



Chick Master®



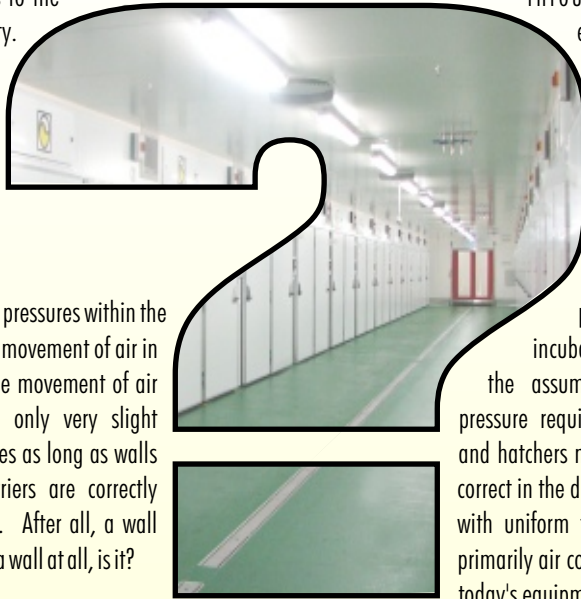
NOVEMBER 2009

AIR PRESSURES

for INCUBATION ROOMS and PLENUMS

Air pressure in a hatchery plays an important role in the optimization of incubation performance as well as bio security. Most people understand that this is true but how to utilize that understanding to improve your hatchery's financial health is another question entirely.

Let's do a quick overview. A hatchery needs to ensure that air moves from the cleaner areas of the hatchery to those areas more likely to produce harmful bacteria and decaying organic matter. Higher air pressure in setter rooms compared to hatcher rooms ensures that air flow is always from the setters to the hatchers - clean to dirty. Therefore, the most negative area of the hatchery should be the chick room to ensure that all air moves towards it.



By applying differing air pressures within the hatchery we can aid the movement of air in a specific direction. The movement of air can be achieved with only very slight variations in air pressures as long as walls and other natural barriers are correctly placed and maintained. After all, a wall with an open door is not a wall at all, is it?

But, what exactly is the correct setting for your setter and hatcher rooms? Not only do we now need to consider the bio security issue but we also must consider the optimum conditions for the incubators. While air pressure is a very important consideration for the correct flow of air from room-to-room, we shouldn't forget that air also exists in places other than the chick room. We must also be keenly aware of the optimum air pressure needed for the proper functioning of your setters and your hatchers. Understanding the optimum pressure differential (supply to exhaust) characteristic of the incubation equipment in operation is essential to obtaining maximum performance from your equipment.

Due to the importance of air pressure's role in maintaining bio security it is common to find recommendations from

well-meaning ventilation engineers advising that optimum air pressure settings for setter and hatcher rooms consider only the proper flow of air from clean-to-dirty. This advice frequently forgets that the majority of the air passing through these rooms is actually exhausting through the operating equipment (which is the reason the air was sent to that room in the first place!). These recommendations, if implemented, may cause significant reductions in the performance of your incubation equipment. While the assumption of uniform air pressure requirements for all setters and hatchers may have been closer to correct in the days of multistage setters with uniform fan speeds that were primarily air cooled, it is not correct for today's equipment. It is certainly not accurate for models like the modern Chick Master single stage setters and hatchers that use paddle fan technology.

Chick Master, like all of the other professional suppliers of setters and hatchers, makes clear recommendations on room and plenum air pressures to ensure optimum results both in product quality and energy management. We can now go on to look at exactly how that gets done 📷

(Time and print space have now run out on me, but this article will continue in the next e-news. If you just can't wait for the rest of the story, send an email to Schapple@chickmasteruk.com and he will send the rest of the article to you by email, or simply ask your Chick Master sales rep. for a copy.)

e-News

Issue Number 16

To Our Hatchery Friends:

Chick Master UK Open House September 23, 2009



Look out for another Open House in 2010

Chick Master UK hosted an Open House event at its facility in Bridgwater, UK, focussing on Heat Recovery and Energy Management. Despite the more limited subject matter than usual the event attracted a large number of delegates from the UK and many other European countries, USA and Nigeria. It is a testament to the growing importance of this technology, especially in the current financial climate. Companies are looking seriously at the enormous savings the industry leading Chick Master heat recovery systems can provide on their utility bills and the social impact of reduced CO₂ emissions.

Our US Regional Seminars continue to attract a great deal of interest. We recently held one in Birmingham, Alabama, in October and there is another arranged for December 2nd in Columbia, Maryland. International seminars have also been held recently in Mexico (see picture below), Indonesia and Malaysia. Don't forget to check www.chickmaster.com regularly for news of one in your area.



98 people attended our Seminar in Querétaro, Mexico, on the 20th October

“Because That’s the Way My Father Did It”

As I add the years into my experience bag I am continually amazed at the phenomenon that occurs regarding the knowledge possessed by a father when viewed through the eyes of a son.

When the son was six, the father was the possessor of all knowledge;

When the son was sixteen, the father was the poster child for everything wrong in the world, totally devoid of knowledge and incapable of thought;

When the son was sixty, the answer to most questions beginning with “Why do we..” became “Because that’s the way my father did it and if it was good enough for him, it’s good enough for you.”

Amazing how the same person could be capable of such wide swings in knowledge and respectability. As I approached and passed the sixty landmark I made a conscious commitment that I would fight the desire to promote complacency and status quo.

Not just a single person's battle against time it was a commitment fueled because I realized that my father (just like yours) made the best decisions he could with the knowledge available to him. He just didn't have access to the information, knowledge and products we have access to today.

My father wasn't a bad or dumb person. He just didn't

have the opportunity to learn what we can learn with a minimal amount of effort.

So, some years ago I realized that many of the things I learned from the generations before me were wrong.

Not the things about honor, decency, courtesy, and “your word is your bond” mind you. Those things are still timeless and priceless irreplaceable.

But, the technical things they professed may have been right when I was six, probably were beginning to be wrong when I was sixteen, and are know hopelessly outdated as I pass sixty.

I came into the poultry industry when I was about fifty. It was a refreshing change from Wall Street America. Honor, decency, courtesy and your word all still meant as much in this industry as they did when I was just a lad. How many of you realize how lucky we are to be in an industry where, for the most part, these values are still sacrosanct?

Please don't confuse these wonderful qualities with the real message. The technology of the world is changing and our industry must evolve if we are to remain pertinent. You must improve your quality, demand that customer service be better than what your most demanding customer expects and you must get your costs down. The world still has no tolerance for the sickly business. Healthy competitors and demanding customers will do everything they can to destroy the weak.

Look to the future. The warning signs are all there. Rising fuel costs, higher water costs, skyrocketing sewerage charges, transportation costs exceeding the cost of the basic grains and finished poultry products. You must focus on the prudent use of energy. Sometimes that requires you to admit that what your father taught you may no longer be the correct way to do things.

Look into the application of our CC3 ventilation system products. If your hatchery is more than 3 years old, I guarantee that there is a place for this product to improve quality and reduce your energy costs. Look into this with the intelligence of today. Make your father proud ☺



If Spare Parts are a puzzle to you...



visit our on-line shop at www.chickmaster.com

and start earning points today



Chip Campbell

Ask the Eggspert

Your chance to ask our hatchery and embryology expert the questions.

Q When is the correct time to fumigate eggs?

Mr P. Grant - Scotland

A Effective fumigation of hatching eggs is a proven means of reducing the burden of shell bacteria provided eggs are correctly fumigated. It is advantageous to fumigate hatching eggs on the farm as soon as possible after lay and again before setting at the hatchery. The first fumigation is designed to kill shell bacteria before they penetrate the shell, the second is designed to reduce shell contamination that occurs between the farm and setting.

Q What can you tell from the quality of egg shells?

Mrs A. Thomas - USA

A Egg shells during break out can give many clues to the conditions of incubation and hatching, and of the flock which produced the eggs. Initial observations include the amount of meconium seen on the eggs and the general level of egg cleanliness. The first will give an idea on how long chicks have been hatched, the second will give some idea of the basic egg hygiene at breeder level. Additional observations cover shell quality, thin shelled eggs, misshaped, egg uniformity, number of cracks, level of bacterial contamination, etc. All should be recorded as part of the break out analysis. These, along with other observations such as pipping lines and “crushability” of the shells help to build a good picture of the level of performance of flocks and incubation systems.

FUN TIME

A man took his brother to see a psychiatrist.
 Psychiatrist: 'What seems to be the problem?'
 Man: 'My brother thinks he is a chicken!'
 Psychiatrist: 'How long has this been going on?'
 Man: 'for about a year.'
 Psychiatrist: 'Why didn't you seek my help sooner?'
 Man: 'Well, we needed the eggs!'

The Case of the Murderous Midday Heat

By Cy Clone

Mad dogs and Englishmen will venture into the mid day sun they say but what happens in your hatchery when the sun is at its strongest? Often in these conditions hatcheries are simply unable to provide the correct level of cooling. Why is this?

First we need to fully appreciate the affect on the cooling requirement in proportion to the moisture content of the air in these extreme conditions. Cooling dry air is reasonably easy but cooling very moist air is extremely hard work and will require up to three times more cooling power. The moisture content in air has a far greater bearing on the design criteria when sizing air cooling systems.

In reasonably warm dry air conditions (32°C (90°F) at 30% RH), a cooling system would normally be quite able to easily achieve the required room temperature. As an example: one cubic meter of air requires about 12kW of cooling to cool the air to 22°C (72°F).

However, if we now take that same ambient temperature

(32°C) and raise the moisture content to 70% RH, you could encounter real problems. To achieve the same air temperature of 22°C (72°F) will require about 26kW of air cooling. In this case the 12kW of cooling would only be sufficient to drop the air temperature to 26°C (79°F).



The new Chick Master CC3 system offers the ability to take selective rooms and specifically target them for more efficient air cooling. In addition, when combined with incubation cooling, we are able to facilitate dehumidification and reheat using embryo heat from the primary heat recovery system. We are able to offer the CC3 system in a wide variety of capacities to suit targeted room cooling requirements and the level of dehumidification, if required ☑

If you want to learn more on this topic please send an email to Schapple@chickmasteruk.com and he will be happy to send you further details.

...and the Sad Case of the Chiller that Couldn't Chill

THE SITUATION: It was a relatively cool day for late summer. Ty Phoon sat quietly while John, the hatchery manager, paced nervously. "I think the building is haunted", said John. "Now that you've come, the chiller is suddenly behaving properly. Just yesterday we were having overheating alarms everywhere. The conditions haven't changed much, maybe just a bit cooler today, but no alarms. It's like this all the time. What can I do?"

THE ANALYSIS: Phoon listened patiently and measured his words. To someone like Ty, every breath is important since he doesn't take energy or air lightly. "We are not *phools* John and we both know there are no ghosts in the hatchery. The problem is that your chillers are running almost at capacity today and you just made a transfer from your multistage equipment this morning. Every minute for the next three days the heat load is

going to increase as the embryos mature. You probably don't realize that the load prior to transfer is approximately 67% greater than the load immediately after transfer. Your chillers are more than 15 years old. They were intended to deal with a smaller embryo that was cooled mostly by air.

Today we realize that we get a better hatch in quantity and quality with water cooled setters and hatchers, but that approach coupled with the larger embryos has made your chillers completely incapable of dealing with the peak loads. When the outside air is cool and the embryonic heat is at the beginning of the set your system can cope. When it gets warm out and the set moves towards the end of the cycle, your "ghost" appears.



Ty Phoon

THE SOLUTION: "Piece of cake" said Ty. "Even though only 1/7th of the embryos are in the hatcher room they produce about 40% of the animal heat load. By installing CC3 units with Zeus controllers in the hatcher rooms I was able to reduce the load on the main chillers by that 40% giving them more than enough capacity to deal with the remaining heat. Since the outside air is relatively cool here--and downright cold at night--I also installed the in-line heat recovery units with the CC3s and paid for a significant part of the investment with the heat I was able to return to the hatchery. John was ecstatic since we were able to do all of this without causing any meaningful disruption in his production and our solution was way less expensive than the addition of more centralized chiller capacity would have been.

"I'm buying dinner tonight" laughed John. "Feel like eating *phish*, or perhaps *Thai*, Ty?" ☑

A Great Team



Chick Master recently supplied the Lusiaves Hatchery near Porto in Portugal with high performance single stage Avida setters and their latest heat recovery and energy management ventilation systems. In total 48 Avida single stage A24-73 setters and 32 H408-73 hatchers were installed making it probably the most advanced hatchery in the world. Look out for an in-depth article on this excellent facility in the coming months here in the Chick Master e-news

Chicks produce **HEAT**



Don't waste it!

Did you know that a typical hatchery producing one million chicks a week will produce almost 2 million kWh of heat energy in one year.

This energy is usually exhausted to atmosphere.

Chick Master can show you how to reuse most of this energy to heat your fresh hatchery air while reducing the energy load on your chillers.

Not only will you pay back your investment quickly but you will also reduce your carbon footprint.



Chick Master Energy Management Systems
 US Phone: +1 201 871 8810 UK Phone: +44 (0)1273 411000

Malaysian Seminar in June attracts over 100 delegates

On June 24th Chick Master hosted a 'Single Stage Incubation and Ventilation Technical Support Seminar' at the Klana Resort, Seremban, Malaysia.

"Our intent in undertaking such a prestigious event was to demonstrate the benefits of the Single Stage incubation process to the Malaysian marketplace and present the significant developments that Chick Master has made in Hatchery Ventilation and Energy Management in recent times," said David Buessing, Chick Master's South East Asia Sales Manager. David was also very pleased to introduce Fijiliam Enterprise Sdn. Bhd, Chick Master's recently appointed Sales Representatives for Malaysia, as they take the Chick Master message and services to the marketplace.



The event was very well attended by over 100 delegates coming from both East and West Malaysia and representing most Malaysian poultry breeders and growers.

Chip Campbell, head of poultry services, gave a fascinating talk on stage programming that incorporated a detailed look at our single stage incubation philosophy. Chip shared his operational experience with the delegates and was able to greatly simplify the concept of single stage operational procedures.

Eric Mol, one of Chick Master's heat recovery and ventilation experts, introduced the new CC3, one of Chick Master's most exciting new ventilation concepts that combines many of the basic hatchery service requirements into one self contained unit. The CC3, a first for the hatchery industry, has been very well received since its launch earlier this year.

Mr. Lee, General Manager of Fijiliam, commented, "We thank Chick Master for organizing such a great event here in

Malaysia. We were delighted that it attracted such a large section of the local poultry industry. Our customers are very important to us and we are dedicated to ensure that all of their incubation requirements are met to the fullest." ☺



Coming soon

To a Poultry Show near you...

Meet 'The Oracle' at our new location in Hall B#4119 at IPE 2010, Atlanta

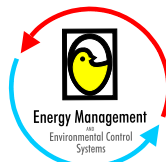


For all you need to know about your hatchery, consult the

ORACLE



Please contact us for any product or support information you may require



Chick Master International: 25 Rockwood Place, Suite 335, Englewood, New Jersey 07631, USA. Tel: +1 (201) 871-8810, Fax: +1 (201) 871-8814, e-mail: sales@chickmaster.com

Chick Master UK: Express Park, Bristol Road, Bridgwater, Somerset TA6 4RN. UK. Tel: +44 (0)1278 411000, Fax: +44 (0)1278 451213, e-mail: sales@chickmasteruk.com

Chick Master: P.O. Box 704, Medina, OH 44258, USA. Tel: +1 (330) 722-5591, Fax: +1 (330) 723-0233, e-mail: orders@chickmaster.com