



TECHNICAL BULLETIN

Nutritional strategy to improve slaughter weights during summer months

- During the summer months, pig producers are often faced with lower slaughter weights associated with heat stress, reduced feed intake, lack of space and reduced average daily gains.
- With lower feed intakes in summer there is an opportunity to implement Quantum Blue Superdosing to improve nutrient utilization and gain.
- Quantum Blue Superdosing improves finisher live-weight by 3.5 lbs and FCR by 5 points.

During the summer months, pig producers are often faced with lower slaughter weights associated with heat stress, reduced feed intake, lack of space and reduced average daily gains.

The reduction in slaughter weights in Iowa and Southern Minnesota for 2015 from January to August was approximately 12lb; with a 5 year average for the same period showing a 9lb reduction (National Daily Hog and Pork Summary, USDA; 2016). Additionally we can expect a 5% reduction in average daily gain between May and August if trends remain similar to last year (Pork Checkoff Reports; 2016). Furthermore, due to an increased demand for ractopamine-free pigs for export markets, the use of this additive to promote leanness has been reduced, exacerbating challenges associated with summer months. It is therefore critical to look at approaches and applications to improve average daily gain and consequent slaughter weights during this period.

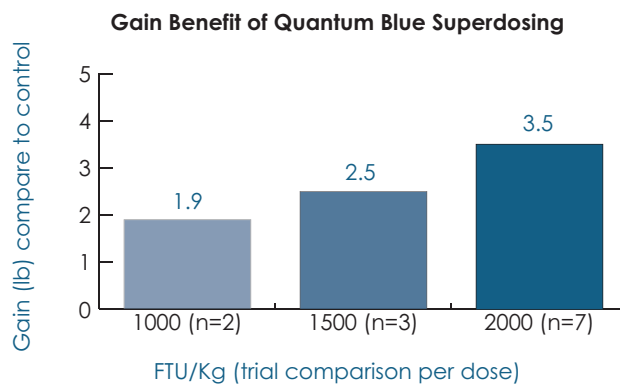
In terms of nutritional strategies, it is typical to increase nutrient intake, usually using higher fat diets, which increases energy intake and improves net energy utilization of the diet. Another nutrient strategy to improve net energy utilization is to reduce crude protein and increase synthetic amino acid levels of the diet.

New phytase applications above those levels typically used for P release (i.e. 500 FTU/kg) have also been shown to improve finisher pig performance. This application of superdosing phytase is the use of high levels of Quantum Blue phytase (2000 FTU/kg) targeted at > 85% dietary phytate destruction. Phytate is well documented to be an anti-nutrient, reducing energy, amino acid and mineral utilization. Thus, the destruction of dietary phytate through superdosing Quantum Blue can be beneficial in eliciting an animal growth and efficiency response.

A 12 trial comparison (Fig 1) showed that on average increasing Quantum Blue dose to 2000 FTU/kg improved gain showed an average increase of 3.5 lb gain with a 5 point improvement FCR compared to a control containing a base level of phytase.

For those systems not already using superdosing phytase in finishing as a part of their standard feeding application, there is an opportunity to look at superdosing Quantum Blue as a potential way of improving nutrient utilization especially in summer when intakes are low.

Figure 1. Quantum Blue Superdosing in finishing (50 to 225lb) improves live-weight gain when compared to a control diet containing a base level of phytase (250 FTU - 500 FTU/kg Quantum Blue equivalent)



Note: Quantum Blue Superdosing (1000 to 2000 FTU/kg) is compared to a control diet that is adequate in P and Ca including the Ca and P matrix associated with the base level of phytase in the control diet (up to a max 500 FTU/kg, diet dependent)

A finisher trial (50 to 275 lb) (2015) conducted in southern USA during the summer of 2015 (May to Sep) looked at the application of superdosing Quantum Blue in high fat (6%) pelleted diets on finisher pig performance. Added over the top of a control diet containing a standard Quantum Blue level (320-500 FTU/kg) the inclusion of 2000 FTU/kg Quantum Blue increased gain by 6lb per pig with a 5 point improvement in FCR when compared to pigs fed the control diet.

With a 6lb gain advantage this would result in an extra \$3.60 per pig based on pig futures, not taking into account the cost benefit of the lower FCR associated with the superdosing application.