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I. III.

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ct of July 16, 1891.

Increasing Land Values.

ation is the Greatest Factor in
the Process.

cannot be too often reiterated that
argest factor in the increase of
values is the increase of popula-
and that, in a region of big farms,
adding largely on transient labor
e planting and harvesting of the
land values must inevitably re-
comparatively low. If land now
at from \$40 to \$80 an acre, in
ern and central Minnesota, is to
ed to a valuation of from \$150 to
an acre, it must be through an
ase of the permanent population.
oom for this population must be
on the land already occupied by
ig farms. It cannot live in, will
e attracted to towns, the popula-
surrounding which is not large
th to support any additional town
ess, either mercantile or manu-
facturing. The country must be made
ous before the towns will grow.

gricultural immigration worth
g can be drawn to any region
e the only lure is the promise of
or less uncertain employment as
earners on the farms, and where
migrants' families are not well-
e. The trained agriculturists from
e, who yearly flock to our shores
ndreds of thousands, stay in the
or hire out to railroads as com-
laborers, because our farmers
y refuse them a footing on the
et. Yet if the owners of our big
can only be made to realize it,
rickest way to wealth, through
in the value of land, lies in sell-
f some part of their acreage to
rant families—five or ten acres,
a cottage, to each family. A
families may thus be accom-
ed on eighty acres taken from
verage 160-acre farm. A hun-
farmers, pursuing the same pol-
ould bring an addition—counting
ersons to each family—of six
and persons to their neighbor-
hood.

This is an increase of eleven
ed per cent over the average pop-
n now occupying the one hun-
dred farms. That it would lift the
of the remaining 80 acres in each
to \$150 or more per acre, espe-
if all the farmers in a county
join in the movement, goes
t saying. Meanwhile, the money
ed from the sale of the small
invested, adds the amount of
terest to the farmer's revenue;
rowth of the near-by village is
ated by a great increase of
and an abundant supply of hap-
pented laborers is secured for
ore profitable cultivation of the
farms.—C. R. Barns, Extension
Minn. Col. of Agriculture.

Balanced Farming.

ind of Farming that Makes the
Most of the Markets.

all know what is meant by "Di-
ed Farming." Such farming, so
ted with reference to the re-
ents of the markets that each
endeavor shall bring the best
is called by a progressive
tivist "Balanced Farming." The
line of division would seem to
t between animal and vegeta-
tion. The proportion which
should bear to one another is
lly governed by the extent to
e prices for which the several
ts can be marketed. At the
of Agriculture, with a throng
sumers frequenting the dining
Principal Mayne has found that
penditure for animal foods con-
ly exceeds that for vegetable
ts. As the dining halls are in
ation, however, only during the
half of the year, the preponder-
f the demand for animal foods
obably greater than it would be
rm covering the entire year.

ll be safe to consider, however,
e American people demand of
mer a daily ration approximate-
isting of half animal and half
le food. That is the "balanced
hich the balanced farm must
Too great a weight on one
the other may result in a fall
s on the redundant side, with a
nding reduction in the farm-
fits.

eful study, then, may well be
ascertain the number of cows,
eep and fowls which should be
order to balance the production
etable grains, fruits and vege-
ables.

In a majority of cases, in Min-
it will be found that not enough
ck is kept; and that money
e made by working toward a
It is true that in some years
dition of the markets is such
ould seem a part of wisdom to
l one's resources of land and
toward a single line of produc-
t on an average covering a pe-
years, the man who supplies to
its "balanced ration" is the
o is to come out ahead.—C. R.
Extension Div. Minn. Col. of
ture.

Training School at Crookston.

A Boon to Teachers in Northwestern
Minnesota.

The Summer Training-School for
Teachers, to be held at the State
School of Agriculture at Crookston,
June 17th to July 28th, will offer un-
usual advantages to teachers in the
northwestern part of Minnesota, both
in the quality of the educational pro-
gram, and in the low cost of transporta-
tion and "board." The school will lay
emphasis on rural school work, and
especially on the industrial phases
thereof. The dormitories and dining-
hall of the School of Agriculture are
open to teachers at the low rate of \$3
per week. A trained faculty of twenty
members will present, in the work of-
fered to teachers and prospective
teachers, a wide variety of subjects.
Address "Agricultural School, Crook-
ston, Minn.," for a summer bulletin.

The Typhoid or House-Fly.

The Campaign against It Should be
Begun Early in the Year.

State Entomologist Washburn, in co-
operation with the Minnesota Board of
Health, is urging the importance of
early measures to prevent the multipli-
cation of that disease-breeding pest,
the house-fly. In the early spring the
flies are comparatively few. But "One
pair in April means millions in Aug-
ust"; hence the desirability of an
early killing.

Remember that the fly breeds in
horse-manure; in almost any moist
filth, in garbage and similar ma-
terial. Where there is no filth there
are no flies. But a single filthy farm-
yard may breed flies enough to infect
a whole village with disease, the germs
of which are carried on their feet.
These germs may be those of typhoid,
dysentery, consumption or cholera; and
the fly may have come directly from
the source of infection, to deposit them
on our food, on the nipple of the baby's
bottle, or on our spoons and forks. Fly-
borne germs thus caused the death of
5,000 American soldiers during the
Spanish war.

The first of measures to secure a fly-
less vicinage is a thorough cleaning up
of all refuse-heaps, filth of all kinds,
manure piles, garbage, old cans, bot-
tles, vaults and earth-closets. Mean-
while, put screens on all doors and win-
dows. See that all swill-barrels and
garbage-cans are tightly closed. A
spray composed of 8 ounces arsenite of
soda, dissolved in 20 gallons of water,
to which one pint of cheap molasses
has been added, may be effectively
used upon manure heaps. (Keep
chickens away from this.)

Another poison, safe and effective, is
made by adding 3 teaspoonfuls of for-
malin to a pint measure of half milk
and half water. This might be placed
in a Mason fruit-jar inverted in a shal-
low dish, and so arranged as to feed
the fluid to the dish as fast as needed;
or it might be poured into an open dish
and placed wherever flies gather. To
be kept out of the reach of children.

The Hodge Out-Door Fly Extermina-
tor, baited with bread and milk, is rec-
ommended as the most effective of
traps. It can be had of all leading
hardware men.

Cleanliness, Poison, The Trap. This
is the hygienic triumvirate which is
some day to give us the victory over
the Typhoid Fly.—C. R. Barns.

The Seed-Bed for Corn.

There is Profit in the Frequent Use of
Disk and Harrow.

The preparation of land for the com-
ing corn crop should receive special
attention. There is an absolute cer-
tainty that a large amount of weak
seed is going to be used this year, and
every possible assistance should be
given to promote its germination, prin-
cipally in the preparation of the seed-
bed.

If corn is to be expected to grow
readily, it must have a small amount
of air, some moisture, and sufficient
warmth. The proper combination of
these conditions is best obtained in a
well-worked, mellow seed-bed. Such
preparation of the seed-bed not only
conserves soil-moisture and destroys
weeds, but it also warms the soil to an
appreciable extent. A frequent use of
the harrow and the disk, previous to
planting-time, not only prepares the
seed-bed in the various ways men-
tioned, but every one of the operations
may justly be called a cultivation of
the growing crop, even though the seed
is still unplanted.

In the case of spring plowing, the
repeated use of the harrow may put
the surface in excellent condition, and
still leave the bottom of the furrow-
slice in a poorly-prepared condition.
It is much better to continue the work-
ing of spring-plowing with the harrow
and the disk, as this additional work
has a tendency to compact the furrow-
slice and improves the conditions of
growth. By all means properly pre-
pare the seed-bed for this year's corn
crop.—O. M. Olson, Extension Div.
Minn. Col. of Agr.

The Battle with the Bugs.

Helpful Pointers from State Entomol-
ogist Washburn.

Cold frames containing cabbage and
cauliflower plants should be carefully
covered with cheese cloth frames to
prevent the entrance of the fly whose
egg produces the cabbage maggot.

We may have some chinch bugs in
portions of Minnesota during the com-
ing year, although we have been prac-
tically free of this pest for three or
four years. Be on the lookout for them.

The gray and black blister beetles,
so numerous and destructive last year,
are likely to be present again the com-
ing season.

The State Entomologist is planning
a series of talks and demonstrations on
spraying in different parts of the State,
and invites correspondence from those
who think such meetings could be held
with profit in their localities.

As the time approaches when our
birds will return we are reminded of
the fact that some boys, and some men
also, appear to delight in killing rob-
ins, and other song birds which not
only please us with their songs but
are of practical utility in destroying
insects.

Valuable fruit trees, girdled by mice
or rabbits, can frequently be saved by
bridge grafting. Write the Experi-
ment Station, University Farm, St.
Paul, for directions. Such trees, even
if completely girdled, will sometimes
leaf out the first summer after the in-
jury, but they are doomed to die un-
less some such precaution as that men-
tioned above be taken in time.

The comparative merits of the lime-
sulphur solution and of Bordeaux so-
lution have been pretty thoroughly
tried out by entomologists, and the
conclusion appears to have been
reached that lime-sulphur is the best
compound of the two, not only for
winter spraying, but, in a weaker form,
for summer use as well. Arsenate of
lead mixes readily with lime-sulphur
to form a compound fungicide and in-
secticide.

In pruning fruit trees, etc., in late
fall, winter, or spring, the cuttings
should be burned, for frequently they
harbor eggs of injurious insects. For
instance, the tiny black eggs of plant
lice are frequently found on the axils
of the buds on terminal twigs, and in
the larger twigs the scars denoting
the presence of the eggs of the Buf-
falo Tree Hopper. The large grayish
cocoon of the Cecropia Moth are
easily seen at this time when the
leaves are bare, and should be re-
moved and destroyed.

The Time for Cheese-Making.

When the Cheese-Factory May Bring
Added Wealth.

Since the skim-milk is fed to live
stock, the manufacture and shipment
of butter takes almost nothing from
the fertility of the farm; while the
droppings of the cattle add continually
to that fertility. Thus the land in-
creases in productive value year after
year; until the limit of its productivity
is set, not so much by the capacity of
the soil as by the ability of the culti-
vator to properly utilize its teeming
wealth. There then comes a time
when something may be spared for
cheese-making, to a considerable en-
largement of the returns from the dairy
herd, and with no special detriment to
the future of the land; even though
the manufacture and shipping away of
cheese may carry away from the farm
a much larger portion of the elements
of fertility than in the case of butter.

The direct cash return from cheese-
making, when skillfully and scientifi-
cally pursued, is considerably larger
than from butter, since a much greater
portion of the milk is utilized than in
butter-making, and the price of the
manufactured article is almost always
higher, in comparison with the cost of
production, than that of butter. This
fact often enables the cheese-factory
to pay a higher price for milk than can
be afforded at the creamery.

The whey, which was formerly al-
lowed, as a rule, to go to waste, is now
found to have a considerable feeding
value when mixed with mill feeds or
with dry clover and alfalfa. So here is
some "return to the land," even though
such return be not equal to that from
the feeding of skim-milk.

Add to this the fact that the cost of
equipment for a cheese-factory is very
much smaller than for a butter-factory,
and that the presence in the neighbor-
hood of a much smaller number of
cows is necessary for its success in a
business way, and it will be seen that
to many a locality a cheese-factory will
be a very desirable addition. In nu-
merous places, the farmers will have
already learned to co-operate through
their connection with the creamery,
and know the value of persistent loy-
alty to the co-operative endeavor.
Hence, if they secure a good practical
cheese-maker to begin with, the diffi-
culties in the way of establishing a
cheese factory would seem to be small
in comparison with the advantages it
will bring.—C. R. Barns, Extension Div.
Minn. Col. of Agriculture.

The Cost of Keeping Horses.

It is Greatly Reduced by Diversified
Farming and by Keeping
Brood-Mares.

The cost of keeping the average
farm horse in the State of Minnesota
is approximately \$85 per year. This
includes such items as feed, shelter,
labor in caring for the horse, depre-
ciation in value, shoeing and all other
expenses. It is also estimated that the
length of time which each horse works
during the day is a little less than four
hours for a yearly average, excluding
Sundays and holidays. The double
problem now confronting the farmers
in Minnesota is: How can horse labor
be made more efficient? and how may
one reduce the cost of keeping a farm
horse?

A diversified system of farming will
have a tendency to make horse labor
more efficient. It distributes the labor
throughout the entire year, and thus
furnishes a more uniform amount of
work. Instead of working the horses
to the limit during the rush seasons of
seeding and harvesting times, the farm
will furnish an even amount of labor
each day, and increase the average
number of hours worked each day, thus
reducing the cost per hour of horse
labor.

Another means of reducing the cost
of keeping a horse per year is to keep
brood mares on the place. Brood
mares may be bred each year, so as to
have a crop of colts, and in that way
the cost of keeping the horses on the
farm will be distributed, part to work
horses and part to breeding stock.
Mares will perform the farm work as
well as the geldings, and at the same
time rear a colt that may be sold as a
draft-horse when matured, for more
money than it cost to produce him. It
is also a good plan to dispose of horses
that are growing old and restock the
farm from the crop of colts as they
mature.—W. H. Tomhave, University
Farm.

The Value of Quack Grass.

How the Process of Killing It Makes
the Land Productive.

Quack grass is not generally con-
ceded to have much value. Yet Mr.
Andrew Anderson, of Russell, Lyon
County, Minn., is no doubt at this time
a strong advocate of its merits. In
1910 he had a field badly infested with
quack grass, and started in to erad-
icate it. He followed the method of
thorough cultivation throughout the
season, and was not only successful in
getting rid of the quack grass, but suc-
ceeded in leaving his soil in such fine
condition, both as to tilth and moisture
content, that in 1911 he harvested from
this old quack field a 60-bushel crop of
oats; while his neighbors, on land han-
dled in the ordinary way, were getting
yields of from 20 bushels down to noth-
ing.

It will be remembered that in 1911
southwestern Minnesota suffered very
severely from drought. The thorough
tillage necessary, in 1910, to kill out
the quack grass, must have been so
effective in conserving the moisture, as
to enable Mr. Anderson's plot of ground,
inspite of the drought in 1911, to pro-
duce this very satisfactory yield of
oats from moisture stored in it.

This example would seem to be an
illustration of what Minnesota holds in
store for any tiller of the soil who will
practice thorough methods of tilling;
and it certainly illustrates the fact that
the dry-land methods of agriculture
are not entirely out of place in Minne-
sota. In fact, it is quite certain that
if dry-land methods were practiced
here, where we have normally a suf-
ficient rainfall, immensely better results
can be expected than in the semi-arid
districts where this method of culture
is practiced.—A. D. Wilson, Supt. Ex-
tension Div. Minn. Col. of Agr.

Travels of a Farmer's Wife.

Long Journeys which Contrivance
Would Render Needless.

A walk of twelve feet and back,
across living-room or kitchen, twenty-
two times repeated, makes a mile.
Repeated thus often every day in the
year—as happens with hundreds of
farmers' wives—it equals a journey
of 365 miles in length and in the
strain it puts on the woman's strength
and energies. Furthermore, it is sel-
dom that the woman traverses the
distance empty-handed; she carries
pails of water or milk, loads of dishes,
baskets of supplies, often the baby.
Supposing her average load on these
short trips to be only ten pounds, it
amounts in a year to over forty tons.
When to these in-door journeys is
added the frequent trip to the distant
well—still too often demanded, even
in the presence of cheap methods for
supplying running water in kitchen
and bath—the wonder is that the wife
and mother "lasts" as long as she
does. Why not, where such avoid-
able journeys are endured, try a lit-
tle planning and re-arrangement—al-
most always practicable—which may
reduce the in-door travel to one-half
or even one-quarter the present
amount? Why not, above all things,
at once set about bringing the well-
water into the house?—C. R. Barns.

The Corn-Growing Contest.

Value of the Grand Effort Minnesota
Boys are Making.

Few people realize the value and ex-
tent of the boys' and girls' Corn-Grow-
ing Contest, being conducted by the
Agricultural Extension Division this
year. This contest was organized (1)
to encourage the boys to learn the best
methods of corn culture, (2) to show
how many bushels of corn it is possible
to raise in every district in Minnesota,
and (3) to show that our soils can be
made to produce more corn than they
have been producing. The boys who
enter the contest agree to raise one
acre of corn themselves, doing all the
work. They agree to study and prac-
tice the very best methods of corn-
culture, and to keep a record of all
operations. There is a great educa-
tional value in this.

At the same time, each boy will be
doing a service for his community. His
neighbors, when they learn that he is
trying to set a record for corn-produc-
tion, will be interested in the outcome.
They will be present, the day the yield
is to be checked up by the committee
in charge, to see how the plot turns
out. Each contestant will thus become
a real demonstrator for his district. If
he secures a high yield, others will
copy his methods of corn-production,
and he will stimulate an interest in
corn-growing.

In recognition of the service rendered
to his community and to the State,
each boy who competes in the contest
will be awarded a gold-plated badge
entitling him to membership in the
State Junior Crop Improvement Club.
Boys securing the highest yields will
be awarded cash prizes. The grand
champion corn-grower of the State will
receive a year's scholarship, valued at
\$200, at the School of Agriculture. The
prizes are worthy of great effort.

Already nearly 1,000 boys and girls
have enrolled for the contest; 58 coun-
ties of the State being represented.
One thousand acres, planted by boys
in corn demonstration-plots, will exert
a tremendous influence for more corn
in this State. Everyone should boost
for this contest. Give the boys a
chance to show what they can do. It
will soon be too late to enter. Boys
should send their names to the Exten-
sion Division, St. Paul, for further par-
ticulars, at once.—J. B. Lamson.

A Dairy Record Contest.

The Minnesota State Dairymen's As-
sociation is offering prizes this year to
the boys and girls under 18 years of
age, who can keep the best records of
the dairy herds at home. Records
must show the amount of milk and but-
ter-fat, the value of the butter-fat, the
cost of feed and the net returns from
each cow. Each contestant must keep
records on at least six cows for six
months. Fifty dollars in cash prizes
will be awarded for the best records.

The purpose of the Dairymen's Asso-
ciation in offering these prizes is to
interest the boys and girls in the dairy
industry and to bring about improve-
ment in our dairy herds. Such a con-
test will help to eliminate the unprof-
itable cow. Boys and girls should be en-
couraged to enter. All records should
be sent to Mr. F. D. Currier, Secretary,
Nicollet, Minn., before January 7, 1913.
All inquiries in regard to the contest
should be sent to the Extension Divi-
sion, University Farm, St. Paul.

To Editors.

The University Farm Press News
is prepared with a sole view to the
use of the matter in its columns by
the editors of Minnesota papers. It
has no subscription list, and is not
sent to farmers. The endeavor is to
fill its five columns with short
articles relating to various phases of rural
life and industry—articles which
every intelligent farmer will read with
satisfaction, but which we want him
to read in your paper, not in ours.
You are at liberty to use the articles
with or without credit or name of
author—as editorial or as clippings,
just as you may prefer.

The four factors which must be
chiefly depended upon, if the produc-
tivity of Minnesota lands is to be in-
creased, are (1) a liberal and per-
sistent use of fertilizers; (2) the care-
ful selection of seed, which, if per-
sisted in year after year, will of itself
result in a great increase in yield; (3)
a systematic rotation of crops; (4)
better cultivation and tillage. The
first of these factors involves the keep-
ing of all the live stock possible, and
the saving of every particle of manure.
Add to this the frequent plowing un-
der of green crops, and the enrichment
may equal, on Minnesota soils, that at-
tained in Europe and elsewhere by the
use of artificial fertilizers. The cost
of such fertilizers is always to be
taken into consideration in comparing
the production of European with that
of Minnesota lands. The importance
of seed-selection is now fully recog-
nized. This and the other two factors
are within the control of practically
every farmer bent upon securing a big
crop.—C. R. Barns.