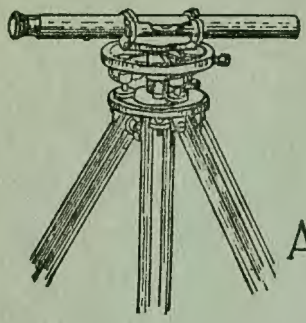

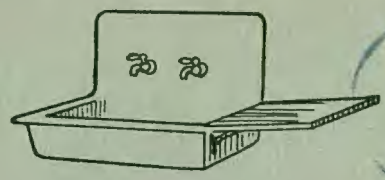

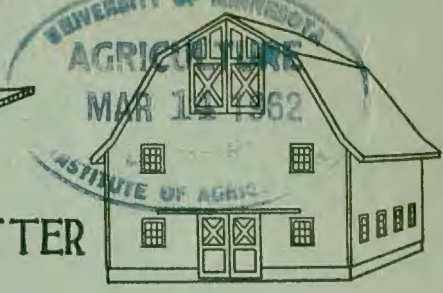

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LOCAL MATERIALS FOR FARM BUILDINGS

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In many localities there is considerable interest concerning the comparative value of local materials for various uses in farm structures and equipment. The pioneer, of necessity, used such materials as he found at hand for his shelter: logs in the wooded section, stone where quarries could be opened, sod on the prairie, adobe and rammed earth in localities where suitable soil was available, and even slough grass was used for roofs where shakes split from short pieces of logs were not available.

On many farms in Minnesota local materials are still used for fence posts, poles for frames of stables and root cellars, straw for banking or insulation in walls and lofts, stones for foundation walls, earth for root or storage cellars, and gravel or clay for floors of sheds, stables, and poultry houses. Some of the most comfortable shelters for the protection of animals from the severe weather of a Minnesota winter have been constructed of poles and straw. Pole frame houses covered with straw make such comfortable shelters for poultry that, were it not for the spring rains and the harbor for mites, there would be few lumber poultry houses that could be considered equally satisfactory. The compromise between manufactured and local material may be the use of boards and shingles for weatherproof construction, using straw for insulation of walls and loft where commercial insulation is not available.

Fig. 1. A Northern Minnesota House Constructed Chiefly of Local Materials

Plan ahead.—Each building is an individual problem, and the owner must give considerable thought to details if wise decisions are to be made. One of the first essentials to success in building with local materials is to plan ahead and have the materials ready when the building is under way. To do this the plan for the structure should be chosen and the proper amount of material prepared and located near the building site.

It is not possible in this letter to give complete directions for making buildings of local materials. Many methods are possible. Which method to use will depend somewhat on the owner's ability and the materials at hand and the facilities for preparing the material. For instance, if good gravel for concrete is readily available, concrete might be used; whereas if the cost of obtaining good gravel is high, some other material might be substituted. It is frequently helpful in deciding on the best method of using the materials at hand to observe structures that have been built of local materials. The plans used need not be elaborate. In fact, simple and practical plans are to be preferred. When the cash income from the farm is low, it is necessary that much of the work of constructing the building be done by the owner and that local materials be used. Although local materials may have some disadvantages such as unevenness in size of poles, good workmanship helps to overcome the effect of these and is, therefore, important in using such materials to best advantage.

Local sawmills change the type of construction. In place of logs laid horizontally one on top of another to form a thick wall, small straight trees may be sawed parallel on two sides. When cut to suitable length to reach from sill to plate, these small logs stood on end are much more easily put in place than were the large logs of the pioneer's house or stable. These pole walls may later be covered on the outside with cement plaster or siding at a moderate additional expense if the work is done by the owner or a local workman. The inside may be plastered or boarded up and made warm and attractive. The house shown in the illustration has the vertical poles showing on one side.

Special care required.—Perhaps one reason local materials are not used more frequently is because special care is required to prepare them. A pole rafter takes more time to lay out than does a piece of 2×4 dimension. Where the one is made from a tree grown on the farm and the other must be purchased out of a low annual farm income, the advantage may be with the pole rafter. Round posts set in the ground and sawed even at the top to carry poles for roof members require much hard work. In many cases, however, the round posts in the stable are easier to work around than 6×6 timbers and the cost is chiefly labor, of which the farmer may have a larger supply than he does of cash for purchasing manufactured posts.

Every material that is used in a structure should be chosen with care. In a temporary building the upkeep is often the most important item, but in a permanent building the ease with which the building can be cleaned and put in condition for winter is important. Local materials may often be used to good advantage both in the temporary and permanent type of construction.

The Minnesota Experiment Station staff has cooperated in the preparation of a large number of plans of structures and equipment, many of which may be made of local materials by the farmer or his boys. These plans are listed in Extension Circular No. 59 which may be secured upon request from the Bulletin Room, University Farm, St. Paul, Minnesota.

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