

CONCLUSIONS.

In concluding the discussion on this part of the investigation, we may endeavour to briefly answer the questions: How far does the composition of the wheats as revealed by chemistry agree with the official grading? Can we predict from such wheat analyses the quantity or quality of flour to be obtained therefrom?

We find a great similarity in composition between these wheats, especially among the higher members of the series, as regards all the more important constituents, i.e., those which affect the bread-making quality, and we should presume, therefore, that the grading has been based upon the relative yield of first quality flour (of which colour is an important factor) rather than upon the essential differences in what might be termed the relative strengths of the wheats.

As regards quantity of flour, we have shown that in such a series the weight of the kernel and the weight per bushel, and to a minor degree, the fibre, indicate the relative flour yield. Our results in these determinations are in excellent accord, supporting the supposition that the grading of the wheats has been made primarily from the standpoint of yield of first quality flour.

The percentage of protein in the wheat undoubtedly is a measure of the strength of the resultant flour, but if we except No. 2 Feed and No. 5 Frosted we scarcely think it would be justifiable to use differences in protein content such as we have met with between these wheats (frequently less than 25 per cent), as a basis for the arrangement of the wheats in their order of merit. And the same holds true for the data regarding gluten and gliadin. It is highly significant, therefore, that the resultant flours were found so uniform in quality for bread-making.

Grateful acknowledgment must be made to Mr. A. T. Charron and Mr. H. W. Charlton, Assistant Chemists, for much valuable assistance in carrying out the analytical work of this investigation.