Selection criteria of wheat with respect to weed competiveness

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Weed plants are one of the main factors limiting the level of agricultural yield. Because of the availability of herbicides in the last 50 years, the competitiveness of field crops to weeds has been overlooked. The relationship between the cultured and the weed plant was supposed to be negative. However this relationship could contribute to the formation of a stable agroecosystem as the weeds can play a positive role in the agroecosystem. Modern conventional varieties are not selected in accordance with their indirect morphological or biological features; however, these features - the shape of a tuft, the length of a plant or the position of leaves - contribute to a increase in competitiveness,. Nevertheless, the competitiveness of the currently bred conventional varieties can be tested in the conditions of an organic farming system. Sufficient tillering is one of the complex of characteristics responsible for high competitiveness against weeds. The architecture of a plant has an important effect also. The taller varieties have the higher competitiveness Fast growth of the plant in the first stages of life is a very important aspect as it allows an early achievement of a high LAI value. A planofile position of leaves (>45º) in the first stages of growth assures a higher degree of coverage of the soil surface, and a deterioration in the growing conditions for weeds. An erectofile position of leaves is a more favourable feature for the later stages of the plant's growth. The competitiveness of plants also depends on the speed of collumning, LAI, capacity of the upper phytomass and the tallness of plants in the DC 31-75 stage.