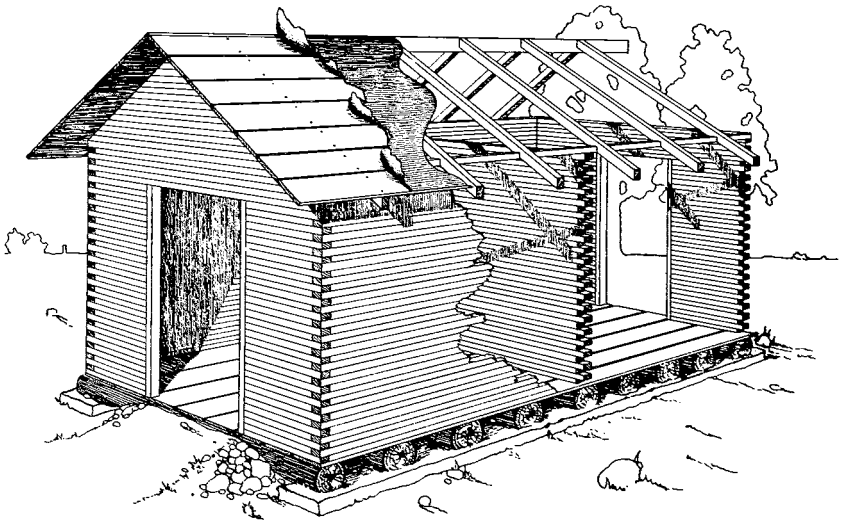
Farm Grain Storage

How To Build Crib-Type Granaries



A simple granary. Built 12x10x24 feet, it will hold 2070 bushels.

How To Build Crib-Type Granaries

By R. E. FORD, Extension Forester

Quickly and easily built—that describes the crib-type granary which can be used to store this year's surplus grain. It isn't new or untried, for it has been used in the construction of large, commercial granaries for years. It offers many advantages, including:

It's easy and quick to construct with unskilled labor.

Low-grade lumber may be used to good advantage. Local native lumber is well adapted and its use at this time will leave shipping space for war materials.

Seasoned lumber is not required since the building method controls warping.

The partitions supply all the bracing needed.

Obviously this type of construction may be used with any plan which appears desirable. The ones illustrated are only suggested because of their simplicity, ease of construction, and the fact that short-length lumber can be used with minimum waste.

Using local lumber at prevailing prices, this type of storage may be developed at such low cost that the seven cents per bushel which is allowed by the A.C.P. for storage will almost pay for all the materials. If a similar payment is made next year the second-year payment should more than pay for the labor, leaving the building completely clear.

Foundation.—For all types of construction intended to be permanent, some form of foundation should be provided to prevent the floor structure from touching the ground. Certainly the granary is no exception. A concrete foundation under the ends of the stringers and one through the center are best. If this appears too expensive, rock piers may be substituted.

Floors.—The 2-inch floors in both illustrations should be supported by stringers placed on 16-inch centers.

Where a stringer is 12 feet long or longer, it is advisable to plan for a center support and thus reduce the dimensions required as shown in the material list.

If green lumber is used for the floor, some shrinkage will occur. Under these conditions a 1-inch floor of seasoned lumber should be placed over a 1-inch rough floor to prevent grain losses through cracks.

Published and distributed in furtherance of the Acts of May 8 and June 30, 1914, by the Colorado State College, Extension Service, F. A. Anderson, Director, and U. S. Department of Agriculture cooperating.

FORT COLLINS, COLO. MAY, 1942

If the building can be placed on high ground with good drainage, concrete floors may be used to good advantage.

Driveway.—It is strongly advised that a cement or wood floor be provided for the double-granary drive, and in emergency, grain may be dried or stored there temporarily. If a concrete floor is desired, 20 sacks of cement and 3½ yards of medium gravel will make a 4-inch floor of 1 to 5 mix. If a plank floor is preferred, nineteen 10-inch stringers and twenty-one 2x12x12 planks will construct a satisfactory wood floor.

Walls.—All lumber used for wall construction should be quite uniform in thickness to prevent cracks. For this reason it is desirable to use only 2x4's which have been sized (surfaced on one side).

Roof.—The roof may be constructed of shingles or composition roofing. If shingles are used, 1,000 shingles placed 4½ inches to the weather, will cover one square (100 square feet) of roof. Composition roofing is usually sold in rolls which cover one square each.

Material List for Double Granary

Storage: 8x10x24 feet on each side and 10-foot driveway. ½ pitch roof and 2 partitions on each side (2921 bu.).

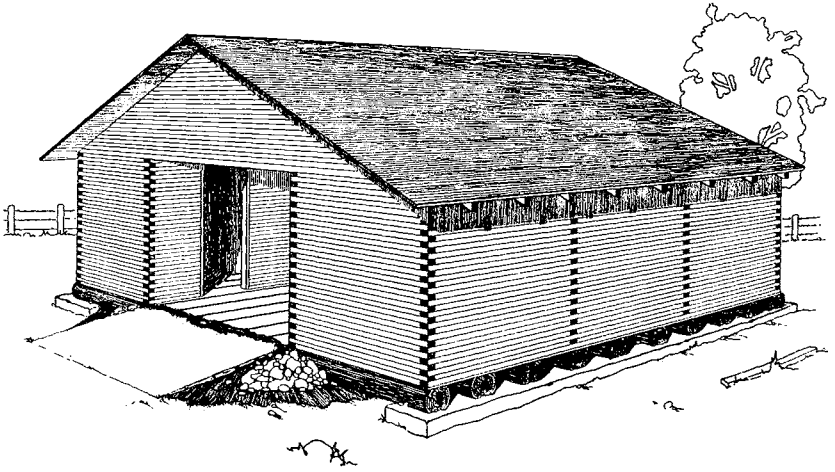
Stringers for granary	38—4x10x 8	840 bd. ft.	
Floor	34—2x 6x16	544 " "	
	34—2x 6x 8	272 " "	
Walls and Partitions	268—2x 4x16	2841 " "	
	804—2x 4x 8	4261 " "	
Ceiling joist	13—2x 4x12	104 " "	
	13—2x 4x18	156 " "	
Rafters	26—2x 4x14	244 " "	
	26—2x 4x 8	138 " "	11
Center Support for	26—2x 4x 8	138 " "	squares
Rafters	4—2x 4x16	43 " "	roofing
	4—2x 4x 8	22 " "	
Gables	14—2x 4x12	112 " "	
	67—1x 6x12	400 " "	
Sheathing	82—1x 6x16	656 " "	
	82—1x 6x10	410 " "	
Door frames	6—2x 6x14	84 " "	
Corner trim	8—1x 4x10	27 " "	
Rafter trim	4—1x 4x12	16 " "	
	4—1x 4x10	14 " "	
Door casing	6—1x 4x14	28 " "	
	2—1x 4x 8	6 " "	
		11,356 bd. ft.	

Material List for Granary

12x10x24 feet with 2 Partitions, ½ Pitch Roof.
(2070 bushels)

Stringers without center foundation	19—8x12x12	1824	bd. ft.	
Stringers with center support	19—4x 8x12	608	" "	
Floor	25—2x 6x16	400	" "	
	25—2x 6x 8	200	" "	
Walls	134—2x 4x16	1420	" "	
&	134—2x 4x 8	710	" "	
Partitions	268—2x 4x12	2144	" "	
Ceiling Joist	13—2x 4x12	104	" "	
Rafters	26—2x 4x10	172	" "	
Gables	4—2x 4x 8	22	" "	5
	15—1x 6x12	90	" "	squares
Sheathing	38—1x 6x16	304	" "	roofing
	38—1x 6x10	190	" "	
Door frames	3—2x 6x14	42	" "	
Corner trim	8—1x 4x10	27	" "	
Rafter trim	4—1x 4x10	14	" "	
Door casing	3—1x 4x14	14	" "	
	1—1x 4x 8	3	" "	
Without Center Support		7,680	bd. ft.	
With Center Support for Stringers		6,464	" "	

Note—To figure capacity of any granary, multiply **inside** contents (in cubic feet) by .8 or 4/5. Answer will be bushel capacity.



A double granary, with drive through center. If built 8x10x24 feet on each side, it will hold 2921 bushels.