

turning up a crop of weeds with plow to grow up with the turnips. We also think it is a mistake to make drills too high and would advise any one sowing rape to work land and drill shallow as for turnips and seed thinly.

In these days of low prices for grain and dirty farms, I would advise every farmer who keeps much stock to sow rape. If you cannot afford manure for it it will grow without. I have grown rape over 20 years with very gratifying results. I also think it is a mistake where a farmer has no manure but what he makes on his farm to put from 20 to 30 loads per acre for roots or any other crop. I think by applying less and going over the farm often we will get better results on the whole.

I am highly pleased with the *ADVOCATE*, especially so the last few months. T. BAKER.
Durham Co., Ont.

A Good General Stock Barn.

The new stock barn of John Jackson & Sons, the well-known breeders of Southdown sheep, illustrated from a photograph (taken from east view), is of decidedly modern pattern. It is roomy, convenient, well lighted and airy. The basement is built of quarry stone 18 inches thick. The buildings in all contain 3,250 feet of timber, running measure; 70,000 feet of lumber, and one ton of wire nails. The roof is shingled with pine shingles. The barn is 44 x 84 feet on 9 foot wall pointed with colored mortar. The corner posts are 20 feet and hip posts 32 feet. The sheep pen is 24 x 56 feet and the implement and vehicle house is 26 x 30 feet.

Fig. 1, represents the plan of the upper or barn floor. The end bents of the main barn are used for hay, filled with a horse fork. The grain is put in next the drive floor by means of a rack-lifter arranged from an original design. It elevates the load 26 feet high. The pole that carries the rack up slides up grooves so that the load never swings. The load can be stopped at any desired height. The loft above the sheep pen is filled with hay. The granary is finished with hard maple and is thus rat-proof. S 1 represents the chute into the horse stable for putting down straw; S 2, high chutes for ventilation and putting down hay; S 3, straw for cattle; S 4, roots; S 5, straw or hay; S 6, for straw or hay into sheep house and for ventilation; S 7, feed for sheep.

The basement plan represented by Fig. II, is made quite understandable in the figure. It is ventilated by the chutes leading up into the barn and by the windows, each of which have eight 10x10 inch lights. D represents doors, W windows, W A water trough. The water is pumped into a six-barrel tank by a Challenge windmill. The tank house is seen beneath the windmill to the left of illustration. The water runs from the tank to troughs through underground pipes. Horses and sheep have the water inside. The cattle have to go out into the yard for their drink. H S represents horse stalls; C, double cattle stalls; B S, box stalls; B S C, box stalls for calves; F P, feed passage; B, bridge; S, stair; A A A, boxes for grain, connected with bin above; M R, movable racks in sheep houses. The sheep yards extend out a considerable distance, allowing exercise *ad libitum*.

Root Growing at the Central Experimental Farm.

To the Editor *FARMER'S ADVOCATE*:

Sir,—I have read with a great deal of pleasure and profit the valuable articles on growing roots, and would like to give my experience if space will permit. My first move is to select soil suitable. Carrots and mangels do best on a good sandy loam. Turnips require a heavier loam, tending to clay, and both should be well drained.

1. *Manuring*.—Apply about 20 tons per acre and plow under in the autumn. It may also be applied during the autumn and winter before any snow falls. As soon as the snow comes it should be left in small piles and spread in the spring, providing the straw has been cut when used for bedding, as the long straw will interfere with drilling and cultivating.

2. *Seed*.—Mangels, 4 to 5 lbs.; carrots, 3 to 4 lbs.; turnips, 3 to 4 lbs. I use plenty of seed; have some for cutworms and turnip fly if there be any, if not it is an easy matter to thin them out. [When land is in proper condition one pound good turnip seed is sufficient.—Ed. F. A.] Make drills 24 inches apart for all roots; and roll the drills down with a land roller before sowing. This is a very important point for several reasons. Carrots, 4 to 6 in.; mangels, 8 to 12 in.; turnips, 8 to 12 in.

3. *Germination*.—Test your seed in a small box during the month of March. Plant in straight rows so that they can be counted, or a better plan is to send a small sample of each to the Central Experimental Farm, Ottawa, and have the germination tested there. Time for sowing carrots and mangels from 5th to 10th May.

4. *Cultivation* may be profitably sown or better

transplanted in blank spaces. But where drills are two feet apart, and the proper amount of seed sown, you will very seldom have any blanks to fill.

5. *Preparatory Cultivation*.—For sowing turnips, carrots or mangels, select a meadow that has been down two or three years, plow very shallow, harrow and roll as soon as possible after the hay crop is off in the autumn; if you have the manure apply it and plow again, leaving soil well set up until spring; plow again and harrow before making the drills. For sowing turnips in June, select a field with soil suitable—that requires cleaning, and has had the usual amount of clover sown the previous year; leave until about 30th May, when you will have a heavy growth to plow, using a chain to cover the clover; next roll with a heavy land roller, disk harrow thoroughly up to about 12th June, then make your drills two feet apart and sow.

6. *Pumpkins*.—Have grown pumpkins along with hill corn. Plant in every second hill and every second row. Plant just after the corn is up and has been harrowed; press the pumpkin seed in beside the hill with the thumb. I have also many times planted white beans in the remaining hills and had excellent crops. Pumpkins may be profitably fed to cattle raw after removing the seeds, also to hogs when boiled after the seeds are removed.

7. Have not grown rape, but will coming season.

8. *Carrots*—Mammoth White Intermediate, Improved Short White, Iverson's Champion, and there are several other short white varieties equally as good. For red carrots, Guerand, Ox Heart or Early Gem. *Mangels*—Mammoth Long Red. *Turnips*—Purple-top Swede, Rennie's Skirving, also Champion and Lord Derby.

Now, sir, if you will allow me to add a short note, which is of as much if not more importance than any of the former. The first day you can see the roots up in the rows, and the soil dry, pass a

evincing no notion of germination whatever till the first rains came about June 15th. As this was practically equivalent to sowing on that date, of course it resulted in my first venture at wheat growing in the N.-W. as a discouraging failure—the crop being frozen. Although there was plenty of it, I noticed, however, that in a low portion of the field, where it was so extremely wet and boggy at time of sowing that I never expected it to come up there, the wheat was magnificent, ripening in good time before any frost. This convinced me that the field would have been all like this had the seed been put down to the moisture, so that germination would have ensued immediately.

Profiting by this lesson, in the following year ('84) I had a fine crop of No. 1 hard wheat, yielding 32 bushels per acre. Notwithstanding this success, I still felt that a sole reliance on the production of one crop (wheat) in a country where it got so dangerously cold in August was an extremely precarious method of farming, so I shipped up from Ontario a car of settler's effects, including a team of working horses, eight good grade cows, one Durham bull, six sheep, one pig, and twelve hens. With such an equipment, I fancied I was "heeled," but alas! man's wants never seem to be satisfied. What use were all these cows, I reasoned, with no provision for utilizing their products? The sheep, too, persisted in wandering away at lambing time, and if I left home for a day the old sow was sure to be hoeing up the garden on my return, and so it gradually dawned upon me, for the first time, that it was not good for man to live alone—especially on a farm—so I got married. It is quite possible to "batch" and farm successfully, but such success is bought at too dear a price for me.

In those early years, hay, pasture, and water were so abundant that stock of all kinds grew and thrived like weeds. My herd of cattle soon increased,

and the products therefrom enabled me to get a start and keep out of debt until such time as I could gradually buy the necessary machinery and bring more land under cultivation. The dry seasons of '86, '87 and '89 which followed introduced a new condition of things. The ponds went dry, and with the water the once abundant supply of native hay disappeared, the country had settled up thicker and this necessitated the herding of our cattle. To aggravate the difficulty the price of butter and beef in the meantime had greatly declined. All this tended to make the stock industry less profitable and to turn our attention more and more to the products of the field. Besides which the superior quality of the hard wheat grown in the Qu'Appelle district ensured for us a brisk cash demand for all that article we could produce—what could then be said of no other staple product of the farm. Thus we saw ourselves gradually drifting away from that supposedly ideal system of husbandry known as "mixed farming," to be producers of wheat only, for the good, and, I think, sufficient reason that under the altered circumstances to which allusion has been made wheat was the only product one could rely on to raise ready money with; in fact, if a note or any debt had to be met on short notice, it was always the wheat bin that was looked to to relieve the pressure. Remember, I have nothing whatever to say against the principle of mixed farming. It is quite as good in practice as in theory, provided the conditions favorable to its realization are present. But it would be no more foolish, for the sake of carrying out a theory, to attempt the successful cultivation of wheat out on the western cattle ranches than it would be to attempt in a wheat district to profitably engage in dairying or beef production, with no hay or water for miles around.

But wheat was not allowed to remain sole king in many farmers' minds for very long. In 1894 the price of No. 1 hard dropped to 40c., and although those unencumbered by old debts could produce it even at that low price at a small margin of profit, still many who had gotten behind in the early years found it up-hill work to live and pay debts on wheat at that figure. The prices of '95 and fore part of '96 proved little better. Fortunately good crops prevailed, as a rule, during these years, or the lot of the average wheat grower would have been anything but an enviable one indeed. What was to be done? I could never see any money in hogs under 6c. (even with wheat so cheap), and dressed pork was only 5c. then. Besides, dairying and hog production should go hand in hand or else the latter will be comparatively unremunerative. I had already tried cattle, and was obliged to abandon them through force of unfavorable conditions. Could these conditions be so artificially changed as to admit of dairying and other kindred pursuits? The lack of water and hay were the two great obstacles in the way. I found on inquiry that the Moose Jaw farmers got over the water difficulty by excavating large reservoirs in blind sloughs or other depressions. These were fenced with rails to catch the snow, which, on melting in the spring, gave them an abundance of water the year around. I tried this plan and found it entirely successful. Then, as for the hay problem, two years ago I seeded



JOHN JACKSON & SONS' STOCK BARN, WENTWORTH CO., ONT.

hand wheel-hoe along every drill, loosening both sides at once very close to the row, allowing the air to get into the hard-packed drill. I have often found it best to pass over them twice before the plants are high enough to use the horse cultivator. Right here is where so many fail in growing roots: they allow the plants to get high enough for the horse cultivator to work and at the same time the weeds have not been asleep; therefore it costs three times the amount to hoe and clean them, besides the great loss or drawback in growth. By this plan of close cultivation we very seldom have to hoe more than once after thinning. Keep on there be weeds or not as long as you can get through the rows, and in no case allow the soil to roll against the roots, as covering the roots will stunt their growth.

JOHN FIXTER,
Farm Foreman.

A Successful Pioneer's Varied Experiences.

"LABOR UNLESS INTELLIGENTLY DIRECTED IS COMPARATIVELY UNPRODUCTIVE."

Sir,—Were I to relate all my pioneer experience at farming in the N.-W., I fear I would have very many foolish and unprofitable ventures to narrate. However, as other people's blunders are frequently quite as useful as their successes in helping others travelling over the same road, I submit the following brief summary of both:

Located here in 1882. I built a house and stable, and prepared 20 acres of backsetting for the coming spring sowing. Owing to my inexperience in prairie farming, and there being no older settlers in the district from whom to seek advice, the seeding of this 20 acres was gone about after the usual fashion in Ontario; that is, waiting till the soil was dry and mellow, then harrow down thoroughly, de-like surface. Imagine my surprise when I found on examination that the wheat kernels, with few exceptions, remained in the soil as dry as shot,

down I
duced
that gr
hay, bu
that th
mixed
but als
last se
good st
(have b
stone s
structu
building
(estima
and hav
that pu

All
ficklene
of any
prosper
here m
changin
and bet
I have
carefull
chances

1. In
paying

2. Ma
tillage,
district

3. Pr
pay goo

4. K
the farm

6. Ta
will req
farm.

7. Se
debts.

8. Do
endured

9. Re
free of v
ing once

10. T
ble insti

That
out sayi
progress

compar
slaving

If man v
oftener

enjoy lif
tions an

tion, es
agricult

would u
many fa

ing into
and poss

regard f
this wes

many di
With

ural dis
practica

least of
moved,

distant
prosperi

advance
tone in

dence pe
suggesti

stance fr
the vacu

bought
quarter-

during t
up with

idently f
will be

its draw
There a

Should r
planting

while no
certainly

towards
Abern

As a
er shoul

cover to

lima bea

shells of

their wa

is packe

inch at r

Care

should b

beets, c

wasting

with sh

more ea

and the

long row

Phospho