LABORATORY OF SALT TOLERANCE OF WINTER WHEAT VARIETIES CHECKING CONDITIONS AND CALCULATING PRODUCTIVITY INDICATORS

Y.B.Saidkulova
Student of Gulistan State University

Syrdarya on the basis of morphobiological descriptions as research samples local Gozgon, Babur, Breeders of Dostlik, Turkestan, Omad, Bunyodkor and Russia Antonina, Zvezda and Grekum varieties created by By the scientists of Kashkadarya South Agricultural Scientific Research Institute the created Agro27 line was selected. Plant materials Experimental from the collection of salt-resistant plants genebank of the laboratory of biology received.

Effect of soil salinity on plant growth and development it is related to the amount of Na+ ion and Cl- ion in its content. Salts osmotic pressure force of the soil solution with increasing concentration causes it to increase. As a result, the roots receive the required amount of water it does not. This is a violation of physiological and biochemical processes in the plant brings The size of the leaf decreases and CO2 from its stomata the growth and development of the plant will be slow due to the decrease in its intake in turn, it leads to a decrease in productivity.

High productivity is a positive genotype and external environment cooperation. Fertility of genotypes in saline soil conditions this indicates that they are resistant to salt.

If the productivity is below 10-20%, the soil is weakly saline, 20-50% is medium, 50-80% is strong and 100% is highly damaged. (shorhok) will be salted.

Of course, damage to plants due to soil salinity depends on their biological characteristics, vegetation period and root system.

Increased sodium ion in saline soil conditions increases protein synthesis potassium and calcium, having a negative effect on the activity of activating enzymes as it causes violation of the optimal ratio of its elements. As a result This is because the plant absorbs less microelements in the soil in turn, it leads to a decrease in productivity. Soil salinity affects fertility. Research cook samples for testing salt resistance in laboratory conditions we used salt solutions with different concentrations. For this, put 30 grains of wheat in petri dishes of wheat grains under the influence of salt solutions of different concentrations viability was evaluated. Experiments were performed in 3 replicates.

In the selection and creation of salt-resistant varieties of plants. Quantitative signs are given importance. It was carried out in this direction it was found out from the research that the selection of salt-tolerant genotypes yield elements, including ear weight and ear for wheat varieties to give importance to the length, the weight of the cotton in the bag and the length of the fiber in cotton it was noted that At the same time, the planting period and rate it was determined that it affects productivity. Planting rate of winter wheat varieties Quantitative signs of growth and maturity of plants that caused an increase in the level of correlational links between was recorded.

At this stage of the research, the surface part of the seed grain of wheat sterilized with a 0.1% solution of silver nitrate for 5 minutes step was sterilized in 70% ethanol for 5 minutes and sterilized 3 times washed in distilled water. Then sterilized wheat grains through a paper filter planted in petri dishes. Petri dishes were installed in the phytotron per day in the Fitotron at a temperature of 25º C and room humidity of 40% the seeds were removed by adding distilled water to the grains. The resulting biological leaf tissues were isolated to extract genomic DNA. He took it 5 days to extract genomic DNA from plants in our research. We used the young leaves from the sprouts into 2 ml test tubes biological materials were collected. Until genomic DNA is isolated from them the test tubes were stored in a freezer at t= -20°C. Microsatellite genotyping according to the method of Reddy et al done. The studied wheat samples are each SSR marker loci were determined based on the difference in allele sizes. The obtained results genotyping was performed using GelAnalyzer software.

Microsatellite (SSR) selected according to the results of molecular analyzes between them when research samples are genotyped with markers high molecular difference (polymorphism) was found.

Polymorphism data (PIC) of analyzed microsatellite markers values ranged from 34 to 76%, with an average of 52%. In this study Among the 10 SSR markers used, primer cfd9 has the highest PIC value It has a PIC of 0.76. According to the PIC values of each marker; lowest PIC value was observed in primer gwm626 with a PIC of 0.34. Heterozygosity (He) values were similar to those of PIC. It was found that the highest He with a value of 0.79 and the lowest He value in the cfd9 primer is 0.43 value with was observed in primer gwm626.

Genetic variability in the population the most commonly used criterion for testing is heterozygosity.

The PIC value is used to estimate the degree of genetic variation in a plant can be used. If the PIC value is > 0.5, the locus is highly diverse is considered, if PIC < 0.25, the locus is considered to be of low diversity (Botstein et al. 1980; Nagy et al. 2012; Ramadugu et al. 2015 year). The average PIC value of SSR markers used in this study is 0.67 was , and the range was from 0.43 to 0.79. Therefore, this that the 9 primers used in the study were highly informative was determined. Results using SSRs are potential markers, which are resistance to salinity stress by breeding molecular plants can be used as a marker to aid selection. Hao et al. (2006) number of alleles at each locus and this suggest that the calculated PIC values of alleles be evaluated together as part of an objective assessment of genetic diversity in genotype sets did PIC values are positively correlated with the number of alleles for all genotypes because of The number of alleles at SSR markers ranged from 5 (cfd9) to 2 (gwm88), a total of 26 alleles were found with an average of 2.88 (Table 13). PIC 0.76 (cfd9) to 0.34 (gwm 626), the average PIC value was 0.69. Has a lesser allele primers were also found to have low PIC values.