Everyone knows B-Vitamins are essential for good health. In fact, they're a critical component in the metabolism of all species of animals and plants. They're also a well-recognized requirement for normal growth and other physiological functions.

But did you know that, in healthy adult llamas or alpacas, sufficient levels of B-Vitamins are already produced by microorganisms within the rumen? And, with the exception of young or stressed animals, "B" supplements may not be needed at all?

The following list includes the major water-soluble B-Vitamins.

**B-Complex Vitamins**

- **THIAMIN** B1
- **RIBOFLAVIN** B2
- **NIACIN** B3
- **PANTOTHENIC ACID** B5
- **PYRIDOXINE** B6
- **COBALAMIN** B12

**Why The Rumen Is The Best Source Of "B."**

The fact is, B-Vitamins are generally not needed by ruminants like llamas and alpacas. Even when there's a lack of "B" in the feed itself, the rumen synthesizes and produces an ample supply of various B-Vitamins needed by the animal. That's why deficiencies are relatively uncommon in most llamas-especially once they've matured and the rumen is well-developed.

However, deficiencies can occur as a result of poor health or improperly balanced rations (low-protein levels or mineral deficiencies). These factors can lower the number of microorganisms in the rumen, or drastically alter its synthesis process. If normal bacterial action doesn't take place in the rumen, B-Vitamin production may be too low for the animal's healthy growth and development. You should know that, until the age of 6 weeks to 3 months, crias don't yet have a fully functioning rumen.

Therefore, to ensure effective rumen function for adult llamas and sufficient levels of "B" for crias, it's essential to provide both with a properly balanced diet. And that's where Mazuri® brand llama diets...

**DID YOU KNOW?**

A baby llama or alpaca is called a cria, and weaned crias are known as weanlings.

**Why Mazuri's The Healthy Choice For Llama Nutrition.**

All of this leads to the million-dollar question: "Do you need to add B-Vitamins to your llama rations?" That depends.

As long as the animal is healthy and mature, extra "B" may not be necessary. However, when llamas are young or suffering from dietary deficiencies, additional "B" may be needed. For adult animals, it's also important to remember that the correct balance of trace minerals helps maximize rumen fermentation. And that's the key to B-Vitamin availability.

In either case, as the experts in exotic animal nutrition, Mazuri is the proven resource for well-balanced nutrition for llamas and alpacas. With Mazuri, you have your choice of three different llama diets, including Llama Supplement Pellets (5659), Llama Diet High Fiber (5631) and Llama Diet Coarse (5Z02). Each is specially formulated with perfectly balanced proportions of minerals to meet your animals' nutritional needs and to ensure proper rumen function to produce adequate amounts of "B."

Remember, when you have questions or concerns about the B-Vitamin complex, Mazuri is here to help make your life-and your llama nutrition-a little simpler.
DID YOU KNOW?

Normally, bacteria found in the rumen produces all the B-Vitamins needed for good llama health.

help make it easy.