in time in time and in good moisture of the soil.

Forth: relatively suitable select seeds by cultures for similar soft winter.

Fifth: improved elements from the cultivation technology and opportunely feed. Further we will consider in short on the more important moments of these points and the accent will be set on the fields' condition from the high grained harvest's point of view.

The concrete combination between meteorological parameters provides to the grain cultures an excellent movement. The initial joint germination was attended by good cover of the soil moisture (higher than the normal for October). This provoked very quick forming of the sowings. Then followed a period in November in which the plants in the sowings tempered as notes. The normal temperatures provoked faster (30 – 45 days) reach to bushiness. Favorable combination between temperature and light provokes fast tempering of the sowings during this phase. Practically it continued almost without interruption to the middle of January at temperatures near these for rest. The wheat plants did not discontinued their growth at least several hours in one day and night which led to strong even too great bushiness in the early sowings. In the beginning of January in spite of the higher day temperatures, the grain plants almost stop to grow because of the moisture insufficiency on the top of the soil. Rain and snow falls followed in 60-120l/sq. m, which compensated the prolonged over month (from the beginning of December 2013) drying up of the top layer of the soil. As a result of this the calculated rain falls near 20 days before the end of March is almost near to the climatic norm for the third regions. A part of the farmers apply traditional treating of the seeds by leaf fertilizers which additionally influence well to the sowings to the beginning of the winter season. The used Bulgarian varieties which are the most adaptive for the conditions of the country, was a precondition for excellent temper and rest during the coldest days in the beginning of February. During the variety choice it must be considered that this combination of nature conditions as this winter is very rare. The nature has mercy on us because the temperatures anomalies during this winter were more exception than the normal (Figure 2).

These strong for the native winters great anomalies, we have to always consider during the choice of variety. It is a well-known fact that the native type breadmaking wheat is excellent prepared for these amplitudes because it is created in these conditions. A huge number of our present varieties rival in cold resistance to the Russian and the Ukraine created in more severe winter conditions. Information for this property of some of the newest varieties will be published in the next few copies of the magazine.

During February the basic feed of the sowings was executed by nitrogen fertilizers. Those farmers, who succeed till 20th day of the month to fertile, will have advantage now. In concrete situation which has already prolonged 2 weeks, rain falls (even insignificant) will trouble the execution of the project from those who did not succeed to do it. The density of the sowings is a precondition to

additional feed in the cases in which in region there are more collected rain falls – over 300-320l/sq. m. and/or was fertilized with bigger doze from the normal for the respective culture. The forecast till the end of March is favorable which means beginning of strong spring vegetation. The plants at over 11.30 hours light in the day will began quick growth and movement which will require good feed. As fast the feed is executed as tolerance the plants will be even in late spring frosts which is not excluded.

Before the permanent vegetation, it is a good idea the sowings to be inspected for problems over them. This might be injuries made by rodents, Zabrus tenebrioides (repeats) so as drag out or flood in some of the fields. During this season conditions for direct winter damages have missed but this not means that everything is over. The drag out happen every year and the sowings have to be (not readable) as earlier as it is possible without disparaging.

In conclusion we can generalize that the combination between the conditions of the nature efforts of the farmers brought to very good condition of the winter wheat at the beginning of the spring time. That's why it is necessary to execute all that follows the technology to receive adequate of this condition grain yield. We must not forget that the nature gives rarely such opportunity and we have take a maximum advantage from them.

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