

MN 2000  
EB-III (1926)  
c. 2

Special Bulletin No. III

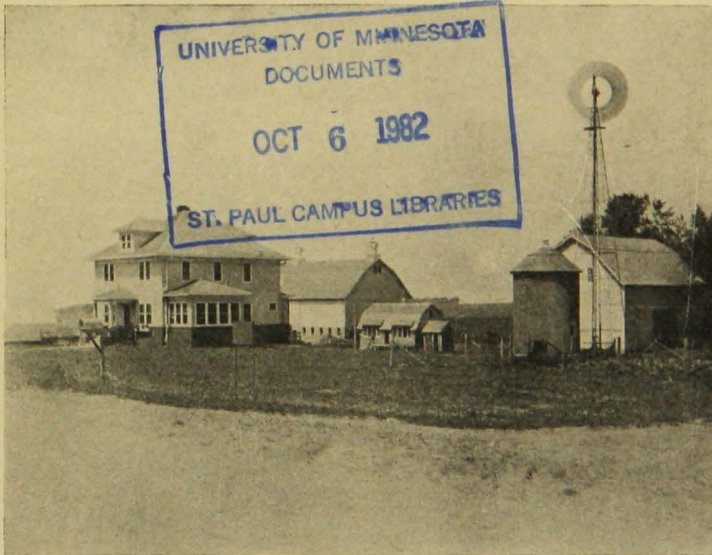
September 1926

# Farm Building Plans

by

H. B. White and  
M. G. Jacobson

Division of Agricultural Engineering  
Agricultural Experiment Station



A Well Planned Farm Home

UNIVERSITY OF MINNESOTA  
AGRICULTURAL EXTENSION DIVISION

Published by the University of Minnesota, College of Agriculture, Extension Division, F. W. Peck, Director, and distributed in furtherance of the purposes of the co-operative agricultural extension work provided for in the Act of Congress of May 8, 1914.

This archival publication may not reflect current scientific knowledge or recommendations. Current information available from University of Minnesota Extension: <http://www.extension.umn.edu>.

LIBRARY  
GEORGIA STATE COLLEGE OF AGRICULTURE  
ATHENS, GA

## 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.

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 if 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 easily be installed later if a little planning is done before the buildings are located and erected, but 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 rain and melting snow will not collect and make the yards and roads almost impassable.

3. Suitable size. 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.



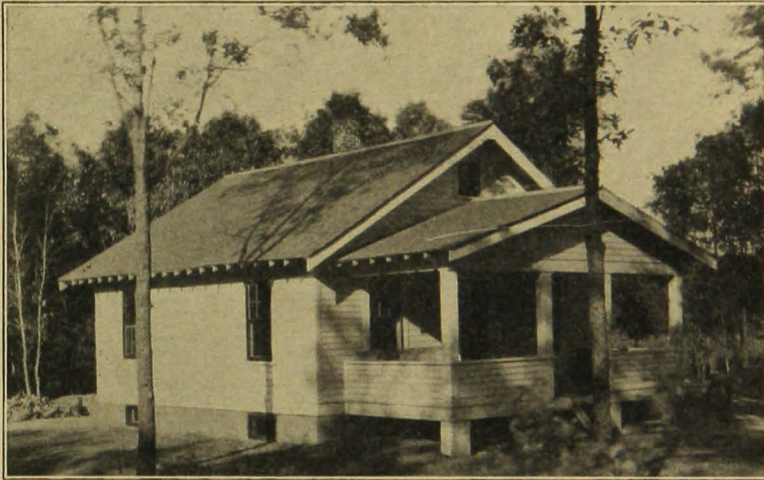
6. Proper distance of buildings from road to avoid dust and danger from passing automobiles.

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. These 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.



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

## PLANNING FARM BUILDINGS

A farm building needs to be carefully planned not only to make it convenient but to fit it 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. It may be necessary, in a temporary building, to omit many details, altho it should be remembered that it costs little extra to make it well proportioned and attractive. 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 millwork companies, through the local lumber dealer, are giving very efficient service. The barn equipment companies are also supplying valuable information for one 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 who 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 co-operation with the other divisions of the University Department of Agriculture. These plans are 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.

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

Plans listed in this bulletin may be obtained for 10 cents each, or all for \$3.50. Send orders to Division of Publications, University Farm, St. Paul, Minn.

### BUILDING PLANS

#### Description

#### HOUSES

PLAN No.	SIZE	Description
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 and 2 bedrooms.
104	24X29	Combined kitchen, dining and living room, 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 3 closets.
239	26x28	Two story; kitchen, dining room, living room, downstairs bedroom; 3 bedrooms and bathroom.
240		Front and side elevation of plan No. 239.
263	26x30	One and one-half story; kitchen, dining room, living room, sun room, downstairs bedroom; 3 bedrooms, and bathroom.
264		Front and side elevation of plan No. 263.
102	26x32	Two story; kitchen, dining room, living room, downstairs bathroom, and bedroom, screened rear porch; 2 bedrooms, sleeping porch, and storage room.
247	26x34	One and one-half story; kitchen, dining room, living room, downstairs bedroom, and bathroom; 3 bedrooms.
248		Second floor plan and side elevation of plan No. 247.
257	28x30	One and one-half story; kitchen, dining room, living room, downstairs bedroom; 4 bedrooms, and bathroom.
258		Front and side elevation of plan No. 257.
181	28x32	One and one-half story; kitchen, dining room, living room, downstairs bedroom, and bathroom; 3 bedrooms.
182		Front and side elevation of plan No. 181.
122	28x32	Two story; kitchen, dining room, living room, library, screened front and rear porches; 4 bedrooms, bath, and sleeping porch.
124		Front and side elevation of plan No. 122.
143		Basement plan of plan No. 122.
222	28x32	Two story; kitchen, dining room, living room, laundry, pantry; 4 bedrooms, and bathroom.
223		Front and side elevation of plan No. 222.
131	28x34	Two story; kitchen, dining room, living room, office, toilet room, sewing room, sunroom; 3 bedrooms, and bathroom.
132		Front and side elevation of plan No. 131.
241	28x38	One and one-half story; kitchen, combined dining and living room, 2 bedrooms, and bathroom; 3 bedrooms.
242		Front and side elevation of plan No. 241.
203	30x30	Two story; kitchen, dining room, living room, sunroom; 3 bedrooms, bathroom, and sleeping porch.
204		Front and side elevation of plan No. 203.
212	30x30	Two story; kitchen, dining room, living room, downstairs bedroom, and toilet; 4 bedrooms, and bathroom.
213		Front and side elevation of plan No. 212.
230		Part floor plan showing kitchen, laundry, and men's washroom.
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, 3 young stock, 1 cow or calf pen.
236	16x36	Straw stable—3 horses, 4 cows, 2 young stock, and 1 pen.
265	28x32	General purpose—2 horses 9 cows, 1 calf pen, and 1 pen.
117	32x50	General purpose—5 horses, 9 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.
197	34x60	General purpose—5 horses, 12 cows, 1 cow pen, 1 calf pen, and 1 bull pen; cows facing out.
119	34x70	General purpose—5 horses, 1 box stall, 14 cows, 7 young stock, 1 bull pen, 1 cow pen, and 1 calf pen; cows facing out.
130		Second floor plan of No. 119—2 grain bins, storage room, and hay mow.
244	34x72	General purpose—5 horses, 15 cows, 5 young stock, 1 cow pen, 1 calf pen, 1 bull pen; cows facing in.

245	34x72	General purpose—5 horses, 16 cows, 6 young stock, 1 cow pen, 1 calf pen, and 1 bull pen; cows facing out.
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.
134		Second floor plan of No. 133—3 bins, straw and hay storage.
176	34x90	Beef barn—two leantos 12 ft. wide, 40 cows, 4 pens for young stock, 2 cow pens, 2 bull pens, and 8 calf pens.
177		End elevation and cross-section of plan No. 176. Gothic roof, 12-ft. leantos.
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.
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	14x14	Shed-roof bull barn.
192	24x32	Sheep shed—50 ewes.
120		End elevation and cross-section of gambrel roof, width 32 ft., cows facing in.
116		End elevation and cross-section of gambrel roof, width 34 ft.; cows facing out.
205		End elevation and cross-section of gambrel roof, width 36 ft.; cows facing out.
254		End elevation and cross-section of Gothic roof, width 32 ft.; cows facing in.
139		End elevation and cross-section of Gothic roof, width 34 ft.; cows facing out.
170		End elevation and cross-section of Gothic roof, width 36 ft.; cows facing out.
121		Half-section of floor, width 24 ft.; cows facing either in or out.
187		Single horse stall, showing details.
188		Dairy cow stall, facing either in or out.

#### CORN CRIBS

166	16x24	Walls 8 ft.—seed-corn drying house.
189	24x32	Driveway with double bins, capacity 1500 bushels.

#### GRANARIES

168	16x24	Walls 12 ft.—4 bins, capacity 2000 bushels.
-----	-------	---

#### CORN CRIBS AND GRANARIES

199	24x32	Driveway with corn on one side and grain on the other.
193	26x32	Elevator and grain bins over driveway.
194		Side and end elevation of plan No. 193.

#### GARAGES

184	12x18	One car, gable roof.
183	18x20	Two cars, hip roof.
209	18x20	Auto, tractor, workbench; hip roof.

#### HOG HOUSES

202	22x32	7 pens, 8x9½ ft., feed room; gable roof.
101	24x48	12 pens, 8x9 ft.; gable roof with straw storage.
173	24x48	10 pens, 8x9 ft., feed room, cooker room; half monitor roof.
154	6x7	"A"—type hog cot.
152	6x8	Gable roof hog cot.
246	10x12	Hog shade.

#### ICE HOUSES

171	12x14	Walls 12 ft.—capacity 16 tons.
-----	-------	--------------------------------

#### MACHINE SHEDS

127	22x28	Walls 12 ft.; for threshing engine and separator.
210	18x48	Walls 8 ft., shop 10x18 ft., garage 10x18 ft., machinery storage, 18x28 ft.
253	18x56	Walls 6 and 8 ft., garage 14x18 ft., machinery storage 18x42 ft.
208	24x60	Walls 10 ft., shop 13x18 ft., garage 11x18 ft., machinery storage 24x42 ft.
128	24x66	Or longer, walls 10 ft., shop 16x24 ft., garage 12x24 ft., threshing outfit 24x24 ft., machinery storage 24x24 ft. or longer.
270	36x50	Walls 7 ft., no posts on floor.

MILK HOUSES

195 10x12 Showing location of separator, cooling tank, etc.

POULTRY HOUSES

179 14x28 2-pen, broken gable roof.  
 149 16x30 2-pen, shed roof.  
 150 16x30 2-pen, broken gable roof.  
 164 16x32 2-pen, broken gable roof.  
 200 16x32 2-pen, shed roof.  
 228 16x32 2-pen, broken gable roof, sloping ceiling.  
 218 20x180 8-pen, 20x20 ft. and feed houses 20x24 ft.  
 219 Elevation section, and details of plan No. 218.  
 129 4x8 Colony house for chicks.  
 269 12x14 Brooder house.  
 266 16x20 Brooder house with cool room.

POTATO WAREHOUSES

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

PRIVIES

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

SHOP AND GARAGE

209 18x20 Work-bench, auto, tractor.

SILOS

226 12x20 Crib, octagon.  
 227 Roof framing for plan No. 226.  
 125 Roof framing 12, 14, and 16 ft.

STORAGE CELLARS

243 12x20 Capacity 910 bushels, pole frame.  
 201 12x25 Capacity 720 bushels.  
 229 12x34 Capacity 1150 bushels.

WAYSIDE MARKET

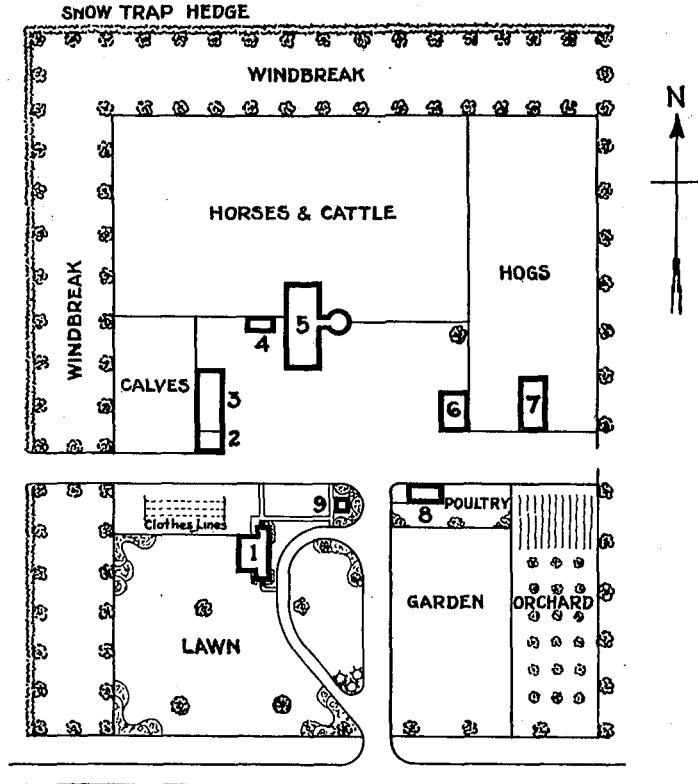
255 12x12 With counter and shelves.

MISCELLANEOUS

260 Arbor for lawn or garden.	233 Location of windows for sunlight.
217 Beehive with measurements.	250 Loading chute, takedown.
262 Bird feeder.	252 Milk-cooling tank.
136 Bundle rack.	232 Milk stool with support for pail.
198 Breeding crate (for swine).	267 Miter box.
147 Breeding rack (for cattle).	231 Poultry feed hoppers.
238 Calf stanchions.	140 Record sheet holder, weekly.
169 Concrete tank, 5x12 ft.	172 Record sheet holder, monthly.
261 Clothes-line post with arbor.	135 Self-feeder for swine, 2x4 ft.
256 Dynamite cap box.	175 Self-feeder for swine, 2x10 ft.
178 Farm name post.	207 Stitching clamp.
234 Feed rack for cattle, 8x16 ft.	268 Tool box 9x34 in.
235 Feed rack for cattle 5x16 ft.	249 Tool cabinet for the farm shop.
259 Feed rack for cattle, 8x16 ft. on runners.	224 Trap nest, trigger trip.
137 Hay rack.	225 Trap nest, trip board.
211 Kitchen cabinet.	214 Types of roofs.
237 Laundry bench for 2 tubs.	206 Wool box for tying fleeces.
216 Laying out rafters.	170 Workbench for farm shop, 12 ft. long.

## 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.  
 221 Facing south.  
 251 Showing development for first, tenth, and twentieth years.

**LEGEND.**

- |                   |                         |                   |
|-------------------|-------------------------|-------------------|
| 1. HOUSE.         | 4. ICE & MILK HOUSE.    | 7. HOG HOUSE.     |
| 2. SHOP & GARAGE. | 5. BARN.                | 8. POULTRY HOUSE. |
| 3. MACHINE SHED.  | 6. CORN CRIB & GRANARY. | 9. WELL HOUSE.    |

## FARMSTEAD

### PLAN 221

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