

Acid Load (AL)	Index based on the total fermentation products from volatile fatty acid (VFA) production in the rumen, and intake of acids from silages or other feeds. Acid Load should be used together with Fiber Index to optimize rumen health.
Bypass Starch	Starch escaping rumen fermentation and available for digestion in the small intestine or fermented in the large intestine.
Digestibility Coefficient of Organic Matter <i>in vitro</i> (DCOM)	Percentage of organic matter potentially digested across the whole digestive tract. DCOM is positively associated with intake and milk production.
Dynamic Energy (DyNE)	Measure of the total amount of energy available for maintenance, growth and milk production. It is the sum of the products of fermentation in the rumen, digestion in the small intestine and fermentation in the large intestine.
Dynamic NDF digestibility	NDF ruminal digestibility at 2 (NDF-D2h), 8 (NDF-D8h) and 24 h (NDF-D24h) assuming a passage rate of 2%/h. Forages with higher degradation rates of NDF will increase the energy available for milk production per kg of DM.
Dynamic Starch digestibility	Starch ruminal digestibility at 2 (Starch-D2h) and 8 (Starch -D8h) assuming a passage rate of 4.5%/h for degradable and 6.8%/h for washable starch. Forages with higher degradation rates of starch will increase the fraction of RFC and the amount of Acid Load.
Fiber Index (FI)	Measure of how well fiber promotes rumination and takes into account the chop length of forages. A low FI may require additional structural fiber to balance the ration, whilst a high index may result in slow rumen function and reduced feed intake. Fiber Index should be used together with Acid Load to optimize rumen health.
Glucogenic Energy	Total amount of glucose available from fermentation acids and intestinal absorption of bypass starch and protein available for maintenance, growth and milk production. Especially important in early lactation for fertility.
Ketogenic Energy	Total amount of ketogenic nutrients available for intestinal absorption. Mainly digestible microbial fat, dietary fat, VFA and ethanol. Used for fatty acid synthesis and energy source for various tissues.
NutriOpt Digestible Intestinal Protein (NDIP)	Total supply of metabolizable protein available to the cow. It is the sum of microbial protein yield formed in the rumen and bypass protein that is digested in the small intestine corrected for metabolic losses. NDIP also calculates the supply of the essential amino acids – Lysine and Methionine.
NDIP Amino Acids	Amount of methionine (Met), Lysine (Lys), Threonine (Thr) and Histidine (His) that is absorbed in the small intestine. Like the protein in NDIP, these AA come from microbial and bypass protein and are corrected for endogenous losses.
NutriOpt Fermentable Energy and Protein Balance (NFEPB)	Balance of fermentable carbohydrates and proteins in the rumen. Understanding how and why the rumen is unbalanced means the diet can be modified effectively so that the rumen works more efficiently.
NutriOpt Milk Index	Index that represents silage quality (kg milk / kg forage DM). It is calculated by estimating the energy available for milk production by simulating the digestion of NDF, starch and CP in the rumen according to the latest version of the Nutriopt Dairy model. It allows to summarize all the parameters analyzed and to fairly compare forages of the same type with each other.
Rapidly Fermentable Carbohydrates (RFC)	Carbohydrates that are fermented in the rumen in less than two hours after feeding. Mainly starch and sugars. Excessive amount of dietary RFC might increase the risk of ruminal acidosis.
Rapidly Fermentable Protein (RFP)	The amount of protein fermented in the rumen in less than two hours after feeding. RFP is composed of ammonia, non-protein N and true protein. Excessive dietary RFP might contribute to increased levels of milk urea N.
Rumen Unsaturated Fatty Acid Load (RUFAL)	Sum of the three primary unsaturated fatty acids consumed by dairy cattle; oleic acid (C18:1), linoleic acid (C18:2) and linolenic acid (C18:3). Excessive dietary RUFAL might reduce ruminal function and impair milk fat yield.
Soluble CP <i>in situ</i> (S-CP)	Percentage of CP that escapes the nylon bag during rinsing. S-CP is composed of a fraction containing soluble components and a fraction containing small particles. It is assumed to be degraded faster in the rumen than the non-washable fraction
Totally Fermentable Carbohydrates (TFC)	It includes carbohydrates from all sources that are fermented in the rumen. TFC is used to optimize formation of microbial protein and VFA
Totally Fermentable Protein (TFP)	It includes protein from all sources that are fermented in the rumen. TFP is important for supplying enough fermentable protein for microbial protein synthesis to occur efficiently.
Total Rumen NDF and starch digestibility	Percentage of NDF and starch available for digestion in the conditions assumed previously for dynamic NDF and starch digestibility, respectively. Greater percentages of totally fermented nutrients will increase the energy available for milk production.
Undegradable NDF <i>in situ</i> 336h (U-NDF)	Percentage of NDF remaining unfermented after 336 h inside a nylon bag in the rumen. U-NDF represents the amount of lignified fiber that is not available for digestion. U-NDF is negatively associated with intake and milk production.
Washable Starch <i>in situ</i> (W-Starch)	Percentage of starch that escapes the nylon bag during rinsing. W-Starch is positively associated with the reduction in corn kernel particle size and contributes partly to the pool of rapid available starch for ruminal digestion.