The hidden cost of buying new incubators

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Many factors influence the decision to buy a particular incubator. Comparing quotes from different suppliers is not always easy as the comparison is often not a 'like for like' one.

There can be a number of 'hidden' costs which need to be teased out in order to make valid comparisons between supplier A and supplier B. What questions should we ask?

A list of 'hidden costs' could include the following:

- Energy consumption.
- Labour requirement.
- Price and availability of spare parts.
- Reliability and ease of maintenance.
- Durability. How long will it last?
- Support services needed in the hatchery for the machines to function.

Wherever you are in the world hatching costs, such as the cost to incubate 100 eggs or the cost of producing 100 chicks, is of fundamental importance to the profitability of the hatchery.

In Europe it is not uncommon for labour to constitute 40% or more of the total costs and energy about 20% with equipment depreciation third in line.

However, in many installations in Asia electricity is generated on site and can be the biggest cost, especially in those countries where labour is very cheap.

So, if energy costs are a problem for you how will this affect your buying decision?

Should you look at single stage or multi-stage? In theory the multi-stage system will use the least amount of electricity as the system relies upon recycling the animal heat from the older embryos to warm up the younger ones.

Compare this with the single stage system where all the eggs in the setter have to be heated for the first 10 days and cooled thereafter – on the face of it a very inefficient system as far as use of energy is concerned.

But newer refinements to the single stage system have gone a very long way to making them much more energy efficient.

Most manufacturers now advise closing up single stage machines for the first 10 days to improve air circulation and, therefore, heat distribution. Carbon dioxide and humidity levels will both rise as well.

Provided the setter has a well insulated cabinet and has been built on a well insulated concrete floor then heat loss will be minimal.

Multi-stage machines often have higher energy consumption than expected due to poor management, for example running partly full,over ventilating, leaving doors open and ignoring water leaks which need heat to evaporate the excess water.

Why do incubators need electricity? It is used to heat or cool the eggs, turn them, and drive fans or pulsators to ventilate the cabinet and maintain a uniform environment.

Setter fans run continuously and account for most of the electricity consumption. Some setters have more fans than others to ventilate the same number of eggs; some fan motors are more efficient than others and consume less electricity.

Most modern computer control systems can save energy by controlling temperatures more accurately by preventing under and over shooting of the set point during cooling and heating.

The system used to provide humidity will also consume energy – directly or indirectly.

Directly if steam is generated to produce humidity and indirectly if an excessive quantity of water is dumped in the machine by badly adjusted spray jets.

Labour costs

We are aware of the differences in labour requirements between rack and trolley machines when we consider loading and unloading the eggs into and out of the setter.

But we tend to forget that trays of eggs have to be loaded into a trolley (on the farm or in the hatchery). Once loaded onto a trolley it is the the loading time that is greatly reduced.

Can we physically check (and that does not mean looking at a computer screen) on all the functions of a setter? Consider the advantages of a corridor in this context.

What about ease of cleaning? Rack machines pose a real challenge in today's climate of high levels of imposed biosecurity.

Glass fibre or stainless steel may look fantastic when new but how do we clean these surfaces? Do they stain? How do we remove scale deposits?

How long does it take to clean up after each hatch? Find out from customers.

Maintenance and spare parts

Some manufacturers use many parts which can be sourced from electrical or plumbing wholesalers. Others use 'unique' components which can only be obtained from themselves at a premium price. Many consumable spares such as trays and baskets can be obtained from several sources and, therefore, there is some price competition. But beware of spurious spare parts which are inferior to the original product – the cost saving will be short lived.

Good design, good engineering, good manufacturing and good installation should give optimum reliability. Speak to other users and be prepared to pay more for a machine which has designed-in reliability.

The old phrase 'you get what you pay for' certainly applies here. Equipment which is cheap to buy may cost much more over a 10-20 year lifespan than rather more expensive machines that are designed to last with minimal repair costs.

Ancillary support equipment

It was once said of a particular machine that it would work anywhere – even in the middle of a field!

These days we are extremely cost conscious and want our machines to work as efficiently as the manufacturers intended.

So what about the services to these machines which we have to supply and run in order to achieve the best results?

Some machines require only basic facilities in terms of support – for example a multi-age rack setter will run happily on 'mains' water in many parts of the world, only requiring a chiller if summer temperatures justify it.

Single stage, on the other hand, will always require a water chiller.

The water issue is very important, both for quality and quantity.

Do you have sufficient water available to meet the requirements of the machines now and in the future when you expand? If this is likely to be a problem then perhaps you should consider air cooled machines.

What about water quality? Does the humidity system require a supply of softened water? The answer to this one is usually 'Yes' and so water quality needs to be assessed and equipment installed to bring it up to the necessary standard.

Remember water scale can be one of the most expensive maintenance issues in a hatchery. So it pays to get it right at the outset.

Some machines require compressed air for turning. which means there are more capital costs to be considered and another maintenance issue.

Customer support

This is a very contentious issue. All manufacturers claim that their back-up (customer support and training) is second to none.

Unfortunately you do not find out how good or bad it is until you have signed the order.

In order to compete on price some manufacturers have to make savings and this is one of the easiest areas to cut.

You only buy new incubators or build a new hatchery once or twice in your career and, therefore, your decision will have long term effects for the company – so think it through carefully and consult widely before you make your decision. ■