The influence of dose fertilizer on the qualitative corn hybrid PR35P12

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Abstract  Corn occupies third place in importance among the world's crop. Along with wheat and barley, it is the food of most world population, directly or processed animal products.

Corn hybrids grown in Romania have been classified as the vegetation period of maturity in 9 groups (as-FAO), presenting six important groups. After we obtain simple hybrid model (HS), double (HD) and Trilinear (HT).

PR35P12 hybrid, in the study, is a highly productive hybrid and drought tolerant. Is part of FAO 490, CRM 104, a little late, with high production potential of 12-15 tones/ha. Resistance to lodging, good splitting and drought tolerance is a very important feature, that gives the hybrid a very good adaptability to different environmental conditions and a great constancy in its productions performed. The plant remains green until maturity phase.

Materials and Methods

The experimental field was located on a fertile soil, using method of randomized blocks, such as 3x4x6, in 4 repetitions with a total of 288 variants (1, 3, 4, 5, 6, and 7).

They chose three experimental versions, using different doses of NPK fertilizer and version control.

The plots have sizes of 33.6 m.

The variants studied were applied agrotechnical work: a mechanical weeding and hand weeding.

Following indices were determined quality of maize harvested in the mature phase: protein, moisture, starch and oil. For each variant, three determinations were made, taking into account the average obtained.

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Figure 1 OmegAnalyzer G™

Results and Discussions

The protein content of maize increases with fertilizer applied from 10, 3% to 12.6% in the blank sample N₁₃₅P₁₃₅K₁₃₅ (Figure 2). Humidity is maintained constant in the range 18.4 to 18.9% range (Figure 3). Maximum oil content (4.4%) was recorded for 2 using N₄₅P₄₅K₄₅ variant. Variants 3 (N₉₀P₉₀K₉₀) and 4 (N₁₃₅P₁₃₅K₁₃₅) have similar oil content of 3.7% and 3.8% (Figure 4).

Figure 2. The influence of protein dose of fertilizer at hybrid PR35P12 in 2007

Figure 3. Influence of humidity on the dose fertilizer, hybrid PR35P12 in 2007
Starch content varies not significant, variations that were used NPK fertilizer.

Maximum amount of starch were registered in version 2, N₄₅P₄₅K₄₅ (70.4%) (Figure 5).

**Conclusions**

1. Protein content of hybrid PR35P12 grows with increasing doze of fertilizer applied.
2. Content of the oil is between 3, 5 to 4, 4%, falling within the appropriate range of literature study.
3. Starch content does not change significantly, depending on the dose of fertilizer applied.

**References**
