

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED)

JOHN WELD, MANAGER

AGENTS FOR THE FARMER'S ADVOCATE AND HOME JOURNAL,
WINNIPEG, MAN.

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is published every Thursday.

It is impartial and independent of all cliques or parties, handsomely
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ties met with in practical work. At the same
time, they perceive the need and possibility of
steady improvement in farm practice, and never
cease urging it.

Hold up your ideals, and work to them as
rapidly as you may.

Aim constantly to excel past methods—to find
new and better ways, remembering that it is not
so much the having as the getting, not so much
the realization as the earnest, purposeful striving
that produces a harvest of satisfaction and de-
velops mental and moral strength.

Bleached Flour.

The artificial bleaching of flour by the Alsop
Electrical Process, or by the chemical process, has
been subjected to a great deal of criticism. It
is right that this should be so, for flour forms
such an important part of our daily food that
millers or others should not be allowed to add
anything to, or to treat flour in any way that
will simply improve appearances or commercial
value until it has been proven that such treat-
ment does not injure the flour or leave any de-
leterious materials in it. The consumers demand
a white bread; the bakers, consequently, must
have a white flour, and the miller must produce it
or go out of business. The demand for white
flour was partially instrumental in bringing the
roller-mill process of making flour, and the keen
competition among millers has led to the intro-
duction of much improved machinery, and, recent-
ly, to the bleaching process.

This process consists of passing artificially-pre-
pared oxides of nitrogen gases through the flour.
This treatment bleaches, or whitens, the flour, and
leaves in it amounts of the gases that can be
easily detected.

It is well known that there are small quanti-
ties of the oxides of nitrogen in the atmosphere,
and that when flour is exposed to light and air
it becomes whiter. This whitening of flour is
one of the results of "aging," and, from all that is
known about the matter, appears to be due to
the action of the oxides of nitrogen on the color-

ing matter chiefly present in the fat or oil of the
flour. In the artificial bleaching, the action is
apparently hastened by a larger proportion of this
gas in the air passed over the flour.

There is no doubt about the fact that these
oxides of nitrogen are very poisonous, and the
main argument against their use is based upon the
assumption that a sufficiently large quantity is
left in the flour to be harmful. In answer to
this, I can only state that, in our work, while
we could easily get the nitrite action in the flour,
we were never able to get it in the bread, and
in this respect our results confirm those reported
by earlier investigators. Apparently, the nitrite
nitrogen is either oxidized to the nitrate con-
dition, or it is volatilized. As to whether other
harmful products are formed, I may say we have
no evidence; but the fact that no injurious re-
sults arising from the use of bleached flour have
been reported, indicates that no harmful sub-
stances are formed.

Everyone who is familiar with the working of
flour knows that freshly-milled flour, especially
from new wheat, does not give as good results in
the baker's hands as flour that has been kept for
some time, or, in other words, flour improves
with age; it will absorb more water, the color
is better, the texture of the bread is more silky,
and the general appearance of the loaf improved.
If bleaching is a process of artificially "aging,"
then, similar results should be looked for, and,
naturally, the most pronounced results will be
obtained from freshly-milled flour, and especially
with the fresh flour from a new crop of wheat. It
is, then, with the new wheat each year that the
bleaching process is of most use to the miller, for
it practically, in some respects, at least, ages the
flour, so that it is more readily accepted by the
customers.

We studied the effect of bleaching the different
grades of flour somewhat fully, and always found
that the bleached patent and baker's grades of
flour made a bread of whiter color and better tex-
ture than the unbleached flours of the same lots.
The loaves, also, had a bolder, better appearance
—something of the difference that is seen between
freshly-milled flour and the same flour "aged." This
difference was more pronounced in the bread
made from the patent than in that from baker's
grade. In the case of the straight grade, the
bleaching made some improvement, but it was not
so decided as with the patent and baker's grades,
while bleaching the low-grade was without results,
unless it was to bring out the bran particles more
distinctly.

Apparently, the gas bleaches the coloring mat-
ter in the fats, but does not affect the bran. It
is true that there is more fat in the low-grade than
in the high patents, but there is so much bran
present that the whitening only tends to show up
these particles more distinctly. However, so long
as there is so much emphasis placed on whiteness
of bread, it would appear as though anything
which can be done to whiten or bleach the long
patents or baker's grade of flour ought to be an
advantage, for these flours contain more protein
and fat than the short patent, and, consequently,
ought to be more nutritious. But, our experi-
ments show that, while the baker's grade may
be made almost equal in color to the patent by
bleaching, it cannot be made into a bread of as
nice a texture as the short-patent flour.

In this connection, the question naturally
arises, "Can the miller, by bleaching, increase the
length of the patent?" From our experience, it
would appear as though he could, but always with a
decrease in the silkiness of the texture of the
bread. The lengthening of the patent would mean
selling more of the flour in the highest and most
expensive grade. On the other hand, there is no
specified proportion of the flour put in the highest
grade; that is a matter for each miller to de-
cide, and is influenced by the quality of the wheat.

It has been claimed bleached flour contains far
less water than the corresponding samples of
unbleached flour, and that, consequently, the water
absorption was higher. In all our work, we
could not confirm this point, but, rather, proved
that the opposite was true, although the difference
was very little. Nor were we able to confirm the
contention of some bakers that the bread from
bleached flour dried out more quickly than that
from the unbleached. Carefully-conducted experi-
ments proved that there was practically no differ-
ence in the rate of drying.

We find, however, that flour may be weakened
by too long treatment with the bleaching agent.
This point was very thoroughly studied, and we
secured abundant evidence to prove that good
flour may be weakened, if not spoiled, by too
heavy treatment with the gases.

The conclusions reached in our investigations
are that bleaching whitens the flour and slightly
improves the texture of the bread and the size and
appearance of the loaf. This is especially true if
the flour is made from new wheat, although the
same difference is noticeable, but to a lesser de-
gree, in freshly-milled flour from old wheat. How-
ever, when the unbleached flour has been kept for
some time the natural aging will produce all the
results of the artificial bleaching, and leaves the
flour a more desirable cream test than is found

in the bleached article. Consequently, the im-
provement noted is only on freshly-milled flour.
Furthermore, the whitening, by artificial bleaching,
a long patent does not make it as strong a flour
as a short patent. It may be equal in color, but
it has not the power to produce the same quality
of bread. Color in flour and bread has been too
long overestimated, and it is time consumers
looked more to nutritious value, even if it is as-
sociated with a slightly inferior color.

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In a magazine article on the Tariff Commission,
sub-headed, "The Natural History of a Reform,"
U. S. Senator Albert J. Beveridge, enumerating a
number of recent legislative revolutions forced
through by public opinion, against the wishes of
politicians in league with vested interests, re-
marks: "Every one of these reforms, which, when
enacted, the whole world admits to be beneficial,
and no power could overthrow, travels from its
inception to its enactment, step by step, the
exact road that I have described—violence, epi-
thets, sneers, ridicule, hesitation, grudging assent,
enactment, enthusiastic approval, and finally the
claim of original support by their original
enemies."

Especially we need in our common schools not
merely education in book-learning, but also prac-
tical training for daily life and work—[Roosevelt.

HORSES.

Classification at Fairs.

National, Provincial or semi-Provincial ex-
hibitions have a different function to fulfil than
have the district, township or county fairs. The
county, or lesser district, exhibition, with its lim-
ited finances, serves a limited area. To succeed,
and to do the greatest possible service, it must
stimulate, as far as in its power lies, every man
in its constituency. There falls within the reach
of most county agricultural society exhibitions but
few breeders of pure-bred stock of any kind; con-
sequently, prize lists must be extended so as to
reach and encourage the man who is grading up
his herds and flocks, yet in such manner as to
stimulate the desire for pure-bred animals. For
these reasons, the appearance of such classes for
breeding horses as agricultural, and roadsters, or
grade beef and dairy cattle, or grade sheep or
swine, can be excused.

But, with our large fairs the case is different.
Their constituency is sufficiently large to insure
their financial prosperity. Their sphere is very
much more largely educative; they should seek
not simply to draw great numbers of animals to
their grounds, but, more particularly, to attract
only the very best of all breeds and classes.
That the rings of some of these large fairs be
truly educative, their prize lists need considerable
overhauling. There is little, if any, justification
for providing an agricultural class in horses.
There is no such breed, and the specification that
demands a weight under 1,400 pounds, with clean
legs, practically specifies that what is desired is
the horse classified in the market as expresser or
vanner. There is no harder type of horse for a
man to attempt to successively breed, and the
kind of horses ranging all the way from roadster
to light draft, that usually answers the call for
this class, bears ample testimony to their nonde-
script nature. Another unnecessary provision is
the roadster breeding class. In one prize list, at
a fair of considerable pretensions, this class is the
only opportunity to show afforded to Standard-
breds, and in every ring, save in the three-year-
olds or aged stallions, purity of breeding was not
required. There is no Roadster breed of horses,
but there is such a market class, and, while pro-
vision might fittingly be made for them in harness,
there should be no breeding class for them at the
large show, while there certainly should be for the
Standard-breds. Good geldings make a very
attractive feature at any show, especially mature
ones. But what greater folly can there be than
to bring them into the breeding classes to com-
pete with the one, two and three-year-old fillies?
To provide for the geldings is well and good, but
surely they should be kept out of the mare classes.

Purity of breeding should be a requisite in all
breeding classes of our large shows. To leave the
Hackney female classes open to the competition
of half-breds, while it might be in accordance with
the practices of the American Hackney Horse So-
ciety, can hardly be fair to the breeders of pure-
breds, or in the best interests of the breed.

The managers of these shows have no easy
task. These suggestions are submitted with the
best of will, and with the hope of improving our
already splendid shows.