

Farm Mechanization FACTSHEET



BRITISH
COLUMBIA

Ministry of Agriculture, Food and Fisheries

Order No. 372.100-3

Agdex: 732.1

March 1987

PLANNING GRAIN HANDLING AND STORAGE SYSTEMS

1. Assess your present situation:

- ♦ existing facilities and equipment
- ♦ harvesting rates
- ♦ types of volumes of crops
- ♦ labour situation
- ♦ physical location
 - space
 - drainage
 - traffic
- ♦ grain bins in other locations
- ♦ available electrical capacity
- ♦ expansion plans
- ♦ availability of money

2. Determine what you would like to have:

- ♦ single point delivery to all storages
- ♦ single point unloading of storages
- ♦ bucket elevator
- ♦ overhead surge bins
- ♦ 2-stage drying (dryeration or combination drying)
- ♦ natural air drying
- ♦ aerated storages
- ♦ weigh scale
- ♦ bin monitoring
- ♦ automatic controls
- ♦ type and capacity of heated air dryer
- ♦ ability to custom dry
- ♦ ability to expand
- ♦ any specific types or brands of equipment
- ♦ ability to accommodate semi-trailer trucks

- ♦ grain use
 - feed
 - seed
 - commercial
- ♦ ability to clean grain

3. Visit a number of grain handling systems to familiarize yourself with the pros and cons of various types. Visit equipment suppliers to determine types and availability of components.

4. Plan your system on paper, trying various alternatives before making a final choice. Several detailed plans are available from the BC Ministry of Agriculture and Food, Resource Management Branch. Agricultural engineers from the branch can also provide individual assistance in designing and evaluation of grain handling systems.

Several basic points to keep in mind while planning are as follows:

- ♦ All systems should be planned to permit two stage drying now or in the future to improve capacity and fuel economy.
- ♦ Overhead surge bins require a bucket elevator. Overhead surge bins should be located in a position where they can serve two or more functions.
- ♦ Custom drying or the removal of dried grain to remote storage requires one or more dry grain surge bins.

- ♦ If possible, systems should be planned to permit the installation of a different dryer type in the future.
 - ♦ Bins should be placed so that the maximum storage volume or number of gins is reached by the bucket elevator with a minimum height of elevator.
 - ♦ All storage should be equipped for aeration or natural air-drying. Large bins should all have fully perforated floors.
- ♦ Allow sufficient turn around space so that no backing up of trucks is required.
 - ♦ Make sure that bin foundation heights are adequate for mechanical unloading and return conveyors.
 - ♦ If possible, keep the grain handling system a safe distance from other buildings to minimize chances of fire spread, dust and noise pollution.

Reproduced from Manitoba Agriculture Factsheet
"Planning Grain Handling and Storage System"

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