

The invention relates to a method for forecasting the level of the development of quantitative characters in populations of cereal crops, including the detection of DNA-markers to quantitative traits loci (QTL's) and checking marking capacity thereof. The optimum marker test-system for a specific trait is formed according to the following principle:

- 1) preference is given to a marker of the same type;
- 2) combining the dominant markers in the same test system requires the same alleles of the marker loci to have the highest breeding weight;
- 3) combining the dominant and codominant markers in one test system requires the identity of marking allele states;
- 4) it is better to use the SSR-locus as a frame one;
- 5) splitting in a marker locus is to correspond to the theoretical one.

In an initial population a system of consolidated marker tags (CMT), which is made by integral values of all possible allele combinations of the marker loci, and of QTL's phenotypical values that correspond thereto are determined, the level of functional linkage between them is assessed by means of regression analysis. On the basis of the calculated regression coefficients, a deviation criterion of the value of a quantitative trait from the population average ( $\bar{d}$ ) and CMT of the loci of the following related population, the level of development of quantitative economic traits are forecasted for it.