The results of each sod component from two flowering years imply the essential impact of a site on not only the weight of the tested traits, but in particular on the sod structure. In Cropping Year 1, i.e. 2007, statistically significant higher values of dried root biomass were achieved in the sites located 20 to 200 mm on the Vatín site located in the highest altitude, 560 m (Table 1) with the lowest mean daily temperature, 6.9 °C compared to other sites at lower altitudes: 429.24 g. m⁻² in Lolium perenne, 426.89 g. m⁻² in Festuca rubra, and 527.81 g. m⁻² in Poa pratensis. In Cropping Year 2, the variations in the root layer 20 to 200 mm were even more statistically significant, with up to fourfold differences among the sites. In 2008, in every type of tested stand a stagnation or even increase in weight of the root biomass occurred in the layer 20 to 200 mm on the Vatín and Zubří sites, in the driest site, i.e. Rousínov in South Moravia, the root development of Lolium perenne and Festuca rubra in the same layer even decreased when compared to the previous year, 2007. Species featuring a superannum total weight of root biomass include Festuca ovina, Poa pratensis and Festuca rubra according to Straková (2001), which was confirmed by the result history of this experiment as well. The highest mean values of the total weight of root biomass were achieved on the Vatín site in Cropping Year 2, in the Festuca rubra (1125 g.m⁻²) and Poa pratensis (1234 g.m⁻²) species.

When evaluating the residual aerial biomass, statistically significant differences among the sites in Cropping Year 2 were only found in the Lolium perenne and Poa pratensis stands; in the development of both live and withered residual aerial biomass; Tables 2 and 4. In the Festuca rubra stand, the result history does not imply any impact of a different agro-ecological site on the development of the residual aerial biomass; Table 3.