



Key facts for maximum broiler performance

Changing broiler requires a change of approach



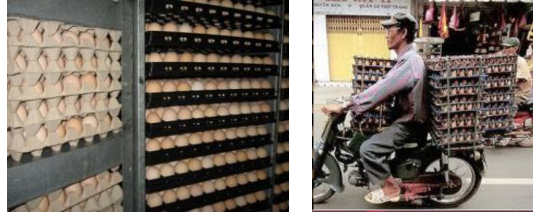
Good chick quality
=
UNIFORMITY
everywhere in the supply chain



1.

Professional breeder house /
management producing high
quality Hatching eggs;

- ✓ Proper rearing!
- ✓ Quality of nest boxes/total
lay-out of the house
- ✓ No floor eggs
- ✓ ventilation/temperature



2.

Care of eggs from nest to
hatchery;

- ✓ Adaption period
(cooling down)
- ✓ Hygiene
- ✓ Careful transfer/transport
- ✓ Storage conditions



3.

Hatchery – Hatchery
management

- ✓ Temperature
- ✓ Humidity
- ✓ O₂/CO₂ (ventilation)
- ✓ Turning



External:

- Clean
- Without cracks.
- Free from muck
- Untouched by moisture
- Uniform weight

Internal:

- Fertile
- Embryo at optimal stage of development
- Fresh and properly stored

Other aspects:

- Nutritional aspects
- Free of diseases
- Maternal antibodies
- Heredity (sexing errors)



Rearing Farm management



Without respecting some rearing principles, the overall performance is at risk!

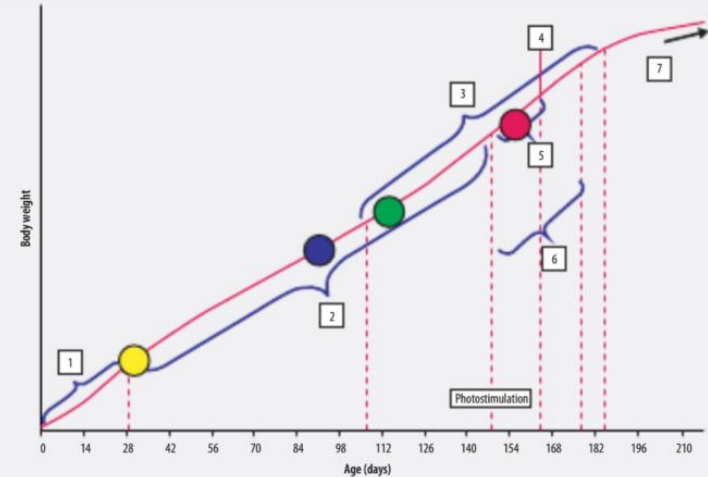


The base for performance will be laid in the rearing period and some mistakes from rearing can't be corrected later anymore!



- The day chick weight
- Weight development during the various stages
- Weight at delivery day
- Vaccination info
- Lighting schedule
- UNIFORMITY at delivery day to farm

Figure 1 - Principles of bird growth and development.



1. Rapid development of: Immune, cardiovascular and digestive systems, skeleton, feathers. 50% of skeletal growth completed by 28-35 days of age.
2. Period of continued growth and development of: Immune and cardiovascular systems, skeleton and feathers. 90% of skeletal growth is completed by around 80-95 days of age.
3. Accelerating growth and weight gain to prepare birds for sexual maturity and mating-up.
4. Sexual maturity (age at first egg) 10-14 days after lighting-up.
5. Rapid growth of testes.
6. Rapid growth of oviduct and ovaries.
7. Continuing weight gain.

Legend:

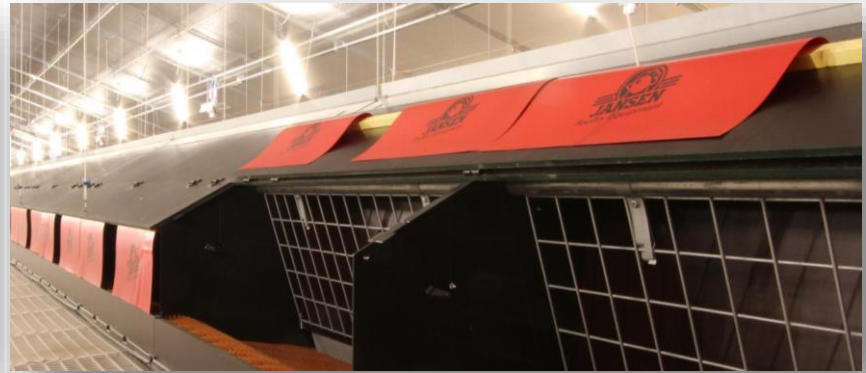
- 4 to 5 weeks—50% of skeletal growth
- 10 to 12 weeks—90% of skeletal growth
- 15 weeks—Increase in bodyweight gain
- Female breast confirmation—U shaped



Breeder Farm management



High quality of hatching eggs can be achieved only by laying nests that provide for the lowest amount of floor eggs!



It's the start from where you may have influence on your own results!

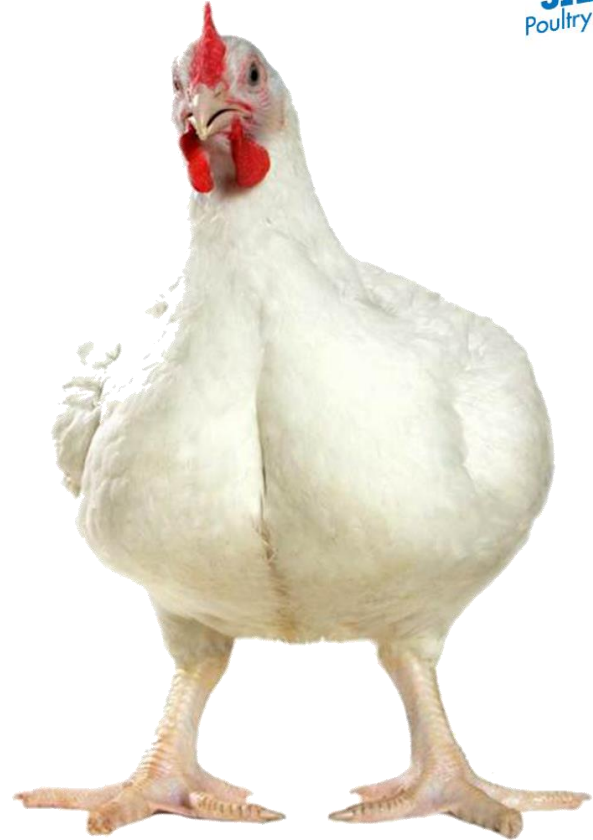


- ✓ Outside nest eggs have high % of cracks and are not suitable for hatching. (prevention of exploding eggs in hatchery)
- ✓ 33% of outside nest eggs get lost: cracked, eaten, fall through slats or get lost in the litter. Outside nest egg of 6% is actually 8%
- ✓ Floor eggs demand more labor and people get frustrated of collection floor eggs which will lead to reduced job satisfaction and limit farm results.



- ✓ Nested eggs have less surface contamination and contamination in the hatchery contributes to poorer broiler results, both in grow-out and at the processing plant.

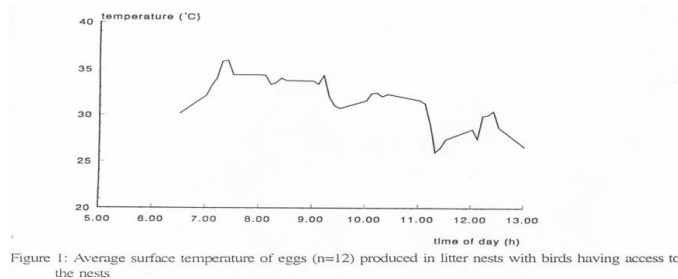
So floor eggs are no hatching eggs!!!!





1. Litter nest has no expel system, birds remain in the nests during night so manure will build up inside the nest.
2. Roll-away nest eggs after being laid, roll onto egg belt
Litter nest eggs after being laid stay in nest, this will result in more dirty eggs and broken eggs
3. Eggs has to be collected inside the poultry house
4. Influence of temperature onto the hatching eggs!

- Eggs have to cool down evenly to the correct internal egg temperature of about 22 – 25^o (ovi position) in 6 hours
 - Too fast: under-developed embryos
 - Too slow: too much advanced embryos
 - In both cases embryo survival of stored eggs is reduced!!!!
- litter nest eggs (and thus embryos) are being subjected to VARIABLE TEMPERATURE
- Other hens lay eggs beside existing eggs, so eggs from litter nests are being cooled and warmed up again





- Should be a communal nest box. Birds like to sit in flocks together
- Preventing that eggs can be pecked after laying
- No hidden spacings to avoid contamination
- ‘open expel system” (avoid suffocation)
- Correct mat, accepted by the birds and a minimum of contact with the egg shell
- Limited width, preventing tandem sit!
- Make out of wood, no metal nest boxes
- Egg invisible for the birds after laying



Egg care from nest to hatchery



Consider the following points for maximum care:

- Frequency of egg collection depends on the house environment!
 - Is your egg storage/poultry house perfect for the first 6 hours?
 - Cold airflow over the egg belt may result in lower hatchability!
- Type of tray you use may have influence on the cooling down time.
Pulp tray give more heat because the heat can not get away
- Also the used tray/setter make sense! The more handling the more risks for hair cracks





Egg care from nest to hatchery



Perfect storage after 6 hours the eggs has been layed!

Eggs should be stored in perfect conditions (18-21° C)
with a RV of 60-85% max.



Transport from the breeder farm to the hatchery is often underestimated as a real need in order to get high quality of hatching eggs!

- ✓ Avoid shocks and uncontrolled temperature!



The art in hatching is too control:

- ✓ Temperature
- ✓ Humidity
- ✓ O₂/CO₂ (ventilation)
- ✓ Turning
- ✓ Chick handling
- ✓ Hygiene





Broiler Management

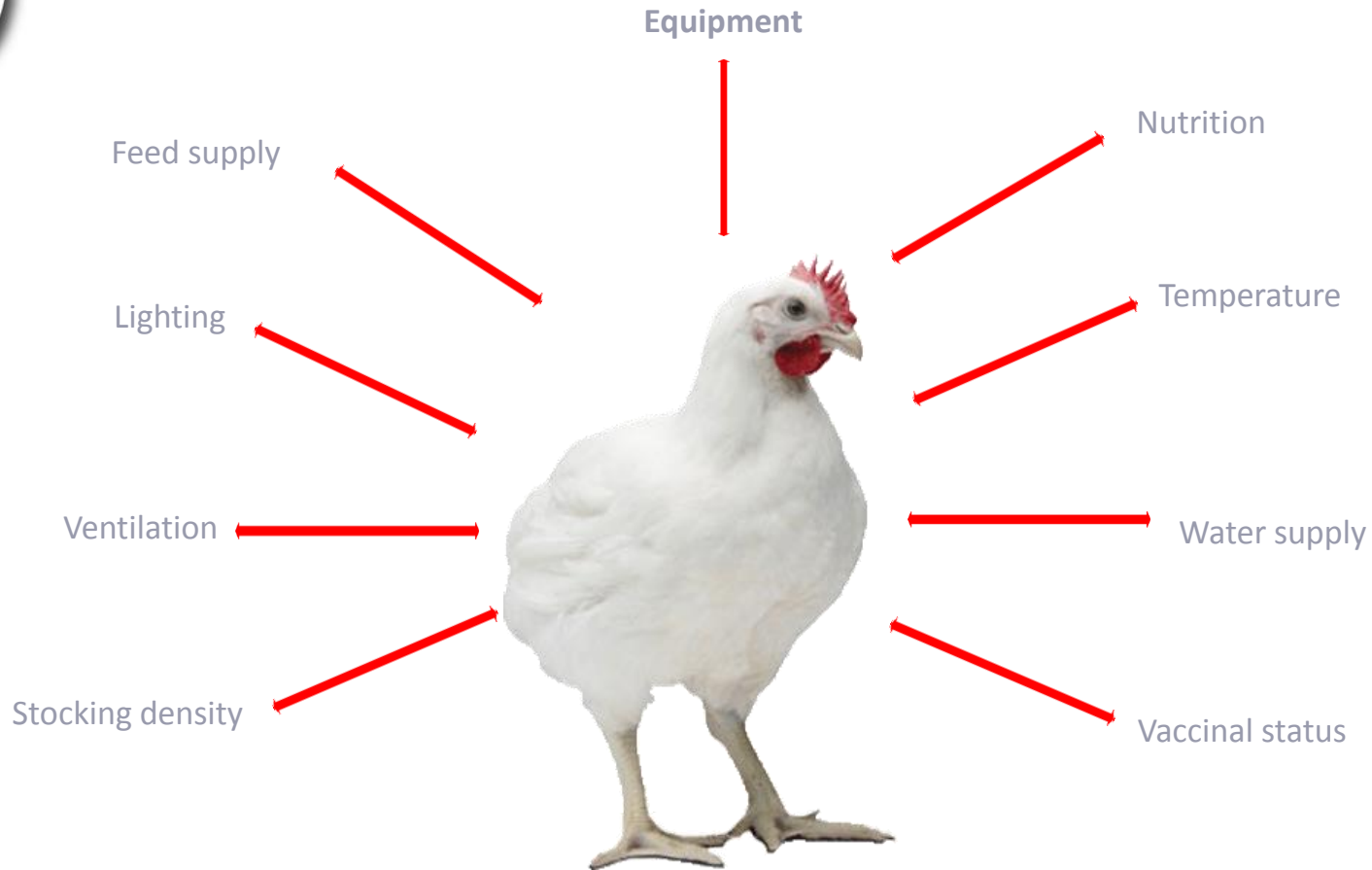


The last part in the chain of production!

After everything done right there are still traps in modern broiler management

Broiler performance – how to reach the top?







Broilers are changing



- Due genetic selection chickens changed and they are still changing and become faster and faster growing rates!
- In the past two decades the age of processing a 2 kg broiler has dropped from 60 days to less than 35 days!
- First week of life of a modern, fast-growing broiler, now accounts for about 20% of the broiler's life, compared with 10% just 20 years ago!





Brooding is a vital period



First 7 days:

- 80% of the energy is used for growth 20% for maintenance
- Increase of body weight more than 4 times, from 40 gr. -> **180-200** gr

Achieving good seven-day live weight will improve performance and determine mainly the results:

- High final live weight
- Better uniformity
- Low overall mortality
- Improved feed conversion
- Nutritional maturity (digestion)
- Accelerate development of gastro- and intestinal tract.
- Muscle growth



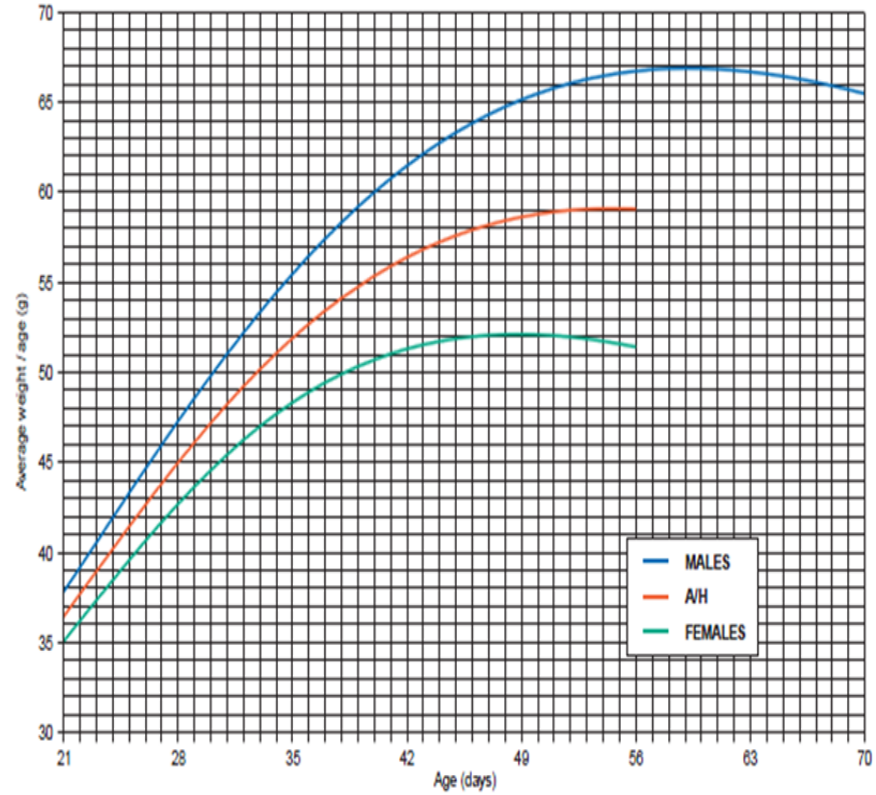


Brooding is a vital period



- This rapid growth rate puts even more demands during the first week of life, leaving the broiler grower with less time to correct to deficiencies.
- Equipment must be adapted to the genetic selection!

Average Daily Weight Gain



Feed equipment

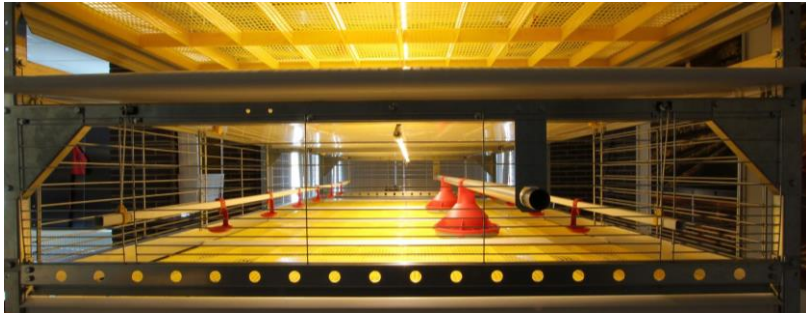
Feed pan that enhances the perception of natural eating habits from day old due easy access.

Equipment that prevent feed spillage. Avoid that birds can't play with feed and waste it.

Suitable from one day old till harvesting without adjustment to avoid mistakes in management.



Light must be around 80 a 100 Lux minimum in the first three days to stimulate feed and water intake



Many problems in broiler houses from one day old can be related to litter;

- General health problems such as E. coli. In case of upcoming diseases farm attendants are moving through the whole house and distribute everything what's under their boots.
- Climate/Ammonia problems
- No security if it's free from any contamination
- MRSA (Multidrug-Resistant Staphylococcus aureus) in combination with litter is a detectable problem by broilers



There's a need to avoid the use of litter:

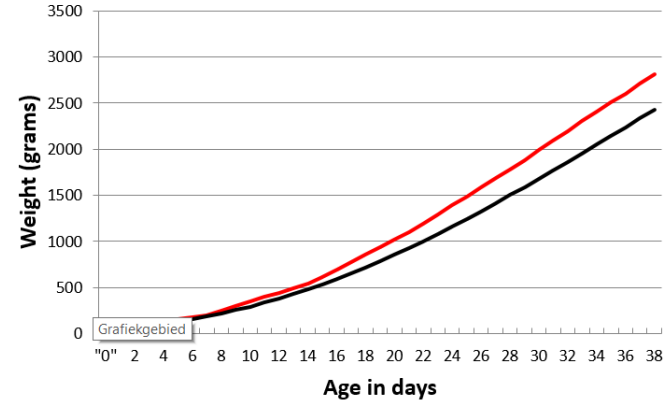


Performance



Broiler performance reached in perfect conditions, based on the principle of the facts above:

1. Different feeding equipment
2. Different lighting equipment
3. No use of litter



Average of all flocks

Number of birds at day 0	1355	Weight DOC	43,4 g	
Number of colony's	12	Breed	Ross 308 A.H.	
Number of birds per colony	112,92	Number of flocks		
Total mortality at day 38	70 Birds	5,17 %	Moved out	Birds
Total feed intake at day 38	5515,5 Kg	4292 g/bird	Remaining	Birds
Average bird weight at day 38	2.816 g	56,6 kg/m2		
Feed consumption ratio (FCR)	1,52	1,00 FCR 1500		
Production Efficient Factor (PEF)	461			



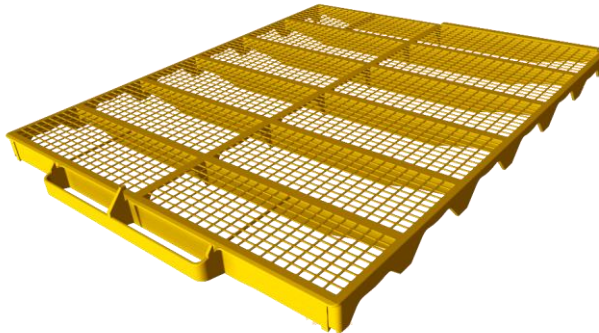


Broiler Multi Tier system



Broiler Multi Tier:

1. Individual sections up to 265 kg each
2. Special floor
3. Special feeders
4. Better performance
5. Significantly lower cost price of the broilers





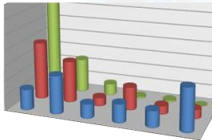
Performance the only reason?



- Steadily rising of feed costs push the profit
- Government forces a reduction in the use of antibiotics. This shows that we all have to take responsibility for the antibiotic-resistance crisis
- Equal flock results are even more important. (full automatic slaughtered)
- Medicin costs skyrocketing
- High labor costs affect the results
- Urbanization (less farmers, less experienced farmers)
- Limited land available
- Improved meat quality
- Animal welfare charity is appealing for improved floor area's in the interest of animal welfare

Breaking news!

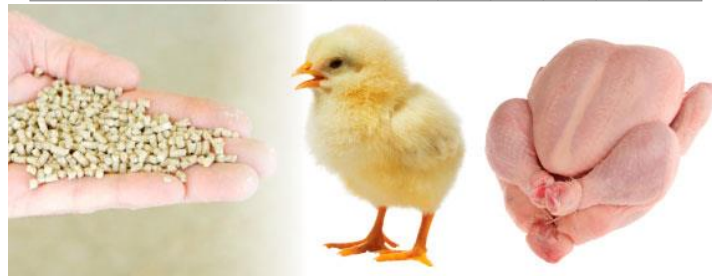
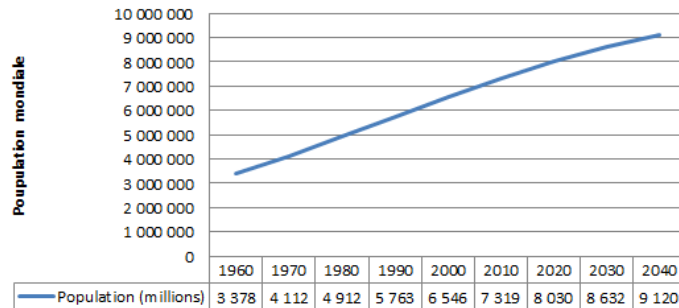
- Chinese scientists have discovered that a poultry wet market was likely the source for human infections with the avian influenza virus. (A H7N9). Wet market is under fire!



Performance the only reason?



Evolution de la population mondiale



- World population is increasing
- Meat consumption increases by increased welfare

So there is a need for:

- Sufficient meat
- Affordable meat

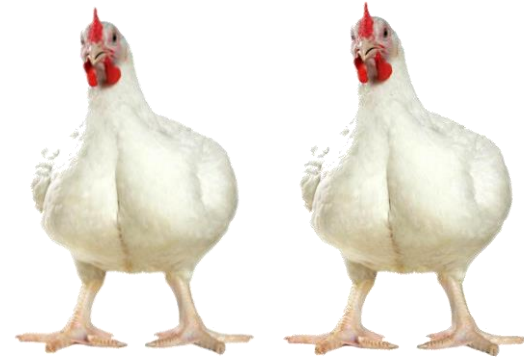


Time for change

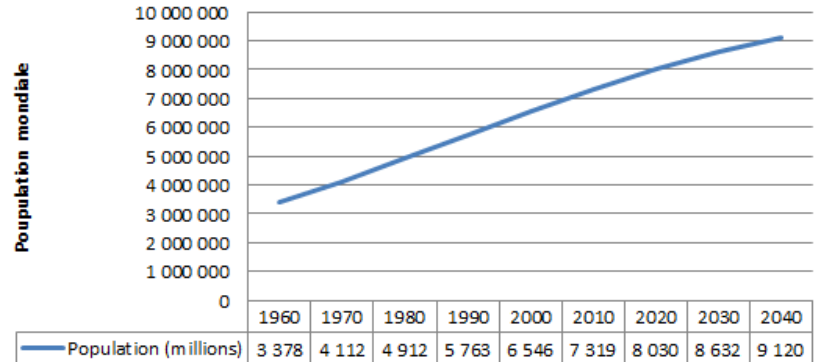


1. The need to adapt to the broiler genetics
2. The need to adapt to the market demand
3. The need to adapt to the changing world
4. System, free of teething problems.

No antibiotics
No litter
No breast blister
No foot pad lesions



Evolution de la population mondiale





Interested?



Visit the Jansen Poultry Equipment booth,
B010 in hall 5, and ask for BroMaxx!

BroMaxx ready for the next broiler future



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