The effect of maleic polyelectrolyte "PONILIT GT1" on soil structure at soybean crop

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The main objective of this study consists in testing the effect produced by maleic polyelectrolyte Ponilit GT1 on water stable aggregate. The solutions of Ponilit GT1 was applied to surface of a cambic chernozem with a clay loamy texture, from Didactical Station of USAMV Ia i, Ezareni Farm, 6,6 – 6,9 pH units, 33 – 34 % clay content, at three different doses: 0.3%, 0.1% and control. Changes in structural parameters such: water stable aggregate, mean weight diameter, wet aggregate stability were determined. Cambic chernozem soil structure development was evaluated by comparing the values of structural parameters treated with maleic polyelectrolyte with those untreated. The results of our study indicated that synthetic polymer had a significant effect on structural development and on structural parameters. The results obtained at 0.3% and 0.1% doses indicate increasing of water stable aggregate with values between 19 – 29% on horizon 0 – 2 cm comparative with the control, and increasing in mean weight diameter with 9.5% at 0.1% doses and 15% at 0.3% doses. The application of synthetic polymer Ponilit GT1, creates favorable conditions for seeds germination. From the point of view of climatic conditions, the area where the experience is located is characterized by annual average values between 529 – 550 mm precipitation and mean multiannual temperatures between 9.2 – 9.4 o C.