AAFCO 0997 Meat & Bone Meal Horrat® Scores

Using the AOAC calculations for Horrat scoring we are able to use our Pass 2 grand average and standard deviation to calculate scores for individual methods and also for method groups. The following analytes were selected as being important for meat and bone meal.

Analyte	AAFCO Method	Pass 2 Grand average	SD	C	PRSD®	RSD®	Horrat®
Protein	002.06	52.0968	0.78761	0.520968	2.205506	1.51182	0.685475
	002.05	51.5206	0.99447	0.515206	2.209189	1.930238	0.873731
	002.10	51.455	0.94883	0.51455	2.209611	1.844	0.834536
	002.XX	51.949	0.91082	0.51949	2.206447	1.753297	0.794624
Fat	003.10	11.9985	0.34744	0.119985	2.748913	2.895695	1.053397
	003.06	11.915	0.71269	0.11915	2.751794	5.981452	2.173656
	003.09	11.997	0.48348	0.11997	2.748964	4.030008	1.466009
	003.00	11.9636	0.64431	0.119636	2.750114	5.385586	1.958314
	003.14	11.8447	0.419	0.118447	2.754237	3.537447	1.284365
	003.XX	11.952	0.57643	0.11952	2.750514	4.822875	1.753445
Fat (AH)	013.02	13.5617	0.59167	0.135617	2.698876	4.362801	1.616525
	013.10	13.1019	0.84555	0.131019	2.712875	6.453644	2.378894
	013.XX	13.3947	0.78062	0.133947	2.703896	5.827827	2.155344
Ash	005.00	26.621	0.60931	0.26621	2.439194	2.288832	0.938356
	005.99	26.8354	0.40288	0.268354	2.436261	1.501301	0.616231
	005.XX	26.612	0.64989	0.26612	2.439318	2.442094	1.001138
Calcium	019.01	8.95175	0.40975	0.089518	2.872393	4.577317	1.593556
	019.05	9.07518	0.48237	0.090752	2.866498	5.315266	1.854272
	019.09	9.25023	0.65239	0.092502	2.858295	7.05269	2.467446
	019.XX	9.08057	0.56107	0.090806	2.866243	6.178797	2.155713
Phosphorus	031.01	4.45798	0.23636	0.04458	3.189035	5.301953	1.662557
	031.05	4.54877	0.30441	0.045488	3.179405	6.692139	2.10484
	031.XX	4.51382	0.28304	0.045138	3.183086	6.27052	1.96995
Moisture Loss - LT	001.07	4.02829	0.40702	0.040283	3.237888	10.10404	3.120564
	001.99	4.07987	0.29804	0.040799	3.231715	7.305135	2.260451
	001.XX	4.0757	0.40839	0.040757	3.232211	10.02012	3.100082
Moisture Loss- HT	011.01	4.65501	0.33601	0.04655	3.168414	7.218244	2.278189

Limitations:

Please note that Horrat values do not apply to method-defined (empirical) analytes. However, since AAFCO Program participants are likely familiar with these scores, it is a convenient way to look at the information.

Acceptable Horrat values:

For inter-laboratory studies AOAC has defined acceptable Horrat scores between 0.5 and 2.0, so many of the methods meet the criteria for inter-laboratory collaborative study. Yellow hi-lighted Horrat scores are unacceptable.

So how does this compare to a typical AAFCO sample that has been ground before shipment? I have selected to look at AAFCO 0925 because this sample also has higher protein content.

AAFCO 0925 Beef Cattle Grower

Analyte	AAFCO Method	Pass 2 Grand average	SD	C	PRSD®	RSD®	Horrat®
Protein	002.06	40.8796	0.30585	0.408796	2.287199	0.748173	0.327113
	002.05	40.1262	0.56525	0.401262	2.29359	1.408681	0.614182
	002.10	40.3106	0.30202	0.403106	2.292013	0.749232	0.326888
	002.XX	40.6315	0.54359	0.406315	2.289289	1.337854	0.584397
Fat	003.10	2.87137	0.18221	0.028714	3.406565	6.345751	1.862801
	003.06	2.951	0.24312	0.02951	3.392615	8.238563	2.428381
	003.09	3.44653	0.44715	0.034465	3.314536	12.97392	3.914249
	003.00	3.57451	0.72604	0.035745	3.296458	20.3116	6.161643
	003.14	3.36464	0.56969	0.033646	3.326513	16.93168	5.089918
	003.XX	3.06496	0.54459	0.03065	3.373388	17.76826	5.267185
Fat (AH)	013.02	4.0886	0.38073	0.040886	3.230679	9.311989	2.882363
	013.10	3.9042	0.48379	0.039042	3.253121	12.39153	3.80912
	013.XX	4.01576	0.43832	0.040158	3.239402	10.91499	3.369448
Ash	005.00	20.6304	0.85645	0.206304	2.534276	4.151398	1.6381
	005.99	20.908	1.01526	0.20908	2.5292	4.855845	1.919914
	005.XX	20.6797	0.96699	0.206797	2.533368	4.676035	1.845778
Calcium	019.01	5.35715	0.26264	0.053572	3.102344	4.902607	1.580291
	019.05	5.39779	0.23451	0.053978	3.098829	4.344556	1.401999
	019.09	5.31387	0.25955	0.053139	3.106121	4.884387	1.572504
	019.XX	5.35587	0.24358	0.053559	3.102455	4.547907	1.465906
Phosphorus	031.01	1.06015	0.04666	0.010602	3.955714	4.401264	1.112634
	031.05	1.02937	0.05003	0.010294	3.973235	4.860254	1.223249
	031.XX	1.04104	0.05106	0.01041	3.966522	4.904711	1.236527
Moisture Loss -LT	001.07	6.55375	0.75731	0.065538	3.009931	11.55537	3.839081
	001.99	6.82344	1.01586	0.068234	2.991779	14.8878	4.976236
	001.XX	6.67019	0.9714	0.066702	3.00199	14.5633	4.851216
Moisture Loss -HT	011.01	10.1465	1.09014	0.101465	2.818919	10.744	3.811391

What do you think?