

Blueprint[®]

NUTRITION PROGRAM



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What is Holding our Animals Back?

Both genetics and management practices have been rapidly advancing in agriculture over the past 10 years. But has practical nutrition kept pace? Has nutrition been focused on maintaining the average peak performance of the animal, instead of adding value to its genetic potential? The Blueprint Nutrition program is that next step in nutritional evolution.

Throughout the lifecycle of the animal, Blueprint is designed to build on its genetic potential at each life stage. By expanding the nutrient profile to a wider range of functional forms and evaluating the patterns of how the form and time of nutrition interact in the animal's cells, we can more easily identify ways to improve efficiency and performance linking them to profitability.

Moving from here:

- Limited expression of genetic potential for growth and development
- Limited functional nutrient variety in the diet leads to the inability to feed animals for full potential

To here:

- Full expression of animals' genetic potential
- Use of nutritional innovations for optimal performance and health
- The most profitable feeding program on-farm

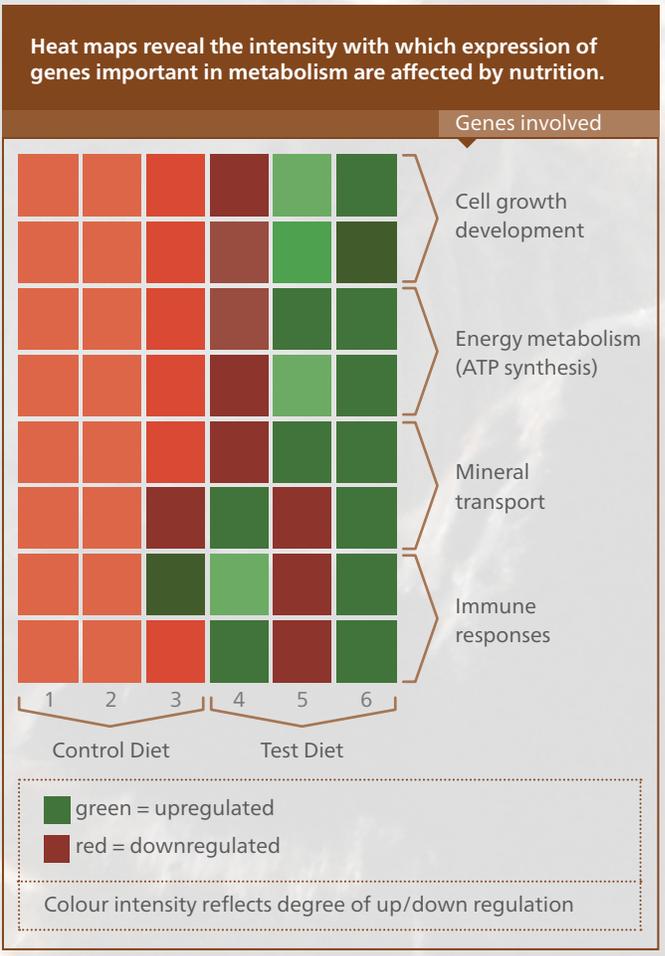
Adding Value to Genetics with Nutrition

In understanding the animal at the cellular level and focusing on the requirements needed to get the desired results, Blueprint offers the opportunity to make performance and profitability a precise science.

At Alltech®, we study how nutrition influences gene expression on cells and tissues through nutrigenomics.

Nutrients are a potent stimulus of gene expression. Discovering what genes are up or down regulated in cells of various tissues helps us explain WHY growth or performance change, and provide important clues on HOW to optimise cell, tissue and organ function with the diet.

As nutrition gets more precise with nutrigenomics, you begin to target the animal not only for current performance, but also for the future performance and benefits that can be passed down through the generations.



Visualising gene expression in muscle tissue cells of animals fed two different diets.

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The 5-Step Process

Farm Analysis

From management practices on-farm to quality of ingredients in the diet, the analysis portion of Blueprint looks at every piece of the puzzle for a successful operation, making sure that each component is promoting profitability while offering practical solutions. This provides support to farmers in reaching goals, solving problems, troubleshooting and helping to layout a foundation for a profitable and sustainable future.

Nutritional Assessment

Using the 6 fundamentals of the Blueprint Nutrition program, we assess the nutritional needs of the animal and compare that with the current practices on your farm.

RETURN Calculator

The Beef RETURN calculator highlights farm potential and return on investment for Blueprint through enhanced performance, full production potential and enhanced profitability. By identifying the impact improved performance has on margins, this tool provides a unique opportunity to compare the current levels of achievement with industry standards and set targets, supporting your decision making in all stages of production.



Issue Assessment



Report



Formulation



Recommendation



Measurement

On-farm Support Tools

- 37+[®] - Analyses and measures risk for more than 37 individual mycotoxins
- MIKO (Mycotoxin Hazard Analysis Program) – Evaluates and identifies ways to reduce areas of future mycotoxin risk
- IFM[™] (*In vitro* Fermentation Model) – Evaluates beef rations to Maximise feed efficiency and reduce feed costs

Blueprint Nutrition Recommendation

After your farm's Blueprint program is defined, our experts will provide a feeding program recommendation based on your farm's analysis and nutritional assessment. This report will identify any gaps your operation may have between your current and potential performance.

Our experts will work with you to implement the Blueprint Nutrition program as well as monitor its success and overall return on investment.

Cow

- Promote natural defences
- Improve calf viability
- Improve reproductive performance and longevity

Calf

- Promote early rumen development
- Enhance digestion and nutrient uptake
- Promote natural defences

Grower

- Quick start on:
- Feed
 - Rumen function
 - Natural defences

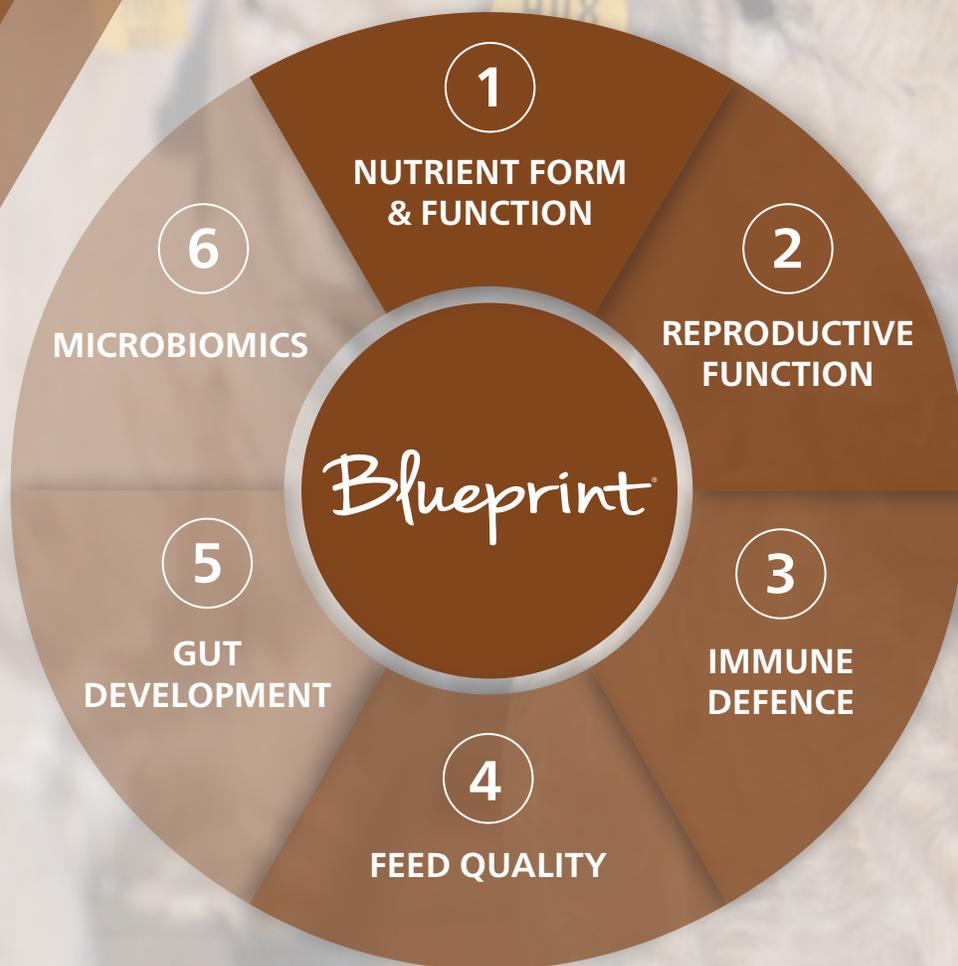
Finisher

- Promote efficiency
- Reduce days to market
- Promote natural defences
- Maximise carcass value

Building the

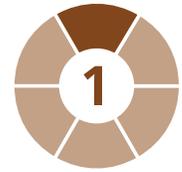
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Fundamentals
of the Blueprint
Nutrition Program



Livestock need more than protein,
fat and fibre – What's missing?

NUTRIENT FORM & FUNCTION



Using nutrition to better meet the needs of animals' genetics requires going beyond simply adding higher nutrient concentrations to the diet, altering digestibility or the bioavailability of ingredients. It means taking a closer look at the nature of nutrients in the feed. The variety of nutrient forms naturally present in forages and grains gives us the clues we need to build better feeds. In nature, we would find more than a simple analysis of protein, fat, minerals, vitamins and fibre.

Like livestock genetics, the nutritional sciences have evolved. Our concept of nutrients continues to expand, allowing us to provide diets with both functional and nutritional characteristics. Blueprint Nutrition contains the ingredients needed to shift nutrient profiles in practical diets toward more functional, usable forms that better meet animals' needs.

REPRODUCTIVE FUNCTION



Modern producers have nutrition for meat production well in hand, and today most limiting factors or 'choke points' for productivity and reproduction are related to supplying nutrients for health and development. Can we better prepare young or transport-stressed animals to meet disease and digestive challenges? Can we target diets of cows to reduce embryonic mortality? Improve conception rates? Increase neonatal vigor? Maximise performance and meat quality in progeny?

IMMUNE DEFENCE



You can't always prevent the appearance of an unknown pathogen, but functional trace mineral nutrition can help prepare the immune system for a successful fight. In nature's food chain, plants process soil minerals into forms animals can easily digest and use. Trace minerals are important nutritional weapons in the fight against disease, and the form in which they are presented in feed can sharpen their aim. Organic minerals differ from inorganic forms in standard premixes because they are bound to protein fragments just like those in plants and are readily available when needed.

FEED QUALITY

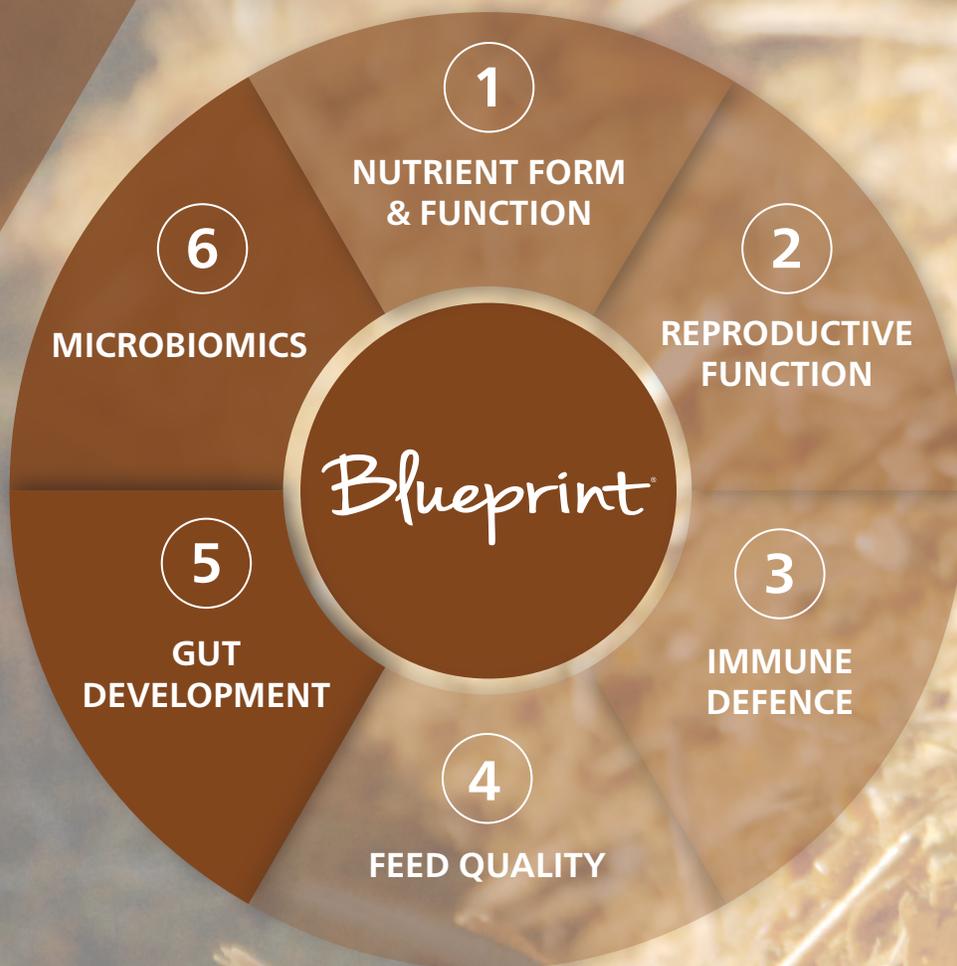
Inorganic minerals are mined primarily for other industries, with their use in feed additives representing a small part of its target market. The use of organic trace minerals, however, targets feed safety and quality. Alltech's Q+ Quality Control system provides HAACP-like protection against entry of cadmium, lead, dioxins and PCBs.



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GUT DEVELOPMENT



Carbohydrates in feed come in a wide variety of forms from simple sugars to complex structural fibres such as plant cellulose. Energy supplies are usually the first to be addressed, but it's necessary to look at the functional roles of CHO (Carbon, Hydrogen and Oxygen), which are equally important. Fibre sources have important functions in gut motility, as other sugars and oligosaccharides (complex sugars) contribute to gut health by taking into account the harmful bacteria that begin to colonise when conditions within the GI tract are compromised.

UNDERSTANDING THE SCIENCES BEHIND BLUEPRINT



The new science behind Blueprint include technologies that let us look at nutrition from the inside. To have a better understanding of interactions that fuel growth, immune defence and reproductive function, we look at how cells, genes and gut microbe populations respond to the diet. We see nutrition from nature's point of view.

Microbiomics – The microbial population in the intestinal ecosystem reacts to altered ingredients and other environmental factors such as rancidity in fats or pro-oxidant mineral forms. How do changes in the microbiome of the animal affect its role in digestion and immune defence?

Glycomics – A look at all the sugars in an organism whether they are free or part of a complex molecule. Can shifting a diet's carbohydrate profile affect the many functions of sugars in the animal's tissues and organs?

Nutrigenomics – Nutrition affects gene expression. What genes and metabolic pathways are affected when nutrient forms and amounts change in animal feed?

These analyses are made possible by High-Throughput Technologies (HTT) that let us see all the proteins, all the sugars and all the genes expressed in cells of specific tissues. Finding the patterns and discovering important interactions let us build synergism into diets in new ways, matching diet composition to meet genetic potential of animals.

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For more than 40 years, Lienert Australia has manufactured, distributed and supplied ingredients, supplements and nutritional advice to the livestock and feedstock industries. We are committed to improving animal health and performance - and our customers' bottom line - through quality, consistent, and fully-traceable nutritional technologies including: premixes, concentrates and supplements.

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Alltech is a global leader in the animal health and nutrition industry and among the top 10 animal health companies in the world. We develop natural, scientific solutions to today's biggest agriculture and food industry challenges.

Find your Blueprint[®].

Contact us for more information on Blueprint[®] Nutrition and how Lienert Australia can help you close the gap between where your production is and where you want it to be.

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