

OPTIMUM GROWTH PATTERN FOR COMMERCIAL TURKEYS

The Nicholas turkey is the industry leader in part because of its commercial growth rate and feed efficiency. This bird has a strong appetite and if conditions do not allow it to achieve its growth potential in the early stages, it will try to compensate later by growing more rapidly. This period of accelerated growth may have an adverse affect on the final performance of the turkey.

Our technical team has evaluated different growth patterns to develop an understanding of the relationship between performance in the brooder stage and final flock results. Following are some of our observations and conclusions.

MINIMIZE STRESS DURING BROODING

Results show that getting birds off to a good start produces the best final results. During the first six weeks of a bird's life, the fundamental development of the skeleton, immune system and cardiovascular system takes place. Exposure to stress during this period compromises the development of these vital systems. Good health status, housing, bird management, feed quality and feed intake allow birds to establish the foundation required to carry them through the finishing barn.

ACHIEVE THE 6-WEEK TARGET WEIGHT

Birds that are below the weight target at the end of the brooding period tend to go through a rapid recovery phase in the finishing barn where there is typically more space and greater access to feed. (See Graph 1)

Initial research indicates that slow early growth followed by a rapid recovery period may result in a weakness in respiratory or skeletal development in a percentage of the flock. Stress later in life can then result in increased late mortality in this portion of the population. This late mortality can show up as leg weakness, cull birds and respiratory problems.

Flocks with weights close to target coming out of the brood barn do not have the same period of accelerated growth following the move and there are fewer resulting problems with late mortality. Turkeys that are closer to their genetic potential have less physiological push to alter their growth rate and consequently have a steadier growth pattern and stronger overall development. (See Graph 2)

WEIGH BIRDS AT TRANSFER

To achieve the best results when growing turkeys, it is important to establish benchmarks to evaluate how flocks are performing. It is crucial to get accurate weights at transfer from the brooder barn. Ideally all flocks should be weighed at the same age and the sample size should be large enough to be meaningful – at least 50 birds.

Weighing all flocks allows a company to determine what birds typically weigh at transfer in its unique operation. Comparing flocks with an established benchmark is an essential tool to evaluate management, health and nutrition programs.

IDENTIFY REASONS FOR UNDERWEIGHT FLOCKS

If the target weight is not being achieved, the big challenge is to identify why and to make modifications to ensure goals are met. If an individual flock is underperforming, conditions on the farm should be reviewed. If flocks throughout the company are not meeting objectives, then an evaluation of the overall management, health and nutrition programs is required.

Management practices in the brood barn can be as important as nutrition in achieving target weights; therefore, conduct a thorough review of health, vaccination and cleaning programs, feed quality, feed texture and gut health. Additionally, environmental factors like air quality, humidity and temperature regimes should be examined. Any of these factors or a combination of several can have a severe detrimental effect on growing birds.

ENCOURAGE FEED CONSUMPTION

The nutritional package that is fed also has a great deal of influence on weights at the end of the brood period; however, in the first weeks of life the amount of feed birds consume is even more critical. Diets with high levels of available energy allow the bird to get off to a good start; this can be achieved by adding at least 4-5% of good quality fat. This added fat increases the energy level and improves the feed form and palatability.

A consistent crumb size with less dust will improve feed consumption. In the early stages the crumble quality needs

to be small enough to encourage consumption. Corn particle size should also be small enough to be edible, but large enough to stimulate gizzard function. (See Table 1)

MANAGE TRANSITION TO PELLET FEED

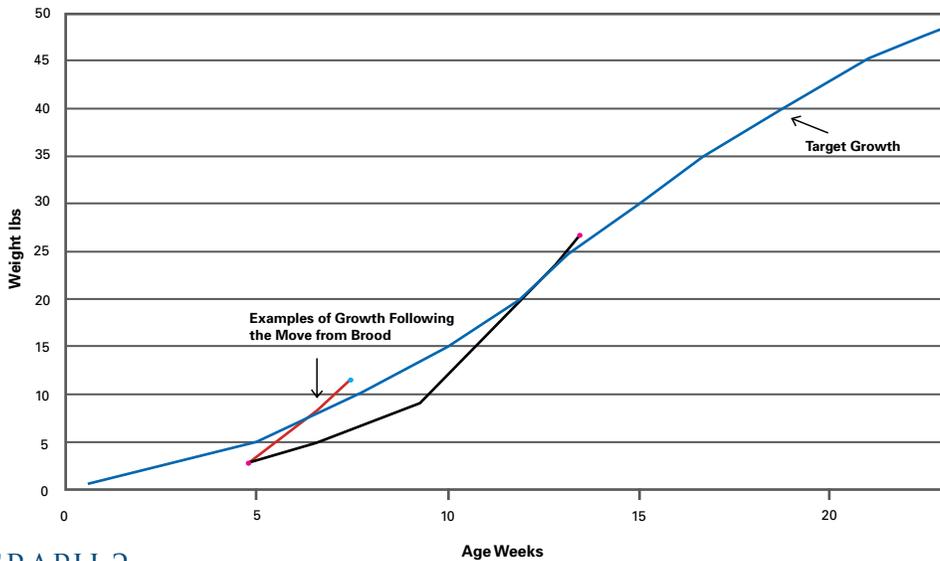
The transition from crumbled to pelleted feed must be managed to ensure that the early benefits are not lost. Birds may back off feed if pellets are too large or too long as they may not be ready for the larger size. If feed intake is reduced for 12 to 24 hours, birds can lose up to a day's growth and will be more susceptible to enteric challenges.

Changing from first feed crumbles to second feed pellets at the same time as the move to the finisher barn can stress birds and reduce feed consumption. It is, therefore, best to wait for a few days after moving birds before changing feed presentation.

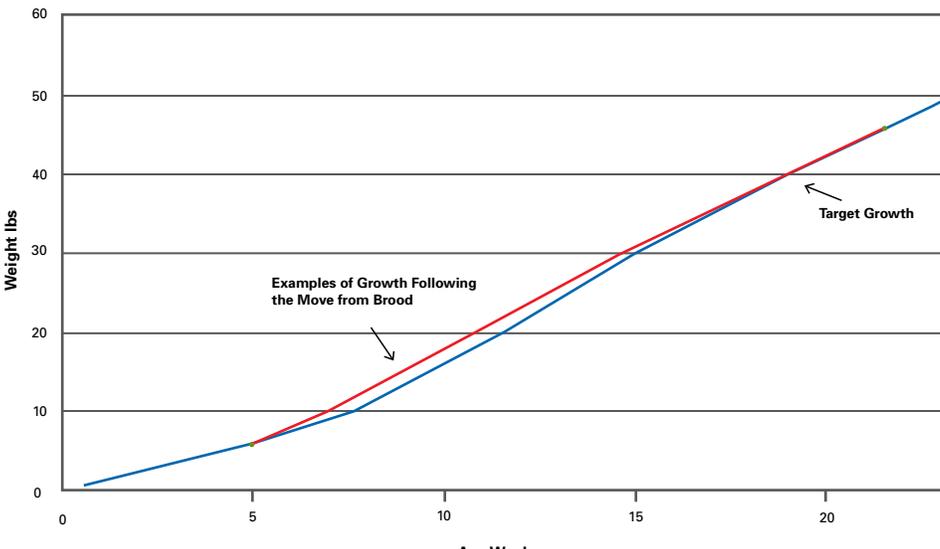
CONCLUSION

Early growth pattern appears to play a significant role in final performance. Flocks that have slow early growth followed by a period of rapid recovery tend to have increased mortality later in life. **Flocks that achieve their target weight in the brood barn and then follow a steady growth pattern tend to finish with the best results.**

GRAPH 1.



GRAPH 2.



POULT FEED PARTICLE SIZE Table 1.

Particle Size mm	%
<0.5	20
1.0-0.5	20
1.5-1.0	25
2.0-1.5	15
3.15-2.0	15
>3.15	5

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