



Balancing rations for amino acids has many positive effects on animal production. Using an Amino Acid Profile can allow for higher milk yields, greater component production as well as greater herd profitability through decreased feed costs and improved milk yields.

At CVAS we provide three different options for amino acid analysis. All Amino Acid Profile analyses are completed using AOAC Official Methodology (see below). These options are the CML+9, Full Profile including Tryptophan and a Full Profile without Tryptophan. The CML+9 provides Cysteine, Methionine, Lysine plus 9 additional amino acids. The Full Profile provides all 20 essential and non-essential amino acids plus three non-proteinogenic amino acids (Taurine, Lanthionine and Ornithine). The Full Profile without Tryptophan includes all results from the Full Profile with the exception of Tryptophan. Individual tests are available for Methionine, Lysine and Tryptophan. Please see page 2 for a comparison of what is included in each option.

**METHODOLOGY:**

Package	Methodology
CML + 9	<ul style="list-style-type: none"><li>• AOAC Official Method 994.12</li><li>• JAOAC 70:171-174, 1987</li></ul>
Full Profile without Tryptophan	<ul style="list-style-type: none"><li>• AOAC Official Method 994.12</li><li>• JAOAC 70:171-174, 1987</li><li>• AOAC Official Method 982.30 E(a,b,c), chp. 45.3.05, 2006</li></ul>
Full Profile Including Tryptophan	<ul style="list-style-type: none"><li>• AOAC Official Method 994.12</li><li>• JAOAC 70:171-174, 1987</li><li>• AOAC Official Method 982.30 E(a,b,c), chp. 45.3.05, 2006</li><li>• Alkaline hydrolysis - AOAC Official Method 988.15, chp. 45.4.04, 2006</li><li>• J. Landry and S. Delhaye. 1992. Simplified procedure for the determination of tryptophan of foods and feedstuffs from barytic hydrolysis. J. Agric Food Chem., 40(5):776-779</li></ul>
Nitrogen (Crude Protein)	<ul style="list-style-type: none"><li>• AOAC Official Method 990.03</li></ul>



AMINO ACIDS

ANALYSIS RESULTS	CML+9	Full Profile including Tryptophan	Full Profile without Tryptophan	Available Individually
Results provided as W/W% As Received and W/W% Dry Matter				
Cysteine	X	X	X	
Methionine	X	X	X	X
Lysine	X	X	X	X
Alanine	X	X	X	
Aspartic Acid	X	X	X	
Glutamic Acid	X	X	X	
Glycine	X	X	X	
Isoleucine	X	X	X	
Leucine	X	X	X	
Proline	X	X	X	
Threonine	X	X	X	
Valine	X	X	X	
Arginine		X	X	
Histidine		X	X	
Hydroxylysine		X	X	
Hydroxyproline		X	X	
Lanthionine		X	X	
Ornithine		X	X	
Phenylalanine		X	X	
Serine		X	X	
Taurine		X	X	
Tyrosine		X	X	
Tryptophan		X		