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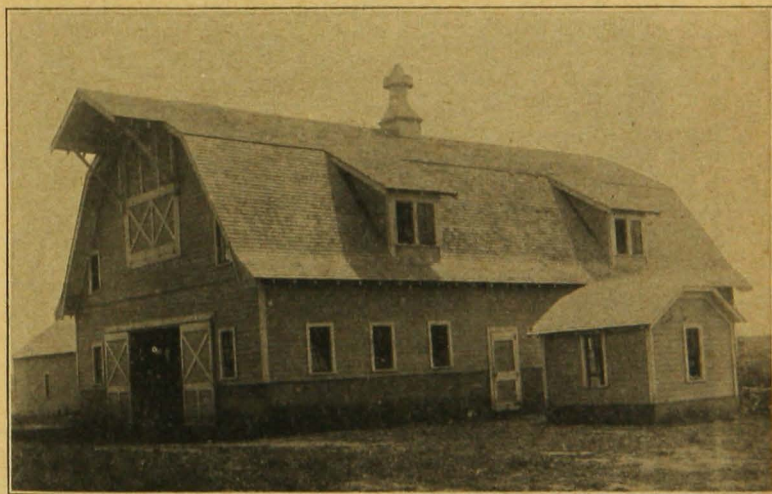
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FARM BUILDING PLANS

By H. B. White, Division of Agricultural Engineering

IMPORTANCE OF FARM BUILDINGS

The buildings on a well developed farm represent about one fifth of the value of the farmer's investment and are worthy of more attention and study than they usually receive. Good buildings add considerably to the selling value of a farm. Well planned buildings save labor and make the work more pleasant.



Plan No. 197. A Well Planned Minnesota Barn

The farm may be considered as a manufacturing establishment, the fields furnishing the raw materials and the buildings serving as the central plant. There is often great loss if the buildings are not adequate to shelter the livestock and feed supplies. Young animals will perish in unfavorable weather and farm machinery depreciates rapidly if poorly sheltered. Milk will be more healthful if produced under sanitary conditions. The supply will also be more abundant where animals are comfortably housed. The health and happiness of the occupants of a farmhouse will be greatly increased in a well-planned modern house.

LOCATION

The part of the farm laid out for the building site and including the yards, gardens, grove, orchards, driveways, etc., is called the farmstead.

It is impossible to plan a farmstead that will be suitable for all farms, but satisfaction and economy may be secured if careful thought is given to the arrangement and plans of the buildings on each farm. There are many conveniences that may be easily installed later if a little planning is done before the buildings are located and erected and which are almost impossible to secure if proper arrangements are not made when the buildings are under construction.

A study of the essentials of a good farmstead shows that the following points should be considered:

1. Ease of access to the fields and pastures and yet near enough to the public road not to be isolated. Usually this locates the farmstead near the middle of one side of the farm.

2. Good drainage around the buildings. This must be so that the water from rains and melting snow will not collect and make the yards and roads almost impassable.

3. The size should be suited to the size of the farm and should take into consideration the kind of farming and the future development of the business.

4. Convenient arrangement of the buildings so that the work of feeding stock, etc., can be carried on without extra travel.

5. Proper distance of other buildings from the house so that odors, flies, and noises will not be objectionable and danger from fire will not be serious, and yet not so distant that unnecessary time will be needed in going to and from them.

6. Proper distance of buildings from road to avoid dust and danger from passing automobiles.

7. Proper location of trees, shrubs, garden, etc. Trees for the windbreak should be in the direction of the prevailing winds in winter. In Minnesota, this is north and west. The shrubs should be so located as to improve the appearance. The garden and orchard should be near enough for the vegetables and fruits to be cared for and gathered without unnecessary travel.

8. Convenient driveways add much to the satisfaction derived from a well laid out farmstead.

9. Attractiveness of view from house. It is well to consider this point carefully when locating windbreaks, shrubs, etc., as it adds much to have the view toward the road, village, or lake left clear to be enjoyed. It is important that the view from the kitchen

windows, be carefully considered, as much time is spent in the kitchen of a farmhouse.

10. The attractive appearance from the public road has much to do with the value and satisfaction derived from a farmstead. The house should have the most carefully selected site and the barns and other buildings should be somewhat in the background.

PLANNING FARM BUILDINGS

A farm building needs to be carefully planned not only to make it convenient but so that it fits into the farmstead. A plan may be prepared for the individual farm or a plan that is almost suitable may be altered to make it satisfactory. A building may be temporary, partial, or permanent. In a temporary building, it may be necessary to omit many details, altho' it should be remembered that it costs but little extra to make a well proportioned and attractive building. A building that is to be built in two parts should be planned completely before building the first part. The permanent building should be considered long enough before erection to make sure that it will suit the farmer and his family. They should get a great amount of pleasure out of the preparation or selection of the plan. A satisfactory building is the result of many hours of thought and planning on the part of the owner, as well as consultation with those experienced in the erection of good buildings.

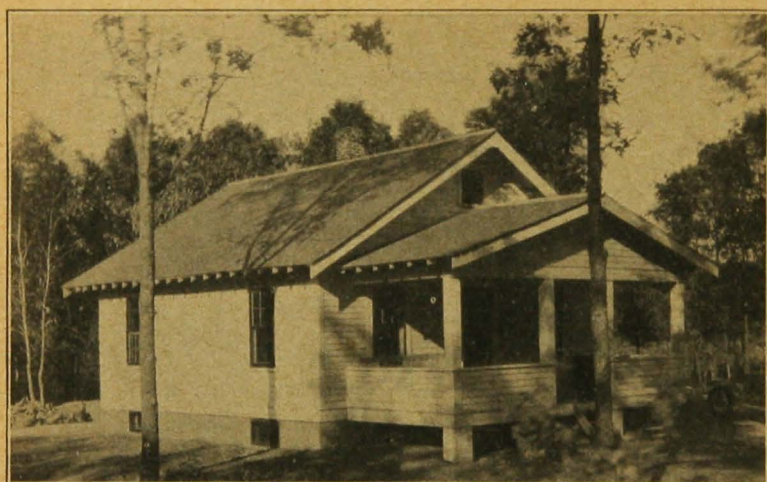
BUILDING PLANS

There are several sources from which the farmer may obtain building plans to aid him in his selection. The lumber and mill-work companies, through the local lumber dealer, are giving very efficient service. The barn equipment companies are also supplying valuable information for the farmer who is intending to build.

Carpenters and lumber dealers should have plans of good farm buildings on hand, as they can often help to select the local materials that can be used most economically. In fact it is only local men that can give a close estimate of the cost of a building and it is usually the cost that determines its size and quality.

Plans of farm buildings have been prepared by the Division of Agricultural Engineering in coöperation with the other divisions of the University Department of Agriculture. These plans have been placed on file in the offices of the county agents of the state where farmers may look them over and send for such as they desire. Copies may be obtained at 10 cents per plan, or all of the plans for \$3.50. Send orders to Division of Publications, University Farm, St. Paul, Minn.

Inquiries concerning the plans should be addressed to the Division of Agricultural Engineering, University Farm, St. Paul, Minnesota. New plans will be added as they are developed.



Plan No. 220. One of Twenty-six Houses Built From This Plan at Orchard Gardens, Minn., by Disabled Veterans

Plan No.	Size	Description
HOUSES		
111	12x20	Kitchen and bedroom; future living room and porch.
112	12x24	Kitchen and bedroom; future living room and porch.
108	20x22	Kitchen, bedroom, combined dining and living room.
107	22x24	Kitchen, 2 bedrooms, combined dining and living room
220	22x24	Kitchen, combined dining and living room, 2 bedrooms, and glazed rear porch with grade door.
106	24x26	Combined kitchen and dining room, 2 bedrooms, and vestibule.
104	24x29	Combined living and dining room, and kitchen, 2 bedrooms, wash room and future bedroom.
103	24x30	Kitchen, combined dining and living room, 1 bedroom, wash room, cellar stairs with grade door, and future bedroom.
105	26x28	Kitchen, living room, 2 bedrooms, screened rear porch, cellar stairs with grade door.
123	26x36	Kitchen, living room, 3 bedrooms, screened rear porch, cellar stairs with grade door.
126	28x37½	Kitchen, dining room, living room, cellar stairs with grade door, pantry, 3 bedrooms, bathroom, screened rear and front porches.
109	16x26	Two story; kitchen, living room, and 2 bedrooms.
110	16x26	Two story; kitchen, dining room, and future living room, 2 bedrooms and future bedroom.
141	22x24	Two story; kitchen, combined dining and living room, pantry, and downstairs bedroom, 2 bedrooms and three closets.
102	24x32	Two story; kitchen, dining room, living room, downstairs bathroom, and bedroom, screened rear porch, 2 bedrooms, sleeping porch, and storage room.

Plan No.	Size	Description
181	28x32	One and one-half story; kitchen, dining room, living room, downstairs bedroom, and bathroom, 3 bedrooms with closets.
122	28x32	Two story; kitchen, dining room, living room, library, screened front and rear porches, 4 bedrooms, bath, and sleeping porch.
203	30x30	Two story; kitchen, dining room, living room, sun room, 3 bedrooms, bath, and sleeping porch.
212	30x30	Two story; kitchen, dining room, living room, downstairs bedroom, wash room, 4 bedrooms, and bathroom.
124		Front and side elevation of plan No. 122.
143		Basement plan of plan No. 122.
131	28x34	Two story; kitchen, dining room, living room, office, toilet room, sewing room, sun room, 3 bedrooms, and bathroom.
132		Front and side elevation of plan No. 131.
182		Front and side elevation of plan No. 181.
204		Front and side elevation of plan No. 203.
213		Front and side elevation of plan No. 212.
215		Wall section of house, names of parts shown.

BARNs

113	16x18	General purpose—2 horses, 2 cows.
114	16x32	General purpose—3 horses, 5 cows.
115	16x36	General purpose—3 horses, 4 cows, 4 young stock, 1 cow or calf pen.
117	32x50	General purpose—5 horses, 7 cows, 4 young stock, 1 cow pen, 1 calf pen, cows facing in.
118	34x60	General purpose—5 horses, 1 box stall, 11 cows, 1 cow pen, 1 calf pen, cows facing out.
119	34x70	General purpose—5 horses, 1 box stall, 14 cows, 1 cow pen, 1 bull pen, 1 calf pen.
133	34x80	General purpose—7 horses, 1 box stall, 12 cows, 7 young stock, 1 cow pen, 1 calf pen, 1 bull pen, cows facing out.
174	36x76	General purpose—5 horses, 1 box stall, 14 cows, 7 young stock, 1 cow or calf pen, 1 calf pen, 1 bull pen, cows facing out.
197	34x60	General purpose—8 horses, 10 cows, 1 cow pen, 1 calf pen, 1 bull pen.
176	34x90	Beef barn—two leantos 12 ft. wide, 40 cows, 4 pens for young stock, 2 cow pens, 2 bull pens.
138	24x50	Cattle feeding barn—closed feeding space and bull pen.
185	34x64	Horse barn—12 single stalls at one end, 4 box stalls, feed room, and harness room.
186	34x66	Horse barn—12 single stalls along one side, 4 box stalls, feed room, and harness room.
153	14x15	Shed roof bull barn.
192	24x32	Sheep shed—50 ewes.
130		Second floor plan of No. 119—2 grain bins and storage room.
134		Second floor plan of No. 133—3 bins, straw and hay storage.
116		End elevation and cross section of gambrel roof, width 34 ft., cows facing out.

n No. Size	Description
	End elevation and cross section of gambrel roof, width 32 ft., cows facing in.
	End elevation and cross section of Gothic roof, width 34 ft., cows facing out.
	End elevation and cross section of plan No. 176, Gothic roof, 12-ft. leantos.
	End elevation of plan No. 174—36 Gothic roof, cows facing out.
	End elevation and cross section of gambrel roof, width 36 ft., cows facing out.
	Half-section of floor, width 34 ft., cows facing either in or out.
	Single horse stall, showing details.
	Dairy cow stall, facing either in or out.
CORN CRIBS	
16x24	Walls 8 feet—seed corn drying house.
24x32	Driveway with double bins, capacity 1500 bushels.
GRANARIES	
16x24	Walls 12 feet—4 bins, capacity 2000 bushels.
CORN CRIBS AND GRANARIES	
	Driveway with corn on one side and grain on the other.
193	26x32 Elevator and grain bins over driveway.
194	26x32 Side and end elevation of plan No. 193.
GARAGES	
183	18x20 Two cars, hip roof.
184	12x18 One car, gable roof.
209	18x20 Auto, tractor, workbench, hip roof.
HOG HOUSES	
101	24x48 12 pens, 8x9 ft. gable roof with straw storage.
173	24x48 10 pens, 8x9 ft. feed room, cooker room, half monitor roof.
202	22x32 Seven pens, 8x9½ ft. feed room, gable roof.
152	6x8 Gable roof hog cot.
154	6x7 "A" type hog cot.
ICE HOUSES	
171	12x14 Walls 12 feet—capacity 16 tons.
IMPLEMENT SHEDS	
127	22x28 Walls 12 feet; for threshing engine and separator.
128	24x66 Or longer; walls 10 ft., shop 16x24 ft., garage 12x24 ft., threshing outfit 24x24 ft., machinery storage 24x24 ft. or longer.
208	24x60 Walls 10 feet, shop 13x18 ft., garage 11x18 ft., machinery storage 24x42 ft.
210	18x48 Walls 8 feet, shop 10x18 ft., garage 10x18 ft., machinery storage 18x28 ft.
MILK HOUSE	
195	10x12 Showing location of separator, cooling tank, etc.

Plan No. Size

Description
POULTRY HOUSES

129	4x8	Colony house for chicks.
149	16x30	2 pen, shed roof.
150	16x30	2 pen, broken gable roof.
164	16x32	2 pen, broken gable roof.
179	14x28	2 pen, broken gable roof.
200	16x32	2 pen, shed roof.
218		8 pens, 20x20 ft., and feed house 20x24 ft.
219		Elevation, section, and details of plan No. 218.

POTATO WAREHOUSES

155	40x50	Basement—total capacity 12,000 bu.
156	40x50	First floor of No. 155.
157	40x70	Basement—total capacity 24,000 bu.
158	40x70	First floor of No. 157.
159	40x80	Basement—total capacity 22,000 bu.
160	40x80	First floor of No. 159.
161	40x50	Basement—total capacity 16,000 bu.
162	40x50	First floor of No. 161.
165	40x100	Basement—total capacity 29,000 bu.
167	40x100	First floor of No. 165.
163		Section and wall section.

PRIVY

190	4x4½	Earth vault.
191	4x4½	Dry earth.

SHOP AND GARAGE

209	18x20	Work-bench, auto, tractor.
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STORAGE CELLARS

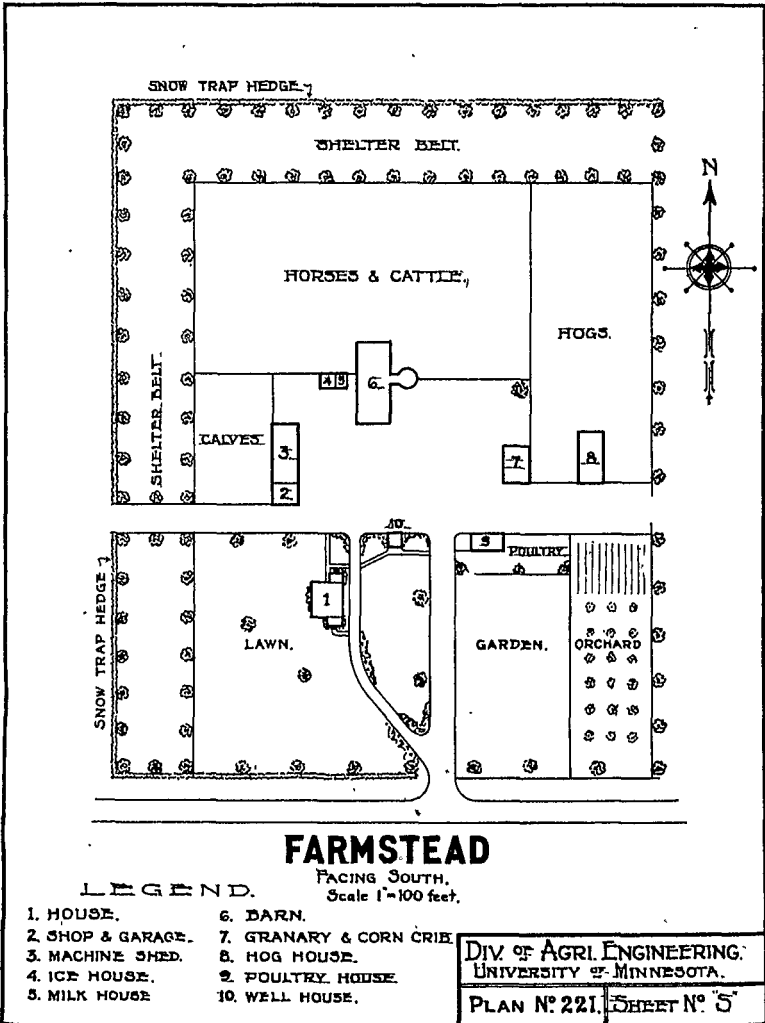
201	12x25	Capacity 720 bushels.
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MISCELLANEOUS

125		Framing for octagon silo roofs, 12, 14, and 16 feet.
135		Self-feeder (for swine) 2x4 feet.
136		Hay and bundle rack for wagon, 8x14 feet.
137		Basket hay rack for wagon, 7½x16 feet.
140		Dairy record sheet holder (weekly).
147		Breeding rack for cattle.
169		Concrete tank and forms, 5x12 feet.
170		Workbench for farm shop, 12 feet long.
172		Dairy record sheet holder (monthly).
175		Self-feeder (for swine) 2x10 feet.
178		Farm name and mail box post.
198		Breeding crate (for swine).
206		Wool box (for tying fleeces).
207		Stitching clamps.
211		Kitchen cabinet, 4 feet wide, 6½ feet high.
214		Types of roofs; shed, gable, gambrel, gothic, hip, etc.
216		Laying out rafters; by the use of the framing square.
217		Beehive with all measurements for making.

FARMSTEADS

- 142 Facing south.
- 144 Facing north.
- 145 Facing east.
- 146 Facing west.
- 148 Facing east, out buildings in row in rear of house.
- 151 Facing east, out buildings in two rows.
- 196 Facing north, J. J. Marsh.



A Good Farmstead

Farm buildings should be planned to fit into the farmstead as well as to meet the needs of the individual farm.