



# CHINA LP NEWSLETTER

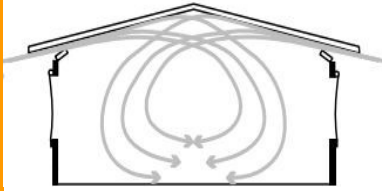


DO IT, DREAMS BECOME A REALITY!

Issue 41

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THIS NEWSLETTER FOR TYSON CHINA LP TEAM MEMBERS



## Core Values

### Who we are:

We are a company of people engaged in the production of food, seeking to pursue truth and integrity, and committed to creating value for our shareholders, our customers, our Team Members, and our communities.

- We strive to be a company of diverse people.
- We strive to be honorable.
- We strive to be a faith-friendly company.

### What we do:

- We feed our families, the nation, and the world with trusted food products.
- We serve as stewards of the animals, land, and environment entrusted to us.
- We strive to provide a safe work environment for our Team Members.

### How we do it:

- We strive to earn consistent and satisfactory profits for our shareholders and to invest in our people, products, and processes.
- We strive to operate with integrity and trust in all we do.
- We strive to honor God and be respectful of each other, our customers, and other stakeholders.

The purpose of this newsletter is to provide weekly timely information concerning live production. The articles will address frequently discussed subjects and are to be shared with all Tyson China LP team members. If you have suggestions for this newsletter, please email at [kevin.zhao@tyson.com](mailto:kevin.zhao@tyson.com).

本通讯的目的是每周将有关活禽生产的信息及时地传递给泰森中国活禽团队的所有成员，所涉及到的内容主要为生产中经常会碰到的问题。如果您有对该通讯有好的建议，请联系[kevin.zhao@tyson.com](mailto:kevin.zhao@tyson.com)。

## KEYS TO PERIMETER INLET MANAGEMENT

### 管理周边进风口的关键

Jim Donald

Auburn University 奥本大学

In both minimum and transitional ventilation, achieving proper airflow through the perimeter air inlets is essential. Inlets control direction of air movement, velocity of air entering the house, and thus air mixing. In cold weather, inlets are the tool to help blend cold outside air with warm inside air to save fuel and maintain precise temperatures. Good inlet management prevents all the hot air from being in the top of the house. In houses with poor inlet management, as much as 15 to 20 degrees difference in floor and ceiling temperature have been observed. Good inlet management can keep this temperature difference to 5 degrees.

对于最小通风和纵向通风而言，通过管理周边进风口而获得正确的气流是很重要的。进风口能控制气流运动的方向、进入鸡舍的风速以及气流的混合。在寒冷的天气里，进风口作为帮助混合室外冷空气和室内热空气的工具，可以节约能源消耗并维持精准的温度。好的进风窗管理可以防止所有的热空气都聚集在鸡舍顶部。差的进风窗管理则可能导致地板和屋顶间产生多达15到28.89°C的温差。而良好的进风口管理则可以把这个温差控制在5°C左右。

The dollar benefits of good inlet management start with saving fuel costs. Houses with poor air mixing will use 20-25% more fuel. In addition, the combination of temperature and air quality from day one is probably the most significant factor in broiler flock performance. Extreme temperatures can be devastating during the brooding period especially. Too cold conditions dramatically impact the ability of young birds to get adequate feed and water, and if early growth is slowed the performance losses cannot be made up during the life of the flock. The bottom line is that proper management of air inlets to provide birds the temperature and air quality they need is absolutely essential for getting top returns.

良好的进风口管理首先可以节约燃料成本。如果舍内气流混合较差的话，需要的燃料就会多20%到25%。另外，育雏第一天的温度情况和空气质量是影响鸡只生长性能最重要的两个因素。极端的温度，尤其是在育雏期，对鸡群饲养而言会是灾难性的。过冷的环境会使得鸡只能获得充足的饲料和饮水。如果鸡只早期发育是迟缓的话，这些影响所造成的生长性能损失在之后的饲养过程中是无法被弥补的。从本质上来说，有效的进风口管理可以为鸡群提供它们需的温度以及空气质量，这对我们获得最大的回报而言是十分重要的。

## 核心价值观

我们是一家追求真理和诚信的食品生产企业，承诺为公司的股东、客户和员工创造财富和价值。

### 我们是：

我们为生产食品而走到一起，努力追求至高荣誉和卓越的信誉。

### 我们做：

我们为世界各地的民众和家庭提供安全可靠的食品。同时我们努力为保护动物、保护土地和环境做出贡献。

### 我们如何做：

我们努力创造源源不断的令人满意的利润，同时对人员、产品和技术进行投资。我们坚持诚信为本，遵循真理的指引，并尊重我们所有的员工、客户和全体受益人。

**KEY 1:** Inlet management starts with making sure the house is tight, with no air leaks around doors, curtains, torn insulation, etc to rob from the inlet stream.

**关键1:**管理进风口首先要确保鸡舍的密封性是良好的，不会有空气从门缝、卷帘、陈旧的保温层等地方泄露进去，从而影响了进风口的气流。

**KEY 2:** The next step is to make sure inlets are opening properly. The size the inlet openings must be set so as to achieve both the static pressure desired and the airflow "throw" needed. For perimeter inlets to flow air they must open a minimum of 2-3 inches for a sidewall inlet or 1 -1.5 inches for a ceiling inlet. Inlets opened beyond the "fully open" position (opening at tip of board equal to inlet throat opening) don't increase air flow. Too wide board openings tend to direct air downward toward the birds. **The right airflow happens only with the right amount of inlet opening.**

**关键2:**接下来的一步就是确保进风口开口大小合适。必须根据所需的静态压以及气流“投射”方式来设置进风口的开启大小。为了使周边进风小窗产生合适的进气流，侧墙进风口需要开启2到3英寸或者屋顶进风口开启1到1.5英寸。进风窗的开启超过“完全开启”的位置并不能增加气流。过度打开的进风窗会更倾向于让空气的方向朝鸡群的下方。**正确的气流方向只有在正确的开启进风窗大小时才会出现。**

**KEY 3:** Managing inlets manually is a well-nigh impossible job. Each time a fan came on and went off an inlet opening adjustment would need to be made. That is why the static pressure inlet control machine was invented. The static pressure control senses the static pressure in the house and then opens or closes the inlets to achieve the proper opening that will produce the static pressure desired - and thus produce the airflow pattern desired. These machines work very well and have greatly benefited our industry.

**关键3:** 要手动控制进风窗几乎是件不可能的事情。每次风机开启和关闭后，进风口的大小都需要进行调整。这也是为什么要发明静态压进风口控制器的原因。静态压控制器会根据探测到舍内的静态压指数，然后决定是开启还是关闭进风口来获得所需要的静态压及产生所需的气流方式。这个设备非常实用并且在家禽养殖行业中发挥了很大的作用。

**KEY 4:** One aspect of inlet management does need to be taken care of manually, and that is deciding how many of the installed inlets will actually be used. A typical broiler house will have enough inlets installed to handle half the total installed fan capacity, but when only one or two fans are being used, as in brooding, we also need to cut back on the number of inlets that will open. The reason for this is that if too many inlets are operating for the number of fans running, the static pressure machine will have to choke the inlet openings down too far in order to maintain static pressure, and the airflow "throw" needed will not be achieved.

**关键4:**进风口管理需要人工关注的一个方面是要知道到底有多少的进风口是已经启用了。一般情况下一个鸡舍会安装足够的进风口来匹配一半风机的排量。但是，如果只有1个或2个风机在运转的话，譬如在育雏期，我们要缩减需要开启的进风口的数量。这样做的原因是，在只有1 - 2个风机运转的情况下，还打开那么多进风窗，那么静态压控制器会极大地减少进风口的大小以维持所需的静态压，在这种情况下，就会无法达到所需的空气“投射”要求。

With all inlets in use, running only one 48-inch fan results in the static pressure machine opening the inlets only about one-quarter to a half-inch, and the air barely leaks into the house at the inlets and then falls to the floor. In this situation, proper air mixing cannot happen because there is no real air stream with any air velocity. This leads to wet litter, high humidity, ammonia, high fuel usage and poor air quality.

如果所有的进风口都投入使用，只运行1台48英寸的风机就会导致静态压控制器只开启进风口1/4到1/2英寸的大小，气流只能勉强从进风口流入鸡舍，然后倾泄到地面上。这会造成空气混合不足因为没有任何的气流涌动，这将导致垫料潮湿、湿度过高、氨气产生、能耗变高和空气质量变差。

To get good airflow during the early days of a growout when using only one 48-inch fan (or two 36-inch fans), we usually need to latch closed every other inlet in the brood chambers (and all the inlets in the growout end). This allows 15 evenly distributed inlets in the brood chamber to respond to the inlet machine. We would unlatch more inlets in the brood chamber only if there was need to run additional fans. After turnout, more inlets in the growout end are unlatched as more fans are used.

If too many inlets are opening, controller will choke inlet opening too tight to get good airflow.

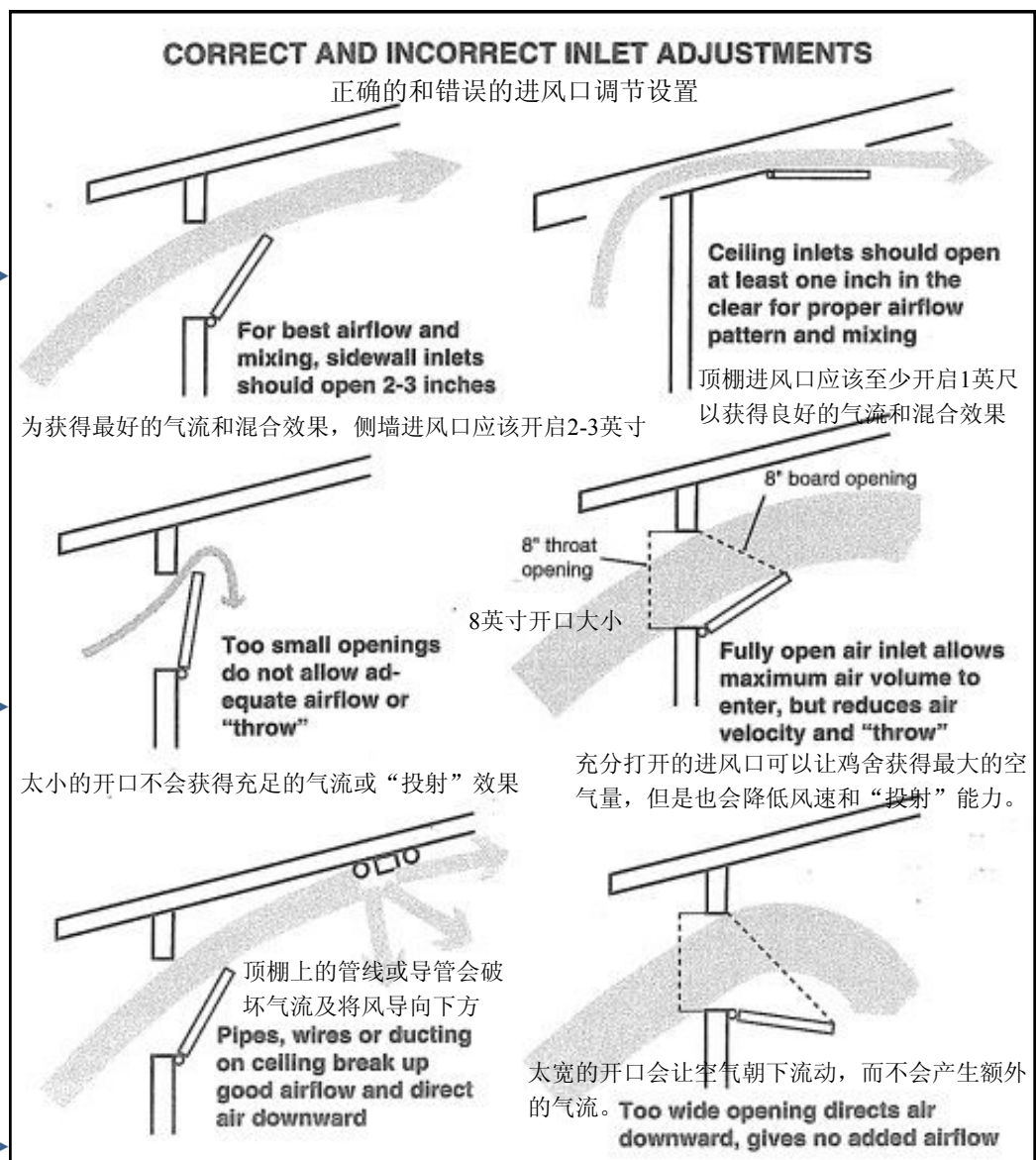
如果进风口开启的数量很多的话，控制器会减少进风口大小来获得良好的气流。

Too small inlet openings reduce airflow and allow incoming air to drop toward floor.

进风口开启太小的话，会减少气流并导致进入鸡舍的空气跌落到地面上。

Too wide inlet openings reduce air velocity and “throw” and give no added airflow volume.

进风口开启太大的话，会降低气流及“投射”的能力，并达不到增加气流量的目的。



在饲养的早期，当我们仅使用一个48英寸的风机（或2个36英寸的风机）的话，为了获得良好的气流，我们通常需要在育雏区每隔一个关闭一个进风口（在饲养后期关闭所有的进风口）。这样可以使均匀分布在育雏间的15个进风口会对控制器做出响应。只有在需要运行额外的风机时，我们才会将更多的进风口打开。扩栏时，随着越来越多的风机投入使用，也会将越来越多的进风口开启。

A good rule of thumb in a tunnel house is to have about 15 operating inlets for each 48-inch fan that will be brought on during that phase of the growout or that prevailing weather.

一条很好的经验告诉我们：对纵向通风鸡舍而言，在饲养期间通常的天气里，每台48英寸的风机需要开启15个进风口来配合使用。

**KEY 5:** One common problem to avoid is having any obstructions to air flow being placed directly in the airstream from the inlet. For example, water lines and electrical conduit are often strapped to the ceiling right in the path of airflow from the inlets. When the airflow stream hits such an obstruction it breaks up and drifts downward. This defeats the goal of having a high-velocity air stream flowing smoothly along the ceiling to the center of the house.

关键5: 一个需要避免的常见问题是在进风口气流前进的地方要避免有任何的障碍物。例如，悬挂在天花板上用于悬挂水线和电线管道的皮绳通常会阻挡经进风口进入鸡舍的气流流向。当气流遇到诸如此类的障碍物时，气流就会被打散并朝下漂移。这样就会不能使得高速气流平滑地沿着天花板吹向鸡舍的中央。