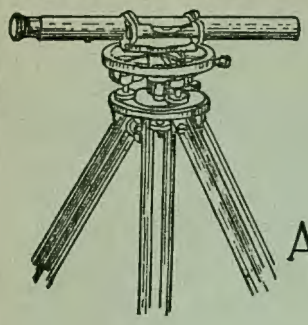

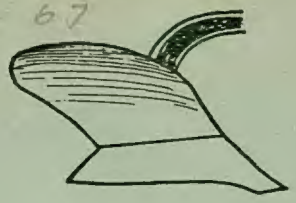

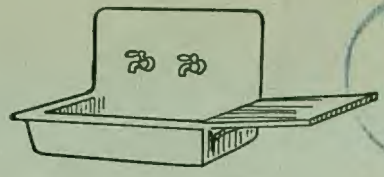

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ROOFING MATERIALS FOR FARM BUILDINGS

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The problem of selecting suitable roofing materials for farm buildings is becoming increasingly complex because of the large number of types and brands of roofing being offered for sale. The problem has economic, engineering, and aesthetic aspects. Cost, durability, insulating value, fire resistance, and suitability to the design and the use to be made of the building are all factors to be considered.

The cost factor is an important one and should be carefully considered in terms of cost per year of service. Too frequently, the first cost is the only consideration. The probable length of life or durability of roofing materials is difficult to estimate. The newer materials have not been in use long enough to provide accurate tests, and some of the older materials show wide ranges in durability. Good workmanship and proper methods in applying the roofing will aid in prolonging its life. In general, those materials which have a high first cost are the most durable and may be the least expensive over a long period of time.

None of the roofing materials rank very high in insulating value when compared with other types of insulation. However, this is not an important consideration because the insulating can be done on the inside of those buildings which may require it. Wooden shingles over tight roof boards will provide more insulation than most other roofings. Metal roofing has little insulating value.

Some roofing materials, such as slate, tile, asbestos-cement, and metal, are fireproof. Asphalt shingles, roll roofing and built-up roofing are highly fire-resistant, while wooden shingles can be rather easily ignited, especially when old. Insurance companies recognize the value of fireproof and fire-resistant materials and adjust their premiums accordingly.

There is no one roofing that is suited to all types of buildings, nor all types of roofs. Flat roofs need a covering which has sealed laps such as built-up roofing, consisting of asphalt and rag felts, or a metal roof with soldered joints. Wooden shingles should not be used on roofs having less than ¼ pitch. Rigid shingles cannot be used on roofs having extreme curves. The heavy roofing materials such as slate, tile, asbestos-cement and built-up gravel roofs require stronger rafters and more bracing than do the other types. Some roofing materials are suited to all the buildings on a farmstead, while others, because of their appearance or special characteristics, are limited to certain buildings. The color of roof coverings should harmonize with the color of the buildings and the surroundings.

Wooden Shingles. One of the oldest roofings is wooden shingles, and they are still the most popular type on farm buildings. They are easy to apply, stay in place, insulate, have a relatively low first cost, and give good service for 20 to 30 years. They lack the fire-resistant qualities that other roofings have, and they tend to warp and curl, thus presenting a poor appearance when old. They often shed water for years after they appear to be worn out. Only the best grade of shingles should be used. They should be applied with a 4 or 4½-inch exposure, using hot-dipped zinc coated nails. The shingles will often outlast common wire nails. Wooden shingles should be used only on roofs having ¼ pitch ore more. Western red cedar shingles will weigh about 200 pounds per square. They can be obtained in several colors and applied so as to make various patterns.

Asphalt Shingles. In cities and towns where there is considerable fire hazard from flying sparks, asphalt shingles are very popular. They are also being used on farm buildings, but give some trouble where high winds prevail, by blowing up and tearing loose. Asphalt shingles can be obtained in strips measuring about 12″x36″ or as individual shingles measuring approximately 12″x 16″. Many colors and a number of shapes are available. Asphalt shingles should be laid over a light-weight asphalt felt. Wide shingles laid with a narrow exposure are the most satisfactory. The heavier shingles will lie flatter and last longer than the light-weight shingles. A good quality asphalt shingle when properly applied should last from 12 to 18 years. They should not be applied to roofs having less than ¼ pitch. Asphalt shingles should weigh about 200 pounds per square.

Asbestos-Cement Shingles. Shingles made of asbestos and cement have only been in common use for a short time, but their popularity is increasing. They are fireproof, easy to apply, stay in place, and are exceptionally durable. Their first cost is more than that of asphalt or wooden shingles, but less than tile or slate. They can be obtained in several colors with both smooth and rough surfaces and with straight or irregular edges. These shingles should weigh from 275 to 475 pounds per square, depending upon the method of applying them.

Slate Shingles. In some sections of the country where slate is quarried locally, its cost is low enough to permit its use on farm buildings. If the slate is of good quality, it will last as long as the life of the building. Slate shingles vary in thickness from 3/16″ to 2″ and in length from 10″ to 24″. Slate should be attached to the roof with copper nails. The weight per square for 3/16″ or ¼″ will be approximately 700 to 900 pounds. The pitch must be ¼ or more.

Roll Roofing. The low cost and ease of application of roll roofing makes it popular for the more temporary types of buildings. Asphalt or tarred felts weighing 45 pounds or more per square should be used in preference to the lighter weights. It must be applied over a smooth, tight surface. Wind and the sun's rays are the agencies most destructive to roll roofing. Mineral surfaced felts, having rather small flat granules, will be more durable than unsurfaced felts. Roll roofing must be applied during warm weather. The roof should have a pitch of ⅛ or more. The roofing should be lapped at least 2″ on the edges and 6″ on the ends. The laps should be cemented and nailed with galvanized nails. The unsurfaced felts will weigh about 50 pounds per square, while the surfaced will weigh from 75 to 100 pounds per square. The life of roll roofing is approximately 10 years.

Galvanized Roofing. For many years galvanized roofing has been used on barns and other farm buildings. It is easy to apply, light in weight, fireproof, and if kept painted it is exceptionally durable. The chief objection to galvanized roofing is its appearance. Galvanized roofing can be had in corrugated or V-crimp sheets. The V-crimp sheets have a better appearance, but they require more roof boards for support. The best roofing consists of 26-gauge copper alloy steel, coated with 2 oz. of zinc per square foot. The corrugated sheets are 26″ or 27½″ in width and vary from 5 to 12 feet in length. The V-crimp sheets are 24 inches wide. The corrugated sheets should be laid with lead-headed roofing nails. The weight of galvanized roofing is about 100 pounds per square. All metal roofing should be grounded as a protection against lightning.

There are other types of roofing such as tile, canvas, copper shingles, terneplate, sheet zinc, and built-up roofing. These are not in general use on farm buildings.

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