

'crushing' the myths your nutritionist may have about Soyex

Find answers to the 10 most common misconceptions by nutritionists and producers about Soyex.

1. **Soyex has too much fat**

It only has too much fat if you overfeed it or don't balance it properly in your ration. In most cases, Soyex typically replaces over 70% of your purchased fat and protein. Your Soyex typically contains 12% to 13% fat which is approximately 55% the fat level of roasted soybeans. Roasted soybeans have a 2.25 kg feed limit because of the higher fat level. Roasted Soybeans have been fed to cows for over 20 years and with good results. The good production performance is due to **the proper use and balancing of the rations** with producers knowing what are the limits of this product. Soyex can be fed up to 3.5 kg per cow per day feeding the rumen the same amount of fat as the maximum feeding rate of roasted soybeans. Soyex does not have too much fat but rather enough of a fat to protein ratio to improve production and in some cases reproduction. The fat in Soyex brings natural vitamin E and emulsifiers into the feeding program. Another benefit of fat in dairy diets is that many of the reproductive hormones are derived from fat. By feeding more omega type fats, which Soyex contains, it's easier for cows to produce these much needed hormones.

2. **Soyex doesn't have enough protein / Soyex can't be fed as a major protein source.**

Over the past 10 years there has been much research completed on the types of proteins and amino acids required by high producing dairy cows. No longer do we just balance for bypass, soluble and degradable proteins but rather various degradability of protein pools and how they match the carbohydrate pools. Feed passage rates combined with quality fresh ingredients determine the best type of protein structure needed. Compared to many other feed ingredients Soyex at 42.5% crude protein is a high protein feed. Compare Soyex protein level against canola 36%, corn gluten feed 21%, distillers 26% and roasted soybeans at 39%.

Soyex can be fed as a major protein source to your dairy cows. Typical Soyex inclusion rates are 2-3kg/lactating cow/day and 1.5-2.5kg/dry cow/day, replacing 70%+ of externally purchased proteins (and fats). How much external protein can be replaced will depend on your operation's nutrition, cost, and production goals. *Soyex is not limited to lactating rations, but can be included in dry cow, heifer, and older calf and veal rations too!*

3. **Soyex is too high in soluble protein.**

To date there has not been a ration that could not use Soyex to replace at least 50% of the purchased protein requirement. Soyex tends to excel in higher corn silage rations where more purchased protein can be replaced. The amount and quality of forages fed and the feed passage through the rumen will determine the amount of Soyex that can be fed.

4. **Soyex isn't high enough in bypass protein.**

Typical Soyex may not be high bypass, but it is still capable to effectively replace over 70% of your purchased proteins. The value point of Soyex is its digestibility and being a fresh source for protein and energy! It's a high quality and palatable feed that's made in a very economical way right on your farm. Strictly considering the level of bypass protein in a feed is an older way of looking at protein in rations. Many companies have invested into bypass technology and as long as producers buy this technology over improved ration modeling technology the companies maintain higher profits. This does not mean there is no use for these products, just less requirements for bypass protein than previously believed. Energrow offers a system that heat treats Soyex to make a high bypass protein (Soyex+) a meal that's also suitable for hogs and poultry.

5. **Soyex isn't heat treated enough.**

Unlike roasted beans and heat treated soybean meal, Soyex is unique because it is expeller-pressed. With less heat exposure, Soyex retains most natural nutrients and vitamins naturally found in soybeans. It is not true that trypsin inhibitor deactivation (lower urease activity) is necessary for cows/ruminants.

Soybeans have several enzymes including a trypsin inhibiting enzyme, which is of importance to non-ruminants/monogastrics (horses, swine, chickens) or pre-ruminants (young calves). This enzyme can inhibit protein digestion. Therefore, it is not recommended to feed raw soybeans or Soyex to monogastrics or young preruminant calves (nursing calves or calves less than 300 pounds). Soyex does contain urease. Urease breaks urea down into ammonia. This is of importance if cattle are receiving a supplement or feed that contains urea (non-protein nitrogen, NPN). The increased activity of urease in raw soybeans can result in a more rapid breakdown of urea into ammonia within the rumen, potentially leading to ammonia toxicity and cattle death. Be aware of all ingredients in feeds provided to your cattle. Many commercially available protein tubs and blocks contain urea, which can potentially be fatal to cattle when fed in conjunction with raw soybeans or Soyex. Range cubes may also contain urea. Do not feed any combination of urea-containing products and Soyex to cattle. Energrow offers a system that heat treats Soyex to make a high bypass protein or meal that's suitable for hogs and poultry.

6. **Soyex will depress butter fat**

Soyex will not depress butterfat if fed in a well-balanced ration. In fact, in any rations that were underfeeding energy, butter fat usually goes up!

Rumen environment is often the initial consideration when troubleshooting milk fat depression and, more specifically, the fermentable carbohydrates in the diet and their potential effect on the rumen environment. Low rumen pH can indeed impact the rumen environment and also increase the risk for milk fat depression, but this is just the tip of the iceberg. Management and nutritional decisions that can affect the rumen environment encompass a variety of sources, ranging from the total ration to individual ingredients, facilities and cow factors.

When examining diet and individual ingredients, consider everything from diet formulation and mixing uniformity to quality of fermented feeds, carbohydrate sources, physically effective fibre and, the over feeding of, unsaturated fatty acid sources which includes Soyex. A successful ration keeps all ingredients in balance and don't over or under feed any nutrients that might decrease the effectiveness of the rumen environment. Facilities and cow factors that should be reviewed include anything that may impact sorting, feed intake patterns, cow comfort, cooling, stocking density and water intake. Milk fat can be depressed in cows as a result of insufficient dietary energy intake, especially during early lactation. Cows in good flesh

during the early lactation have a higher milk fat % than cows that enter lactation in thin condition. Most high producing cows lose weight during this interval; therefore, energy intake should be maintained as high as possible without causing the cows to go off feed. When the loss in body fat is too rapid, ketosis can occur.

7. **Soyex isn't palatable**

Soyex is a very palatable feedstuff and may be used as a major protein supplement in rations for dairy cattle. Cows LOVE Soyex and will readily clean up the pelleted feed. Soyex is mechanically extruded and fresh, making it just as palatable as the other 'beany flavoured' roasted beans and other soy products. Being pelleted makes it even easier for cows to consume, helping increase intake and it can readily be mixed or used in top dress rations or robotic feeders to attract cows. Soyex is being fed more and more as an ingredient on its own or with corn in milking robots.

8. **Soyex won't keep**

Soyex, like many other feed ingredients, is best fed fresh. Assuming the soybeans were pressed below 14% moisture and stored properly (cool, dry place away from direct light) the freshness should remain for at least two to three months. Since Soyex has 12% to 13% fat it is not recommended to keep in a hot humid bin for more than a month in the summer time, just as a precaution to the fat going rancid. The advantage to cold-pressed Soyex is the remaining energy that contains a high level of natural vitamin E, antioxidants, and amino acids. This is an advantage for the cow and it actually also increases the shelf life of the Soyex itself. Think of the Vitamin E as a natural antioxidant, beef producers have been adding high levels of Vitamin E to the finishing rations to extend the shelf life of beef cuts in the stores. Soyex is pelleted as it comes out of the system, which enables moisture from the recently processed meal to evaporate. Soyex requires no special cooling or air drying bins and does not self-heat or rot as is typical with presses that produce a flake-type meal.

None of the above storage concerns producers who have an Energrow System since the Soyex is made daily or weekly and freshness is always at its peak.

9. **Soyex is just raw beans**

Soyex is not just raw soybeans. The high pressure from extruding soybeans, even in cold pressing, does create heat and this low level of heat allows for more degradable and less soluble proteins. More importantly, by extracting 50% of the oil from the beans, Soyex offers more protein than raw beans meaning that they can be fed with less concern about over feeding energy. Not only does your Energrow Pressing System make you a quality feed like Soyex, but adds extra value to your raw beans by extracting oil, giving you extra income. For farms looking for increased bypass or feeding the Soyex to non-ruminant animals, Energrow offers a heat treatment system for the meal to do just that!

10. **Soyex won't work**

Soyex works - ask any of our crushers that have a nutritionist that supports them! Like any other feed ingredient it will work better in some rations than in others due to the other feed ingredients made available. **All feed ingredients need to be balanced in the ration properly to be effective.** Soyex is no exception and can be fed successfully at 1.5 to 3.5 kg per cow per day in properly balanced rations. Soyex is very palatable, pelleted, and fresh - your cows will love it and so will you!

Water is one of the most important nutrients for all living things from plants to humans. However, too much water can cause a person or animal to drown and die. Does this mean water won't work in your

feeding program? To maximize the value of your ration, it's important that you work with an experienced nutritionist who is open-minded to learning about ingredients they aren't selling and working with products they may not be used to. Energrow exists to help farmers keep more money in their pocket and we want to work with your nutritionist to help you maximize your success. We understand that your nutritionist may be hesitant to work with the product because it's unfamiliar to them and not a product that they sell. There are nutritionists that support and understand how to feed Soyex and we can connect you with them if you feel that your nutritionist is not interested or willing to work with you.

For Soyex to work effectively for you, the following are some key guidelines for you and your nutritionist:

- Do not feed any urea in the ration. Soyex still has a high level of urease in the meal and the protein structure is higher in the soluble portion than regular soybean meal.
- Decrease or eliminate distillers from the ration, since it also brings in a high level of oil to the ration.
- Decrease or eliminate SBM and other soy protein products with canola meal to balance the ration.
- Hold total fat levels at around 5.0% and LCFA at 3.5%
- ADF and NDF should continue to be at 19% plus and 28 to 32% respectively.

Energrow and its supporting team of nutritionists have worked with many dairy producers.

Producers with the highest success buy a system based on it being an economical decision and having support by a nutritionist that's open-minded and informed.

Soyex works. Energrow will review your ration or work with your current nutritionist to see if it is right for you!

In summary:

1. **Soyex is your feed:** a high quality, high energy and protein feed made fresh on your farm, using your own beans. Your cows will love it.
2. **Soyex adds value to your soybeans:** Energrow systems make your soybeans into a high quality feed and extracts value-added oil.
3. **Soyex gives you peace of mind:**
 - a. you know your cost of growing soybeans
 - b. you know what your protein will cost you (avoid volatile market pricing)
 - c. you will control your cash flow.

Your cows and farm will love it!