THE ROW METHOD AND THE CENTGENER METHOD
OF BREEDING SMALL GRAINS.

C. P. BULL,
Experiment Station, University Farm, Minnesota.
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The so-called row method of breeding is not breeding in the
strict sense of the term—it is simply selection. Neither is the centge-
ner method a method of breeding except in so far as it is accompanied
with true breeding principles, viz, the originating of hybrids or
crosses through cross-pollination. If a comparison of the two meth-
ods is to be made, it seems to me the mere selective principles are the
only ones involved, for it would be markedly unfair to expect as great
an improvement from fluctuating variations within a variety as from
variations excited or stimulated into greater activities through the in-
ternixing of the inherent forces of two closely fertilized individuals
of the same group, as e. g. in or out crossing, or from those of widely
different groups, as between two- and six-row barley, winter and
spring wheat, etc. An experiment conducted several years ago, at
the Minnesota Experiment Station to indicate the relative value of
in-crosses, out-crosses and selection gave evidence strongly in favor
of the crosses over the straight selection. And the most promising
stocks in our plant nursery at the present time are radical out-crosses
and hybrids of winter and spring wheat and barley.

The row method of selection consists essentially of gathering heads
which from external appearances seem to give promise. These may be
gathered from the field of many acres or from a carefully prepared
plot planted from seed thoroughly graded. In either event we have
only a head representative of the plant—not necessarily the entire
production of a single plant, though such might be the case. The
seeds from these heads, after due laboratory selection, are planted in
rows some distance apart. Careful identity records should be kept for
comparison or other study in future work. From these rows one or
more plants are selected. The future handling of these plants
depends upon the breeder in charge. As a rule, I believe plants are
taken from these rows for other rows the next year.

Centgener is a word coined to express the idea of a generation
from a single plant. In the strict sense it means a generation of 100
plants from a single parent. We use it, however, to designate all
of our nursery stock plantings, whether they come direct from a
single plant of from a group of plants. In any event the true
centgener will trace its inheritance back to a single plant. The first