

BUILDING A ROTARY SHED

(From page 3)

(vi) Do you intend to take advantage of mechanical aids for washing and stimulation or cup removal as they become available?

Principles

Let us now consider diagram 3, which is a stylised representation of a milker-outside, back-off, stop-start type of shed. The principles to be discussed here will apply equally to sheds with the milker inside or with the cows going off forwards.

"Cycle length" is a useful concept to use in sorting out the factors listed above. This can be defined as the time taken for each bail to pass the milking position. Practically, then, this is the time available to complete the operations mentioned in (i) above where there is one man preparing and cupping cows.

Let us presume that 95 per cent of your cows milk out in six minutes and that you require about 20 sec. for washing and stimulation and another 10 sec. to put the cups on, i.e. a 30-sec. cycle, what is the least number of bails you must have?

In the diagram, position (1) is entry, (2) is preparation and cupping, (15) is cup removal and (16) is exit. There are thus four non-milking positions.

Then milking time divided by cycle length, plus non-milking positions, equals number of bails.

Six minutes divided by 0.5 min. cycle, equals 12 plus non-milking positions, equals four; equals 16 bails.

The output per hour is simply 60 minutes divided by cycle

DIAGRAM 3

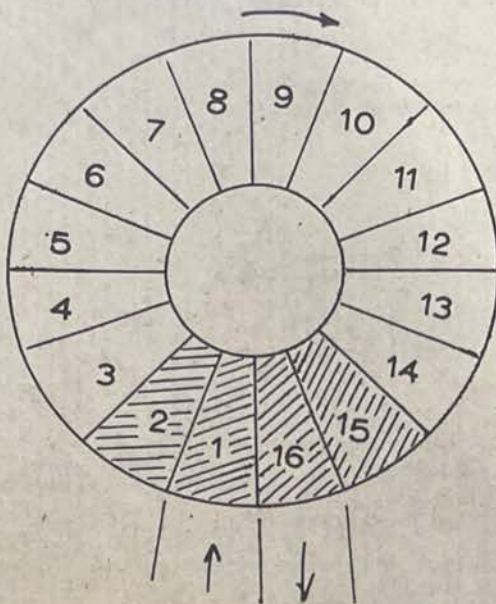
length in minutes—60 divided by 0.5 equals 120.

Note however that this is a theoretical output and has not taken account of only 95 per cent of cows milking out in six min.—or of any other hold-ups that could occur.

If you wish to milk, say, 180 cows per hour the calculation becomes:

Cycle length equals 60 min. divided by 180; equals 0.33 min.; equals 20 sec.

If you consider this long enough to prepare and cup cows you could still achieve this



theoretical output with one man in the preparation and cupping position. However, to achieve six min. milking time the bail numbers required are:

Six min. divided by 0.33 min. cycle time equals 18, and plus non-milking positions, equals 4; 22 bails.

Possibilities

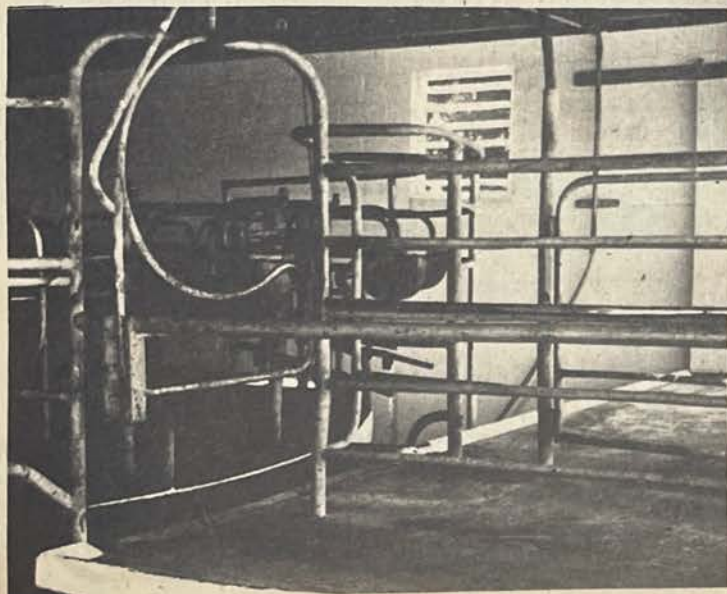
In general, however, 20 sec. would not be regarded as long enough to prepare and cup cows. You would need either to put a third man in your shed or put in automatic cup removal and bring the man released there up to the preparation end. (This is currently being done in one Taranaki shed.) Another alternative would be to put in automatic washing and stimulation and retain manual cupping and removal.

It should be noted that putting two men on preparation and cupping if both operations are done on the platform adds a further non-milking position. This has been avoided in some sheds by preparation prior to the cows coming on to the platform.

Rotary sheds with cows loading two at a time, such as that mentioned earlier, are essentially the result of putting two two-man sheds, one on top of the other, and giving full employment to the man removing cups who was only partially employed before, while retaining two operators at the preparation end.

These, then, are the decisions that will need to be made once you have made up your mind to "go rotary."

Automatic cup removal



LEFT: This gate of rounded pipe is hinged at the top and pivots upwards to allow the cow to pass to a continuously moving platform.

ABOVE: Automatic cup removal. The cow is about to move out of the shed down the ramp under the rotating platform.