The importance of quality in wheats used for the manufacture of bread flours is generally recognized. While it is true that the term "high quality" may have more than one meaning when applied to wheat, it usually refers to a wheat which produces a high percentage of flour of good baking strength. It is recognized that the commercial milling and baking tests must finally determine quality, but it is highly desirable that the wheat breeder have some means for making his head selections on the basis of quality at the time these selections are made. This would enable him to work with a smaller number of selections, and, therefore, would be less expensive than the method in which a large number of head selections are made at random and increased to sufficient quantities for the commercial test.

Grain texture in bread wheats is usually considered of great value in this connection, a hard texture usually being considered an indication of high quality. It is the purpose of this paper to discuss in a preliminary manner the results obtained with ten presumably different pure lines of wheat which were isolated from a soft strain of Early Baart on the basis of their hard texture.

Very little is known concerning the origin of Early Baart wheat. It was imported from Australia by the United States Department of Agriculture. It is said to have reached Australia from the Dutch colonies of South Africa, and its name lends some credence to this claim. Also a few years ago, the Arizona agricultural experiment station received a sample of seven heads of "O Baart" wheat from the Grootfontein School of Agriculture of South Africa and they were almost identical in appearance with Arizona Early Baart. This wheat has been the leading commercial variety in Arizona for at least ten years, and it has always displayed a type of texture known as "true softness." Since the baking quality of its flour has always been superior to that of any other variety which has been grown in southern Arizona, the Arizona agricultural experiment station has tested several pedigreed strains of this variety during the past eight years.

In the fall of 1920, a small quantity of seed was planted from a pedigreed strain of Early Baart, No. 34-14. When the grains from this sample were examined, it was found that a few of them were...