Results of research of growth of a apical cone during 4th - 8th plastochrones and change of degree of development of histologic zones on an example of group of grades of the summer soft wheat differing on length of a stalk and durations of the vegetative period are resulted. The most essential increase in the sizes of a apical cone occurs at a grade to short stalk Nadadores during 4, 5th and 7th plastochrones, at early, also with short stalk Werld Seeds 1616 in 4th and 6th plastochrones. Less expressed increase of a apical cone in these plastochrones is revealed at a grade with a long stalk Saratov 36 and grades with the truncated culm Saratov 52. On the average for plastochron the greatest increase of the sizes of a apical cone is peculiar to grades with a short stalk. During the vegetative period increase of the sizes of a apical cone at all investigated grades is accompanied by share decrease tunica (L1), peripheral meristem (L2), and increase of a share rod meristem (L3). However at different grades it is shown in different degree. Most expressed a share tunica from the moment of germination kernel (in an early phase of 4th plastochron) at grades with a short stalk Werld Seeds 1616 and Nadadores. The share rod meristem at these grades is much less (8 – 13 %), than at Saratov 36 and Saratov 52 – 27 – 28 %. The Most essential high-quality distinctions in the subsequent plastochrones are observed concerning rod meristem where they reach in each of them: 4th – 20, 5th – 8, 6th – 10, 7th – 14, 8th – 15, 9th – 15 %. Less expressed high-quality distinctions in everyone them plastochroes are revealed on degree of development peripheral meristem: 4th – 9, 5th – 7, 6th – 7, 7th – 8, 8th – 4, 9th – 3 %. By the end of the vegetative period of formation of bodies the share tunica makes from 25 % (Saratov 36) to 38 % (Werld Seeds 1616 and Nadadores), rod meristem – to 53 % (Saratov 36).