

Alpha Resources, Inc.

Certificate Of Analysis

AR 2018
ALFALFA STANDARD
LOT # 514F

DRIED BASIS VALUES

Feed Analysis

% Crude Fat	3.1 +/- 0.3
% Crude Fiber	23.1 +/-0.9
% Ash	(10.6)
% ADF Fiber	28.84 +/- 1.5
% Crude Protein	21.99 +/- 0.4

Ultimate Analysis

% Carbon	(44.37)
% Hydrogen	(5.5)
% Nitrogen	3.52 +/- 0.07
% Sulfur	0.27 +/- 0.02
% Moisture	(2.99)

DRIED BASIS VALUES

Bracketed values () are for reference only.

Mineral Analysis

% Calcium	1.81 +/- 0.07
% Magnesium	0.34 +/- 0.02
% Phosphorous	0.28 +/- 0.01
PPM Boron	41 +/- 1
PPM Iron	444 +/- 86
PPM Zinc	35 +/- 4

Mineral Analysis

% Potassium	2.22 +/- 0.22
% Sodium	0.05 +/- .01
% Chloride (Cl ⁻)	(0.77)
PPM Copper	51 +/- 4
PPM Manganese	55 +/- 3
PPM Aluminum	(129)

The following procedures and standards were employed in the analysis of the above standard:

Preparation.....	AOAC 935.13A	Total Nitrogen.....	AOAC 968.06
Crude Fiber.....	AOAC 962.09	Crude Fat.....	AOAC 920.39
Mineral Analysis.....	ICP/AES – AOAC 975.03, 968.09	Traceable to: AAFCO	standards and materials
Nitrogen.....	EDTA	AOAC 4.6.03, 4.5.01, 4.6.02, 4.2.08, NFTA2.2.1	

When necessary, professional judgment is applied toward consideration of data and statistical information. The statistical analysis and the overall direction and coordination of the analytical measurements leading to certification were performed by K.E. Dyer, Technical Manager, at Alpha Resources. The uncertainty values represent the k=1, 68% confidence, standard deviation. Refer to your test methods for expanded uncertainties.

Samples for round robin testing were selected in accordance to ARI 014. The values only relate to the material certified. This bottle contains 30g of fine alfalfa powder to be used per the test method you follow. This reference has an indefinite known shelf life unopened. Once opened the shelf life is limited to two years.

This is a certified reference material (Working Standard) and is traceable to the above-mentioned reference standard(s). For good laboratory practice, we recommend that all secondary standards be verified and documented prior to use. Remedies for any claimed defect in this product will be limited to product replacement or refund of the purchase price. In no event shall alpha resources be liable for incidental or consequential damages.

EXPIRATION DATE

**THIS CRM IS VALID FOR TWO YEARS FROM THE DATE OF OPENING
CERTIFIED July 22, 2014**

Kent Dyer