



## WHICH MACHINE SHOULD I BUY?

With the wide range of farm machinery available, choosing the most suitable machine is often difficult. Since most farm machinery is designed to cover a variety of conditions, each machine has different advantages and features. The best machine for one farm may not necessarily be the best for another. No single machine will best fill the needs of all farmers. Choosing farm machinery is therefore a compromise among the advantages, features and costs of the different machines.

One way of sorting through machinery information, to determine the best buy, is to use a Selection Table. The table matches the machinery needs on a certain farm with the features of a number of available machines. It is one of the tools used by many businesses to arrive at good management decisions.

To explain the Selection Table, and how to use it, let's examine a typical farm machinery purchasing problem:

Bill Brown needs a new grain auger. Bill and his son farm two and

one-half sections, growing mostly rapeseed and wheat. Their land is scattered with some grain storage located at a distance from the farmstead. They truck their grain to the elevator themselves.

Three different grain augers of the size and type they need are available: the Super Flite, the Happy Farmer and the Hi-Cap.

To suit Bill's operation, he feels that four factors are most important in comparing the augers. These are:

- the auger capacity
- the ease with which the auger may be transported and set up
- the operating safety of the auger
- the purchase price

From available information, such as manufacturers literature, PAMI Evaluation Reports and other sources, Bill was able to make the following comparison of the three augers.

MAKE	CAPACITY	COST	SAFETY	EASE OF OPERATION
SUPER FLITE	38 t/h	\$1275	Belt and drive guards Safe Inlet	Maximum transport speed 100 km/h Difficult winch operation
HAPPY FARMER	42 t/h	\$1350	No belt and drive guards Safe Inlet	Maximum transport speed 100 km/h Easy winch operation
HI-CAP	47 t/h	\$1250	No guards Open Inlet	Maximum transport speed 60 km/h Difficult winch operation

To Bill, some of the factors in the Table are more important than others. He feels that capacity is the most important. Since he is using only one auger on his farm and since his land is scattered, he also needs an auger that can be quickly transported and easily set up. For this reason, ease of operation is nearly as important as capacity. Bill feels that he and his son both have good safety attitudes and he places less emphasis on safety than on capacity and ease of operation. Cost is the least important factor, since he is buying only one auger for his farm and hopes that it will last for a number of years. To help in his selection, Bill rates the four factors in order of importance based on his own operation and circumstances.

He uses a scale of 1 to 10, as follows, with the most important factor given a rating of 10 and the other factors given a rating proportional to

their importance. Note that this rating is purely judgmental, with the most important factor given the highest rating.

Capacity	10
Ease of Operation	8
Safety	4
Cost	2

Bill draws up a Selection Table which includes the three machines, the four selection factors and the selection factor ratings as shown in FIGURE 1. The selection factor ratings are entered under each selection factor.

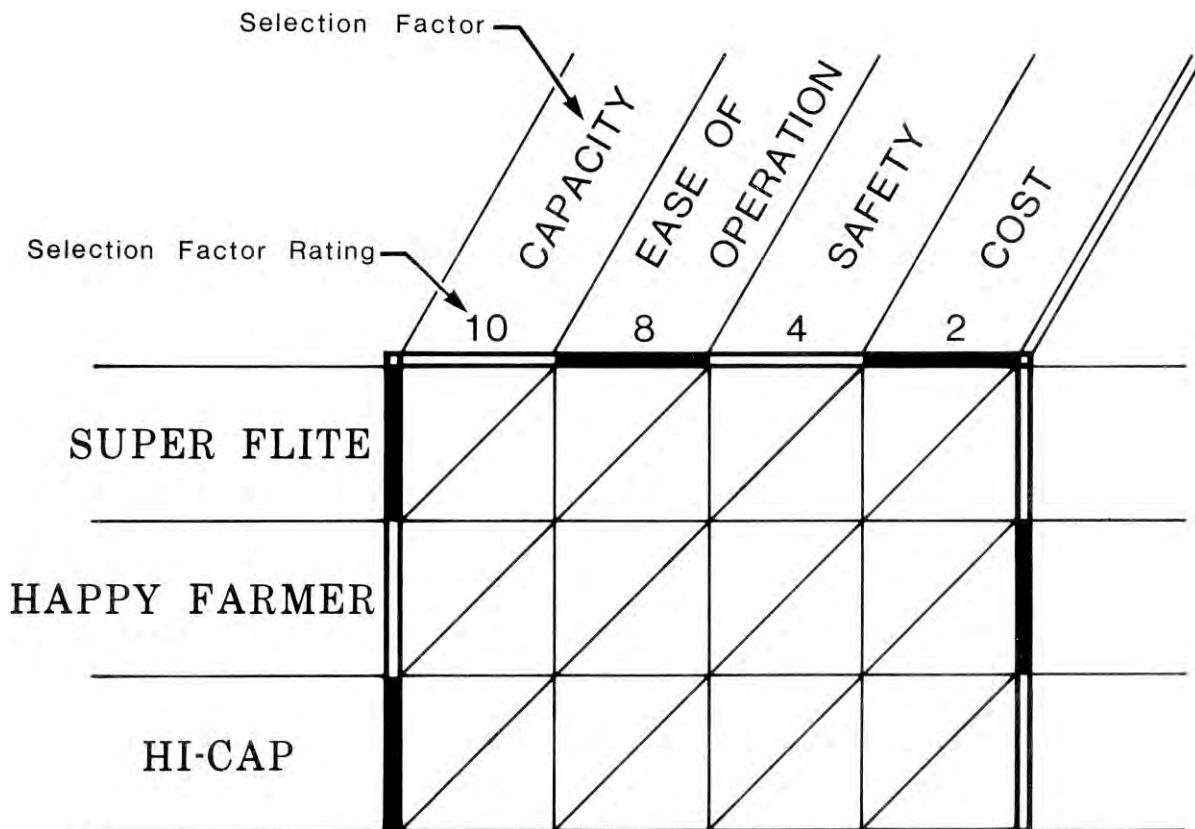


FIGURE 1. Selection Table - Selection Factors.

Bill now determines machine ratings for each machine. He once again uses a scale of 1 to 10 in assessing the capacity, ease of operation, safety and cost of each machine. For example, the Hi-Cap has the greatest capacity so it is given a machine rating of 10 for capacity. The Happy Farmer has about 90% of the capacity of Hi-Cap so it is given a machine rating of 9 for capacity, while the Super Flite, with only 80% of the Hi-Cap capacity, is given a machine rating of 8

for capacity. He similarly objectively rates ease of operation of each of the machines, giving the Happy Farmer a machine rating of 10 for ease of operation, the Super Flite a machine rating of 8, and the Hi-Cap a machine rating of 6. Once he has rated all the machines for each factor, he enters the machine ratings in the Selection Table as shown in FIGURE 2.

	CAPACITY	EASE OF OPERATION	SAFETY	COST
Machine Rating	10	8	4	2
SUPER FLITE	8	8	10	9
HAPPY FARMER	9	10	7	7
HI-CAP	10	6	5	10

FIGURE 2. Selection Table - Machine Ratings.

Next, Bill multiplies the selection factor rating, at the top of each column, with the machine ratings in that column, to arrive at a score for each machine. For example, the Super Flite gets a capacity score of  $8 \times 10 = 80$ , the Happy Farmer gets a capacity score of 90, and the Hi-Cap gets a capacity score of 100. The machine scores for each selection factor are calculated and entered in the Selection Table as shown in FIGURE 3

As a final step, the four scores for each machine are added to arrive

at a total machine score. For example, the SUPER-FLITE gets a total machine score of  $80 + 64 + 40 + 18 = 202$ . From FIGURE 3, it can be seen that the Happy Farmer has the highest total machine score and is probably the best buy for Bill's farming operation. Note that the Happy Farmer was determined the best buy, even though it did not have the lowest price or the highest capacity. It did, however, have the best combination of features Bill decided were important to his own operation.

	CAPACITY	EASE OF OPERATION	SAFETY	COST	Total Machine Score
Score	10	8	4	2	
SUPER FLITE	8 80	8 64	10 40	9 18	202
HAPPY FARMER	9 90	10 80	7 28	7 14	212
HI-CAP	10 100	6 48	5 20	10 20	188

FIGURE 3. Selection Table - Scores.

This simple example illustrates how a *Selection Table* can be used to logically arrive at a machinery purchasing decision. The Table is especially useful when there are many machines to choose from and

a large number of factors to be considered. It can be used to assist in any decision where a large number of definable factors determine the outcome. A simple blank Table is included for convenience.

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