

A STUDY OF THE RELATION BETWEEN THE
PEPTIZABILITY OF THE PROTEIN BY INORGANIC SALT SOLUTIONS,
ASH CONTENT AND BAKING QUALITY OF WHEAT AND WHEAT FLOUR.

A THESIS

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INTRODUCTION

of the many qualities of wheat flour, that design-
ated as flour strength is, perhaps, the most interesting.

from both the practical standpoint, and from the purely theo-
retical it is of first importance. To the miller and baker it
means the ability the flour possesses to make large well filled
loaves. To the chemist it means a combination of chemical
and physico-chemical characteristics of probably a group of
constituents, the sum total of which determines the type of
reaction the flour will give in its various treatments.

Flour strength as measured by baking quality is de-
finitely associated with protein content, other constituents
being equal. High protein wheats as a rule give large, well
filled loaves. But total protein content alone cannot be the
determining factor for in many cases erratic results are ob-
tained when it is used as a standard for judgment. Especial-
ly in the case of frost damaged wheats do we find high pro-
tein wheat producing poor loaves. Therefore there must be
differences in quality of the various proteins.

The term quality in and by itself whether it refers
to the physical or the chemical properties of the protein is
still a question. From the chemical standpoint, quality would
be dependent on the chemical constitution and on variation in
amount of the groups of protein present. From the physical,
it would depend only on the state of the protein particles, as
found in the flour.

As yet the chemical constitution of the flour pro-
tein is unknown. Variations in amount extracted by the com-