What are the benefits of guided systems?

In the last six months I have visited over twenty-five farms from the five main manufacturers throughout the UK. The purpose of my visits was to carry out an anonymous survey looking at performance levels in a whole range of situations. The smallest herd was just 60 cows and the largest was 500 with a combination of free access and routed systems. Five of them were also grazing.

When asked if there is anything that they would have done differently, everyone was generally happy with their choice of machine and their building layouts. However, this always led on to the subject of routing cows, with everyone backing their system, whether it was free access or guided.

What is a guided system?
This involves setting up a one-way system in the cubicle building with selection gates to marshal cows in to the robot waiting area, if they are due to be milked. However, if they are not due yet, they can continue on their way to the cubicles or feed fence, so avoiding unnecessary visits to the robots, which would have only resulted in them being rejected from the box.

Four of the manufacturers offer guided systems but Lely interestingly, are the only ones who insist on free access. The claimed benefits from routing cows are:

- Reduced labour
- Reduced feed costs
- More milk output per robot

So, are these claims genuine or is it simply manufacturers looking for a point of difference for marketing purposes? So, lets explore this in more detail.

Reduced labour?
On all of the guided farms that I visited, they were not collecting any cows, apart from some heifers who were new to the herd, but even then, it was only for a limited period of time.

On the free access systems, if the balance was right, with the ration on the feed fence and in the robot, then the number of cows that required collecting was typically around 5% of the herd, two times a day. So, in a group of 120 cows on two robots, this was equating to five or six cows at each end of the day. All of the farmers that I spoke to on these systems, did not have an issue with this and just saw it as part of their daily routine, but their time still has to factored in.

Free time, when the robots are idle, but available for milking, also has an influence here. On the farms that I visited when this figure exceeded 15% or more, it was resulted in lower numbers for collection than the example given above. However, this is a luxury that many producers cannot afford and so anyone running at 10% or less will have to fetch cows.

So, I do see a definite advantage here in labour savings, particularly with large herds, where fetching cows can become very time consuming.

Reduced feed costs?
This is an interesting one because two of the manufacturers are promoting less or even no feed in the robots, by guiding cows on a one-way route. This system relies on the TMR ration to encourage cows through the robots as opposed to concentrates fed in the machines.

GEA promote less feed and typically are prepared to increase the TMR ration, to the average yield of the group. So, a cow producing 50Kg would only be fed up to 4Kg of concentrates in the robots if the group average was 40Kg. However, DeLaval are prepared to knock out concentrates fed in the robots completely.

To date they have pioneered this in The US and Canada where they have been getting very good results. However, there are three key points to be aware of here:

- The system must be totally guided
- The TMR must be of the highest quality
- A strict robot training protocol must adopted, for any cows joining the herd

Although the no feed approach has not been promoted in the UK, there seems no reason why it cannot be adopted here, if the three criteria above are in place.

More output per robot?
In theory you can get more cows on each robot, because you are not using up valuable box time when cows present themselves before they have milking permission. The typical level of “too soons” or “not yets” on a free access system can be as high as one per cow per day and most manufacturers actually target this level, as it shows that there is plenty of activity in the building.

So, if we take an example of one robot with 60 cows averaging 30Kg and three milkings per day, the robot output would be 1800Kg per day. If we then assume an average refusal time is 30 seconds per cow, this would equate to loosing half an hour of milking time per day compared to a guided system. In turn, this would result in four lost milkings per day with a box time of 7.5 minutes or 40Kg in the above example. In percentage terms this is just over 2% more milk which I do not feel is that significant.

Conclusion
The above calculations, combined with my experience of seeing the highest yielding robots during my visits, operating on free access, brings me to the conclusion that you should not opt for a guided system, purely in the hope of increasing robot capacity, because the benefits seem to be marginal.

However, there is undoubtedly an advantage to be had with feed costs, in the right situations and reduced labour. So, if these two factors are something that you are looking to implement in to your new project, then a guided system might well be a good solution for you.

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November 25th 2025