

# Management of the hatch window

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The hatching of strong, viable birds is a key factor in increased broiler performance. To increase the probability of strong birds, good hatchery management becomes critical. One management technique is to measure the 'hatch window'.

The hatch window is an investigation to check the number of chicks hatched after the eggs have been transferred from the setter to the hatcher.

If the eggs are hatching too early, the chicks become susceptible to problems such as dehydration.

Dehydration to chicks this early could lead to increased seven and 14 day mortality and/or poor broiler performance. If the chicks are hatching too late, the result could be poor hatchability, chick quality problems, increased pipped eggs and live embryo unhatched eggs.

## Examining the hatch window

The procedure to investigate the hatch window is quite simple and should be included as a hatchery routine.

- Take the top three trays in the hatcher to test.

- Before the examination, ensure that you have a table for a work area adjacent to the



hatcher and a sheet to record the number of chicks hatched. Ideally it is better to work with two people. The first person will bring the hatcher trays to the table and return the hatcher trays once the count is complete.

The second person will count the chicks and record the data.

- Record the figures and return the hatcher trays as quickly as possible to the hatcher.

- Check the setter. To check how the setters are functioning from the time of set to transfer, select a flock and place a minimum of three setter trays in the top, middle and bottom positions of the setter.

- At transfer carefully mark the hatcher tray with the position of the setter tray. Ensure that an identification label is securely attached to the tray, which will not be removed.

- Select the times that you wish to carry out the examination. Start the journey through the hatching process 38 hours to chick take-off. Repeat the examination, say, 33, 23 and 13 hours before take-off and at take-off. Look for any inconsistencies.

For example, where the chicks are all down on one end of the hatcher basket, this may indicate incorrect temperature and a ventilation flow problem inside the machine.

On the day of chick take-off a considerable amount of meconium covering the shells and advanced wing feather growth will indicate hatching too early.

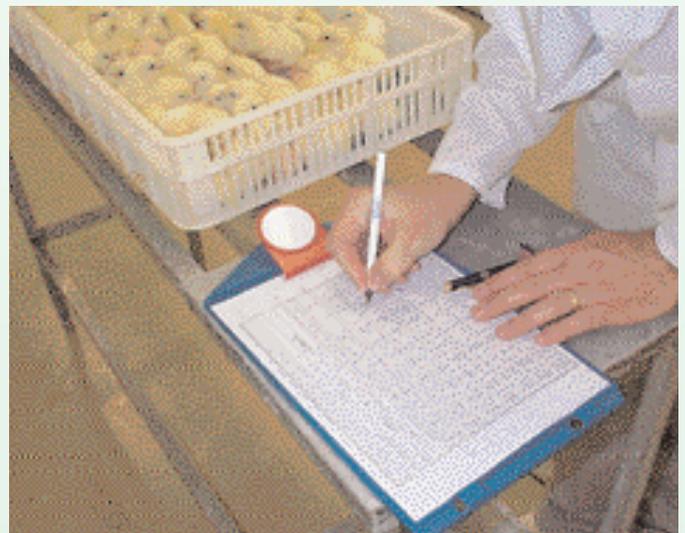
Factors affecting early hatch include:

- Extended pre-heating period.
- Setting eggs too early.
- Incorrect setter and hatcher temperatures.
- Hot spots inside the setter and hatcher.
- Incorrect ventilation.
- Seasonal temperature changes.
- Too many fertile eggs in the hatcher.

Factors affecting late or delayed hatching include:

- Setting eggs too late.

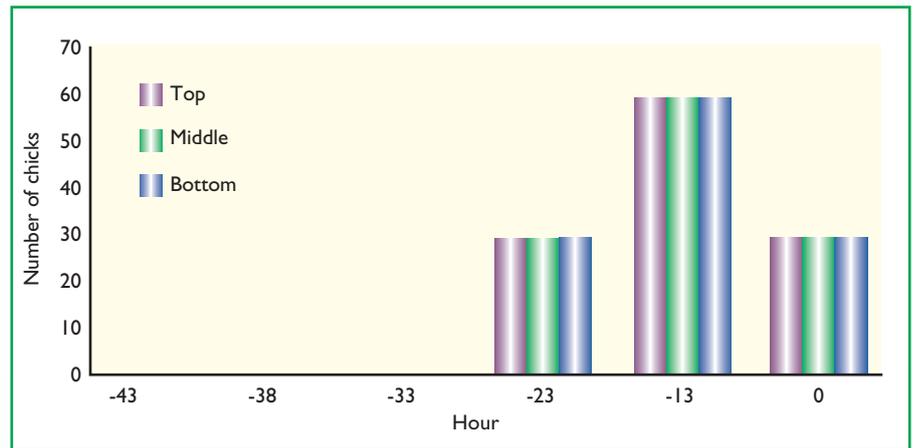
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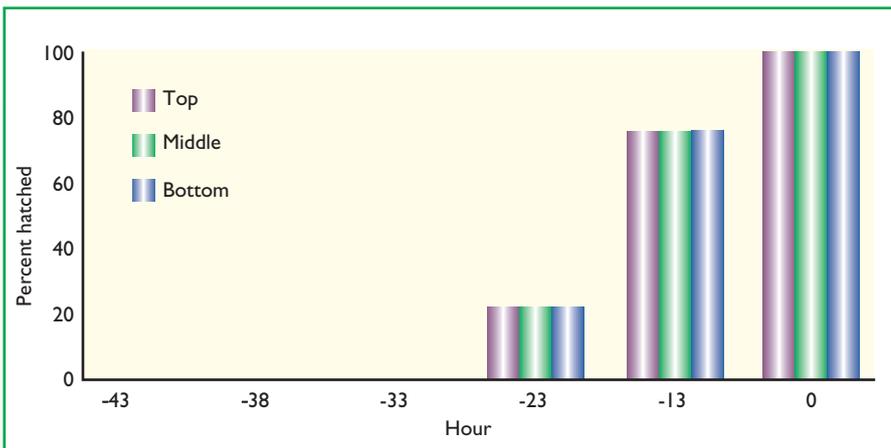
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- Incorrect setter and hatcher temperatures.
- Incorrect ventilation.
- Seasonal temperature changes.
- Eggs which have been stored for long periods.
- Eggs which have been stored at too low a temperature.
- Incorrect setting patterns in multi-stage machines.
- Disease/fertility problems.

The hatchery manager should be aware of the condition of the chicks at take-off. The hatch window should be investigated peri-



**Fig. 1. Ideal hatch percentage.**



**Fig. 2. Ideal hatch spread.**

odically through the seasons. Not all hatcheries have a temperature controlled environment. Where there is no control, setter and hatcher room temperatures may fluctuate during the year affecting the time the chicks will hatch.

Setter/hatcher and ventilation calibration is an essential part of hatchery management. Investigating the hatch window is an indication that procedures may need to be changed and regular servicing/maintenance of equipment is maintained. The hatchery manager must have knowledge of seven day customer/company mortality. It is essential information to understand what is happening with hatchery incubation. ■