Weight per Measured Bushel Does Not Always Indicate Quality.

While discussing the question of the necessary weight in rusted grain, it should be pointed out that weight per bushel is not a sufficient indication of quality in this respect. Rusted wheat usually germinates quite well, and the reason why it is not wise to use it for seed in many cases is that there is but a relatively small amount of plant food for the use of the young plant just at the critical period of its growth, so that, should the plants meet with adverse weather conditions, such as the frost which cut down much of the wheat during the spring of 1915, it is quite likely that the areas sown with such light-weight wheat would fail to recover, necessitating re-seeding, with the consequent lateness of the crop. For this reason we believe that it is better to take into consideration the size or plumpness of the grain as well as the weight per measured bushel.

In order to compare the actual size and weight of different samples, we have adopted the plan of determining the weight per thousand grains. The following table, arranged from material grown on the College plots, with the exception of No. 1, which is wheat from a previous year's crop, presents some interesting comparisons.

Sample Number	Weight per Meas. Bus. (Lbs.)	Wt per 1000 kernels (Grains)	*Number of kernels per lb.	Approx. Grade
1	65.00	39.75	11,420	1 hard
2	58.25	26.35	17,230	2 Northern
3	56.00	18.265	24,850	3 Northern
4	52.50	20.04	22,650	No. 4 Wheat
5	47.25	14.41	31,500	No. 5 Wheat
6	40.25	11.565	39,250	Feed.
7	37.00	9.00	54,440	"

* The average number of kernels per pound is from 12,000 to 16,000.

These figures indicate quite plainly that there is no definite relation between weight per measured bushel and the number of grains in a bushel, which is really determined by the size of the grains. It is seen that sample number 3, which has a very fair weight per measured bushel, is made up of grains weighing actually less than half that of the plump grains found in number 1 sample. Sample number 2 is the best wheat from the "date of seeding" experiment conducted at the College the past summer. It is quite evident that it would not make good seed until a percentage of the poorer grains were cleaned out. The cut on page 9 shows in a more graphic manner the difference between num-