

## The Genetic Stability in the Plant

Israa M. M. A. Aghwan

Department of Biology, College of Science, University of Mosul, IRAQ.

Corresponding Author: israsbio83@uomosul.edu.iq

### ABSTRACT

The plant breeder is interested in introducing genotypes with good performance under different environmental conditions. The response of these structures to changes in the environment and the consequent instability in their traits when grown in different environments is to determine the superior ones and to estimate the overlap between the genotypes and the environment from the important criteria, therefore, the performance of the genotype is tested in different locations and seasons to determine the stability of the varieties.

**Keywords-** genetic stability, gene variations CT

### I. INTRODUCTION

Genotype means many genes that are passed down from parents to offspring, and are constant over the lifespan of the plant.

We can identify plants by phenotype only and not by genotype We cannot choose it directly but we can choose it by studying the offspring of an individual and progeny testing Because the two plants have semi-phenotypic makeup of plants different in genotype like AA genotype, it is externally similar to Aa genotype if He had complete control over the allele A in the allele a. On the other hand, it gives the genotype adopted in determining the stability of wheat plant inputs as mentioned in (8) are three coefficients that include averages such as the mean of the environments and the mean of the squares of the deviation of the inputs from the linear regression and the coefficient of the linear regression of the inputs Experimental.

### II. LITERATURE REVIEW

Some plants differ in their appearance and genetics, and it has a slight difference between yellow and pumpkin, and it differs between two plants of the cucumber plant to collect them(7). And the difference that we can convert into numerical values such as weight, volume, length and volume These measurements are subject to survey analysis methods according to different scales such as standard deviation and mean variance and this difference between plants is due to one of the following sources(5)

1. Variation of alleles
2. Environmental contrast
3. Interaction of G\*E

Genetic variation means a gene that does not resemble its component of the genetic type with the other genotype, such as the difference between the flower number and the number of branches in one class with another or one species with another(11). The discrepancy is caused by genetics by cultivating some plants by semi-environmental and is controlled by the feature set of that plant.

#### *Variation of Plants Basic Materials*

The researchers relied on choosing the phenotypic traits of the traits studied always for the sake of improvement and the breeding program for the benefit of the Plant(10). From the genetic variation, it is easy and clear observation, such as: the color of the fruit and seeds, the presence of different recipes for some leaves in some variations and the absence of other varieties, while the important characteristics such as the vegetative yield, the number of branches, the height of the plant ... etc(1). In another aspect, we can recognize the environmental variation in the growth of genetically similar plants in different environments (the first is poor and the second is rich in nutrients) we will always notice a big difference in the general measurable traits (2). The environment is always different in phenotypic traits that can be measured. The environment is different and environmental factors can be external or internal.

Genetic and environmental variance is an unstable concern that cannot be separated from each other and a plant cannot be separated from its environment. This means that genetic and environmental factors are intertwined in affecting the plant, for example, the cultivar of the powdery mildew-resistant cucumber and another species that is sensitive to powdery mildew. We will see a clear difference between the cultivars and in the season being examined for the growth and development of the external disease and the genetic difference between the cultivars as well as between the cold-tolerant winter barley cultivars we can identify if the season is mild(9).

Genetic traits and their study are essential to serve the field of plant breeding. If it is self-pollination or cross-pollination, the genetic variation in plants includes two groups in traits(6).

The qualitative characters are characterized by the following:

1. *Specific:* It describes the description, not the measurement of units of measurement, for example the color of the flower, the color of the eyes...etc.

2. Their inheritance is controlled by a small number of two or more genes and, during isolates, genetic classifications (split number or genetic polymorphism).

3. The effect of the gene is very large on the character of the plant and the degree of expression of the gene for itself in the trait reaches 100%, such as: the white flower remains white because the genes responsible for this trait so that the color of the flower is more white(3).

The introduction method is one of the quick ways for plant breeders to obtain genetic diversity and obtain new and different inputs with desirable genes that contribute to improving production in terms of quantity and quality, and the first step in the different breeding program is one of the important characteristics(4).

### III. CONCLUSIONS

Many of the clear manifestations in different environmental conditions are called the level of interaction between the organism, which is necessary to reach the genetic improvement in plants and to know the difference between them, and it is important for genetic stability in order to serve the breeding and improvement programs for plants.

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