

PIC® Nutrition Update

June 2016

Adjusted Caloric Efficiency Calculator for PIC® Genetics

There are multiple factors that influence feed efficiency of wean to finish pigs. They include: entry and final pig body weight, dietary energy, and genetics (for full program PIC®, where Camborough® is the female, sire line is the main genetic factor). Successful production systems with accurate data management typically adjust feed efficiency for final weight in the nursery phase, and entry and final weight in the finishing phase to achieve a meaningful comparison between close outs.

A recent adjustment that has been added in some production systems is for dietary energy⁽¹⁾. A 1% increase in net energy of the diet is expected to result in 1% improvement in feed efficiency⁽²⁾. Dietary energy regiments change throughout the years because of ingredient prices. Therefore, adjusting for dietary energy to compare between close outs and to evaluate performance changes overtime becomes important. Correction for dietary energy helps to more accurately compare close outs and identify productivity improvement actions.

Finally, PIC® sirelines are characterized by different growth rate and feed efficiency, still all focused on total economics of different markets globally. Thus, using sireline-specific coefficients to adjust for entry and final weights is both possible and desirable.

Let's look at two examples:

- **Different final weights:** comparing two PIC®337 close-outs with same entry weight into the finishing barn but with 5 lb difference at market, with same observed F/G of 2.50 and dietary energy of 1.52 Mcal ME/lb of diet. After adjusting the close-outs to the same final weight basis, the close-out with heavier weight would have an adjusted F/G of 2.47.
- **Different dietary energy:** if two close-outs with PIC®337 have the same initial weight, final weight, observed F/G (2.50) but different dietary energy (1.52 vs. 1.47 Mcal ME/lb), it would be expected that the close-out with higher energy should have had better F/G compared to the close-out with lower energy. Thus, to adjust for that, dietary energy is taken into account and now the adjusted F/G is 2.54 for the close-out with higher energy.

With this tool, producers can adjust feed efficiency to account for entry and final pig body weight, dietary energy, and genetics when comparing different close-outs.

Go to http://na.picgenus.com/tech_support/nutrition.aspx to download the tool.

References

1. Gaines AM, Peterson BA, Mendoza OF. Herd management factors that influence whole herd feed efficiency. In: Patience J, ed. Feed efficiency in swine. Wageningen, The Netherlands: Wageningen Academic Publishers; 2012:15-39.
2. Euken RM. Swine Feed Efficiency: Effect of dietary energy on feed efficiency. 2012. Available at: <http://www.swinefeedefficiency.com/>.

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