

the growth of crops other than grain, which give the greatest profit when raised on a large scale on new and comparatively cheap land.

It appears, for example, that the average crop obtained from an acre of potatoes in Germany is worth about \$40, and from an acre of sugar beets \$55, while wheat yields only \$29, and rye \$21 per acre. In France, the acre value of hops reaches \$153, of tobacco \$93, and of sugar beets \$47, against only \$21 per acre for wheat. In the Netherlands, the gross return per acre of wheat, \$26, is far overshadowed by the returns from tobacco, \$213, potatoes \$74, and sugar beets \$52.

Wheat bread is increasing in use much faster than rye bread. For all Europe, the annual per-capita consumption of rye twenty years ago was a trifle under 3½ bushels. It is now just over 3½ bushels. During the same twenty years the wheat consumption increased from 4 to more than 4½ bushels a year for each inhabitant. Only Russia, Germany, the Netherlands and Scandinavia now use rye more largely than wheat.

The rye acreage has been practically stationary. Twenty years ago Europe had 5,000,000 more acres under rye than wheat. To-day the wheat acreage is greater by 22,000,000 acres. In the East, wheat is the great money crop, grown principally for sale abroad, while the Russian peasant contents himself with rye-bread, and the farmer in the Balkan States with corn "mama-liga."

#### OLD BARN RECONSTRUCTED ON PLANK-FRAME PRINCIPLE.

Editor "The Farmer's Advocate":

As you are now discussing barn plans and construction in your columns, possibly some of your readers would be interested and benefited by a recital of my last year's experience in building.

Among the first outbuildings erected on this farm were some open sheds 24 feet wide. About thirty years ago one of these was raised, and a stone stable put under part of it, making in all a barn 86 x 24 feet, with one drive floor, and a stable about 50 x 24 feet. The posts were 16 feet long, and the roof about one-quarter pitch.

Last summer I tore down the whole building and built it up again, 14 feet wider than before, putting a modern stable under the whole of it, and, with a view to save time and money, I devised the accompanying plan of construction for the barn frame. The undotted lines show one of the inner bents, while the dotted lines show the beams (B), and the girts (G), on the end bents. The posts (P) and the lower rafters are those of the old barn, while the upper rafters are new. The braces (a) are of 1 x 4-inch spruce, 10 feet long, and are nailed firmly on both sides of each pair of rafters. The braces (b) are of 1 x 5-inch spruce, and are nailed onto each post, either on one or on both sides, according to the position of the rafter nearest the post. Short braces (m) are nailed onto each joint of the rafters to stiffen it. (R) is an inch iron rod, supported by twisted No. 9 wire (W) to the hip of the roof. There are four of these rods in the barn, one on each side of each driveway. The braces (p) are placed at the foot of the posts, and spiked to joists or cross-beams. Some of these braces are omitted, where they would be in the way, and in the center three bents are braced by the granary.

So far, I have found this frame very strong, very capacious, and very economical of material. The rods on each side of each driveway are not at all in the way, and the three mows—one at each end, and one in the center—are free of all obstructions from floor to roof. The lower rafters, rising 10 in 8, scarcely diminish the mow space until one gets up to the hip. And, by describing a semicircle on the line, U V, it can be seen how closely the roof arch corresponds to a semicircle.

The above-described construction is, I think, very satisfactory and economical for one who has an old frame to remodel. Of course, the plank-frame proper is cheaper if one has to build anew, but, in utilizing old material, this one has distinct advantages. In conclusion, I would give a word of caution to prospective builders: Make the end beams and girts strong and stiff; otherwise, the contents of the mow will spring the ends out.

I should be pleased to give more detailed information if any of your readers care to apply for the same. W. C. GOOD.

Brant Co., Ont.

#### THE BOUND VOLUMES AN ENCYCLOPEDIA OF AGRICULTURE.

My father, who died in January last, had carefully preserved every number of "The Farmer's Advocate" for 30 years. They form many bulky bundles now, but are of great value, as they are almost a complete encyclopedia of agricultural information. In looking over them, one can trace the progress of Ontario in the science of farming. J. E. BENSON.

Prince Edward Co., Ont.

#### TANNING SKINS.

Editor "The Farmer's Advocate":

I saw in your paper someone asking for a recipe for dyeing pelts and tanning. I have one I am sending you. I have tried the tan on a calf skin and a dog skin, and both proved very satisfactory. I have never tried the dye, but think it would be all right. We are well pleased with your paper, and think all farmers should take it.

WILLIE GARDENER.

Simcoe Co., Ont.

Following is the description sent us by our correspondent, reprinted substantially in full:

To tan skins conveniently, a fleshing beam is necessary. To make it, take a fine-grained hardwood slab, about 5 feet long and 10 to 15 inches wide, as in Fig. 2. Have the round side up, and put in two legs 2½ feet long and 1 foot from widest end, letting the other rest on the floor. Make the top surface smooth. A good fleshing knife, such as that seen in Fig. 1, may be made from an old drawing-knife or piece of scythe, by grinding the edge down to a face about a thirty-second of an inch. This will give two edges to work with by reversing.

Before tanning a skin, soak it well in a mixture made as follows: Take 4 gallons cold soft water, half a pint soft soap, half an ounce borax, half a pint salt, mix, and immerse the skins. If



Fig. 1.—Fleshing knife.  
Fig. 2.—Fleshing beam.  
Fig. 3.—Tub for soaking skins.

skins are to be tanned with the hair or wool on, add three-fourths of an ounce of sulphuric acid. Soak from 2 to 6 hours. After soaking, if the hair is to be removed, put the skins in a liquor composed of 5 gals. cold water, 4 quarts slaked lime, and 4 quarts hardwood ashes. Let soak in this from one to six days, until the hair can be easily removed. Then put skin on the fleshing beam and scrape well, taking off all particles of flesh with the fleshing knife. Now remove skin and wash thoroughly in cold water, and scrape off all surplus water with the knife.

Next, place skins in a tan liquor made as follows: To 8 quarts cold soft water add one-fourth of a pound of pulverized oxalic acid, and one quart salt. Dissolve well, then put in the skins, covering them well with the liquor. Leave light skins in this from 3 to 4 hours; heavy ones, such as calf skins, etc., should be left 48 or more hours, or until tanned through, which can be told by cutting on the neck, the thickest part of the skin.

If it is required to have the skin extra soft, the following liquid should be applied to the skin

after removing from the tan: One pint soft soap, 1 pint tanner's oil, or neat's-foot oil, 1 pint alcohol. Let dry in, then dampen with the mixture again to finish.

As all skins, when drying, full up or contract, it is necessary to stretch them in finishing. To do this, take the skin before it is thoroughly dried, and place it upon the beam over some yielding substance, or a sheep skin, flesh side up; then take the fleshing knife and carefully push the edges of the blade over it in all directions until it is stretched, soft and pliable.

Last of all, rub the fur well with a mixture made of equal parts bran and clean white sand or sawdust. Shake out, and the work is done.

To color fur or wool buff color, take equal parts pulverized, unslaked lime and litharge, mix to a thin paste with water, and apply with a brush. By using several coats, a brown tint is produced. To dye black, add a small quantity of ammonia and nitrate of silver.

To color orange on wool of sheep skins, wash out all grease from the wool, then take an ounce of picric acid to each skin; dissolve in soft, luke-warm water, enough to cover skin, and add alcohol or vinegar to set the color.

#### SEASONABLE HINTS FOR MARCH.

By John Fixter, Farm Superintendent, Macdonald College, Ste. Anne de Bellevue, Que.

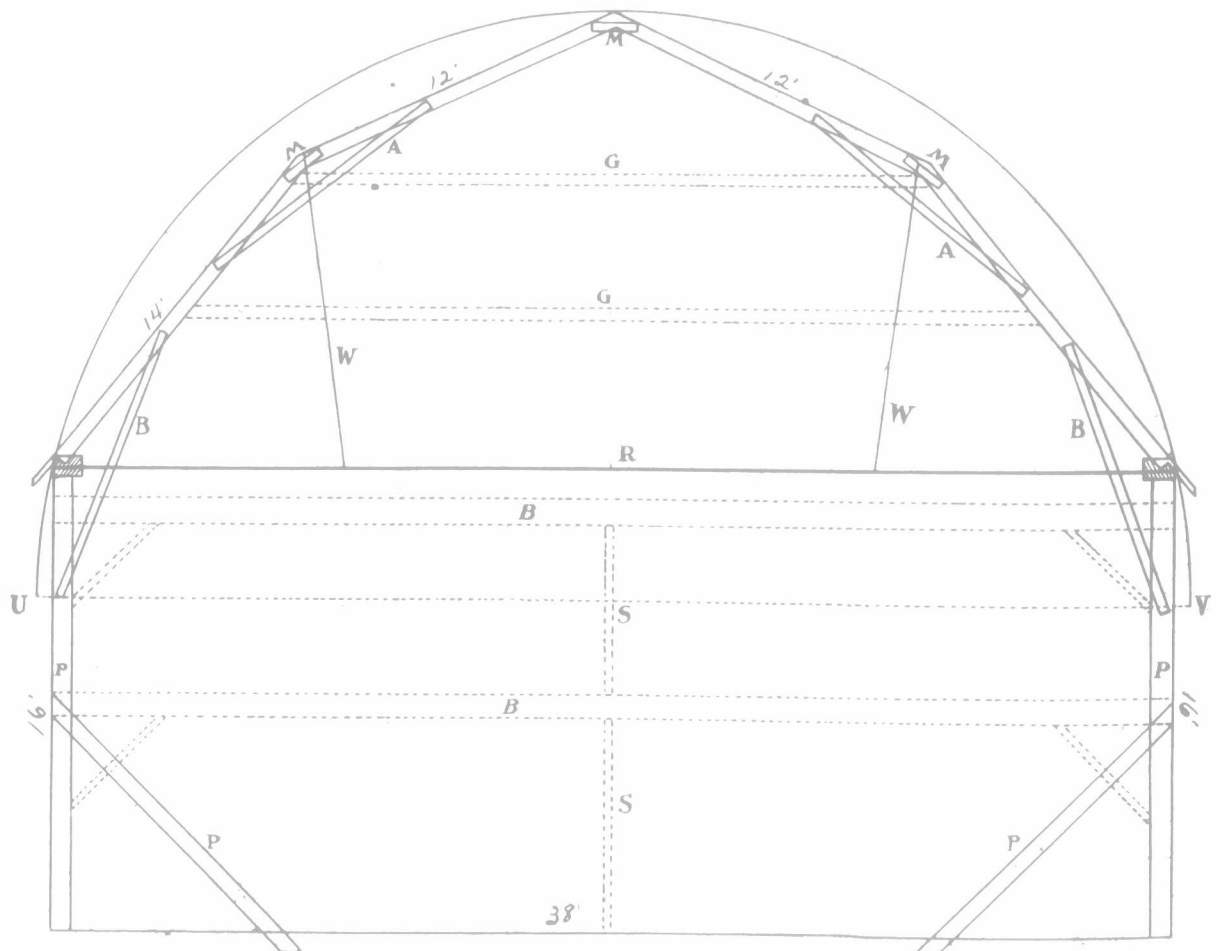
1. Clean the seed grain thoroughly; also, purchase root seeds and reclean them.
2. Examine all machinery.
3. Plows: See that the coulters, landsides and points are all right; also attach clevises and whiffletrees.
4. Harrows: See that the teeth are all in and sharpened; also attach whiffletrees.
5. Is the seed drill oiled and in perfect order?
6. Is the roller in perfect order?
7. Mowers and Binders: Sharpen all knives and guards; see if any other repairs are required.
8. Harness: See to washing, repairing and oiling thoroughly.
9. Remove all manure from buildings to fields where hoed crops are to be grown, and spread same as soon as snow is gone.
10. Break in any colts that are to be used the coming spring; get them well hardened before spring work begins.
11. See that plenty of firewood is cut and under cover convenient to the house, sufficient to last the whole year.
12. Repair all fences as soon as possible after frost is out of ground.

#### CANNOT BE TOO HIGHLY PRAISED.

I take pleasure in acknowledging receipt of premium knife, which is all you represented it to be. As for "The Farmer's Advocate," it cannot be too highly praised, and no progressive farmer should be without it. Thanking you for the knife, and wishing you every success.

Simcoe Co., Ont.

JOS. REID.



Cross Section of Mr. Good's Barn.