Determination the Adult Plant Reaction of Different Countries and Programmes Originated Winter Wheat Genotypes Against *Warrior* Race of Yellow Rust (*Puccinia striformis* f. sp. *tritici*)

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Yellow Rust: The Most Significant Biotic Stress of Wheat

- Yellow rust (*Puccinia striiformis* f. sp. *tritici*) is one of the biotic stress factor limiting the quality and yield in wheat and this disease could be seen nearly everywhere in Turkey.
- The pathogen migh cause an epidemic especially in cold and rainy climatic conditions. Fungicide using is one of the controlling method for this disease.
- However, it is significant to improve resistant/tolerant varieties against yellow rust since using chemicals has negative effects on environment and cause chemical-resistance in pathogen, as well it is not economically effective for farmers.

Materials and Methods

Location: İkizce Research Station of Central Research Institute of Field Crops, Ankara

10 genotypes in 1 meter row

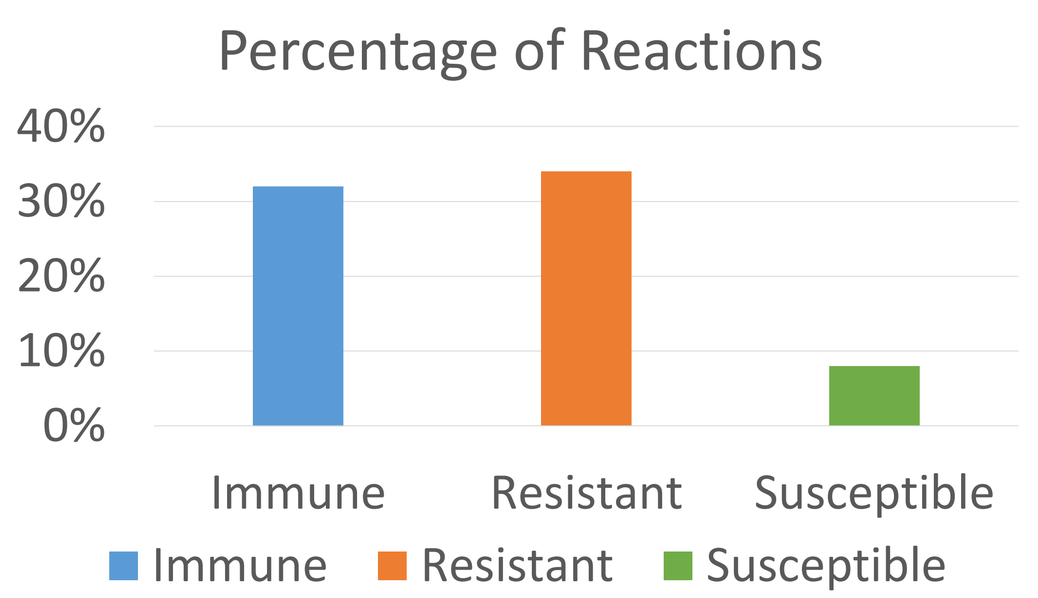
Little Club as control

Warrior race (PstS7; *1,2,3,4,-,6,7,-,9,-,-,17,-,25,-,32,Sp,AvS,Amb* effective on these resistant genes)

- When the reactions on susceptible variety reach to 90S, the genotypes has been evaluated by using Modified Cobb Scale. (Roelfs et al., 1992)

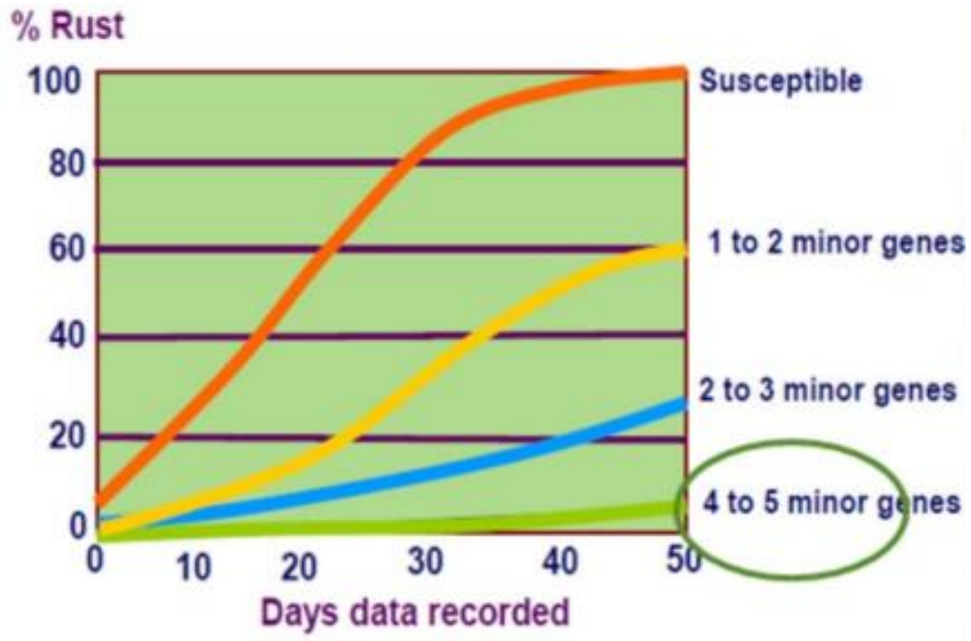
CIMMYT, 1986 (Rust Scoring Guide)

Results



- According to results of adult plant reactions, 32% of the genotypes is immune, 34% of those is resistant, while 8% is susceptible.

The Key in Durable Resistance of Wheat: Deployment of Various APR (Adult Plant Resistance) Genes



- This table shows the resistance of the genotypes containing diverse number of minor genes throughout the time. The spread of the disease is faster in the genotype(s) contatining 4 or 5 minor genes, while it is slower in the 1/2 or 2/3 minor genes plants (CIMMYT,2021).

What is the next??

- In the next step, the research will be carried out on the genotypes defining as immune. The minor gene(s) involving by those will be identified by characterizing genetically.

References

CIMMYT (2021)

Roelfs et al., (1992)

CIMMYT (1986)