



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

TYSON FOOD SAFETY AND RESEARCH LABORATORY
also doing business as WBA ANALYTICAL LABORATORIES
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CHEMICAL

Valid To: July 31, 2026

Certificate Number: 1970.02

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the laboratory's compliance with the A2LA Food Testing Program Requirements, containing the 2018 "AOAC International Guidelines for Laboratories Performing Microbiological and Chemical Analyses of Food, Dietary Supplements, and Pharmaceuticals"), accreditation is granted to this laboratory to perform the following tests on food products including livestock food and feed products and research and evaluation of new technologies:

Method	Title	Reference
WI-C-116	Amino Acids (Analyte Annex Table 1)	AOAC 2018.06 with AOAC 988.15 for Tryptophan
WI-C-076	Ammonia / Total Volatile Base Nitrogen by Selective Electrode	AOAC 999.01
WI-C-052	Anions by Ion Chromatography (Analyte Annex Table 3)	AOAC 973.31 (Prep) (<i>modified</i>); AOAC 993.30 (analysis)
WI-C-080	Antibiotics and Growth Stimulants by LC-MS-MS (Analyte Annex Table 4)	AOAC 995.09 (<i>modified</i>)
WI-C-016	Antibiotics by LC-MS-MS for Russian Export (Analyte Annex Table 5)	AOAC 995.09
WI-C-001	Ash	AOAC 942.05; AOAC 923.03; AOAC 920.153
WI-C-096	Beta-Agonists (Ractopamine) by LC-MS-MS in Tissues	AOAC 2011.23
WI-C-055	Capsaicinoids - Scoville Heat Units	AOAC 995.03 (<i>modified</i>)

<u>Method</u>	<u>Title</u>	<u>Reference</u>
WI-C-002	Carbohydrates	Methods of Analysis for Nutrition Labeling (1993) pg 8 – Calculation
WI-C-024	Chloride in Animal Feed	AOAC 969.10
WI-C-025	Cholesterol	JAOAC “Rapid Determination of Cholesterol in Single and Multicomponent Prepared Foods”
WI-C-064	Chondroitin	Internal Method; Determination of Chondroitin Sulfate in Raw Materials and Dietary Supplements
WI-C-116	Collagen	Calculation from AOAC 990.26 with Hydroxyproline content determined using AOAC 2018.06
WI-C-005	Crude Fiber	AOCS Official Method Ba 6a-05; Ankom Method Rev E 4-13-11
WI-C-022	Crude Protein	AOAC 992.15; AOAC 990.03
WI-C-081	Fat by Acid Hydrolysis	AOAC 922.06 (Hydrotherm); AOAC 991.36 (Soxtherm); Gerhardt Application Note B.1.3.HT
WI-C-008	Fat by Rapid Solvent Extraction	AOAC 2003.05, AOAC 991.36
WI-C-007	Fat by Soxhlet	USDA/FSIS CLG-FAT.03; AOAC 960.39
WI-C-026	Fatty Acid Profile (Analyte Annex Table 6)	AOCS Official Method Ce 2-66
WI-C-009	Free Fatty Acids	AOCS Official Method Ca 5a-40, AOCS Aa 6-38
WI-C-063	Glucosamine	Internal Method
WI-C-067	Gluten Allergen	AOAC 2012.01 (Ridascreen Gliadin Kit)
WI-C-010	Insolubles	AOCS Official Method Ca 3a-46
WI-C-011	Kilocalories	Methods of Analysis for Nutrition Labeling (1993) pg 5 Calculation
WI-C-013	Minerals (Analyte Annex Table 7)	AOAC 990.08 (<i>modified</i>); AOAC 968.08 (<i>modified</i>)
WI-C-103	Minerals – Micronutrients (Analyte Annex Table 8)	EPA Method 200.7, “Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Atomic Emission Spectrometry”, Revision 4.4, EMMC Version, EPA. (<i>modified</i>) AOAC 990.08 (<i>modified</i>)
WI-C-014	Moisture (Fats and Oils)	AOCS Official Method Ca 2c-25
WI-C-014	Moisture (Feeds and Ingredients)	AOAC 930.15
WI-C-014	Moisture (Meats)	USDA/FSIS CLG 1.04

<u>Method</u>	<u>Title</u>	<u>Reference</u>
WI-C-075	Mycotoxins by LC-MS-MS in Feed (Analyte Annex Table 9)	Internal Method
WI-C-095	Pepsin Digestibility Pepsin Digestibility (0.002%) Pepsin Digestibility (0.02%) Pepsin Digestibility (0.2%)	IFOMA Protein Solubility in Dilute Pepsin/Acid Solution, 2000-1, April 2000, Appendix 3; AOAC 971.09
WI-C-062	Percent Bone	AOAC 983.19 Rev March 2002 (<i>modified using ICP</i>)
WI-C-017	Peroxide in Fats, Oils, and Feed	AOCS Official Method Cd 8b-90
WI-C-032	Pesticide Residues (Analyte Annex Table 10)	FSIS Determinative Method "CHC2"
WI-C-018	pH Determination	AOAC 981.12; AOAC 943.02
WI-C-073	Salt in Meat/Food Products (Potentiometric Method)	AOAC 971.27
WI-C-027	Sugars Total Sugar as a Sum of: Fructose Glucose Sucrose Maltose Lactose	AOAC 982.14
WI-C-028	Total Dietary Fiber	AOAC 991.43
WI-C-047	Water Activity Determination	Decagon Aqua Lab

Key:

AOAC = AOAC International
AOCS = The American Oil Chemists' Society
FSIS = USDA Food Safety and Inspection Service
JAOAC = Journal of AOAC International
USDA = United States Department of Agriculture
CLG = Chemistry Laboratory Guidebook
IFOMA = International Fishmeal & Oil Manufacturers Association



ANALYTE LIST ANNEX

**Table 1:
Amino Acids**

<u>Analytes</u>
Alanine
Arginine
Aspartic Acid
Cysteine
Glutamic Acid
Glycine
Histidine
Hydroxyproline
Isoleucine
Leucine
Lysine
Methionine
Phenylalanine
Proline
Serine
Taurine
Threonine
Tryptophan
Tyrosine
Valine

**Table 2:
Anions by Ion Chromatography**

<u>Analytes</u>
Acetate
Fluoride
Lactate
Nitrate
Nitrite
Propionate
Sorbate
Sodium Nitrite



Table 3:

Antibiotics and Growth Stimulants by LC-MS-MS

<u>Analytes</u>
Ampicillin
Bacitracin
Ciprofloxacin
Chloramphenicol
Chlortetracycline
Enrofloxacin (rep)
Epi-tetracycline
Flavomycin
Oxytetracycline
Penicillin
Ractopamine
Sulfaquinoxaline
Sulfathiazole
Sulfamerazine
Sulfamethazine
Sulfadimethoxine
Sulfadiazine
Tetracycline

Table 4:

Antibiotics by LC-MS-MS for Russian Export

<u>Analytes</u>
Chlortetracycline
Oxytetracycline



**Table 5:
Fatty Acid Profile**

<u>Analytes</u>
Saturated Fat; Monounsaturated Fat; Polyunsaturated Fat; Trans Fat; Omega 3 Fat; C2:0; C3:0; C4:0; C5:0; C6:0; C7:0; C8:0; C9:0; C10:0; C11:0; C11:1 (n-1); C12:0; C12:1 (n-1); C13:0; C13:1 (n-1); C14:0; C14:1(n-5); C15:0; C15:1 (n-5); C16:0; C16:1(n-7); C16:1(n-7); C17:0; C17:1 (n-7); C18:0; C18:1 cis-(sum); C18:1trans-(sum); C18:2(n- 6); C18:2(n-6); C18:3(n-3); C18:3(n-6); C19:0; C19:1(n-12); C20:0; C20:1cis-(sum); C20:2(n-6); C20:3(n-6); C20:3(n-3); C20:4 (n-6); C20:5 (n-3); C21:0; C22:0; C22:1(n-9); C22:2(n-6); C22:3(n-3); C22:4(n-6); C22:5(n-3); C22:6(n-3); C24:0; C24:1 (n-9)

**Table 6:
Minerals**

<u>Analytes</u>
Calcium Copper Iron Magnesium Manganese Phosphorus Potassium Sodium Sulfur Zinc



**Table 7:
Minerals - Micronutrients**

<u>Analytes</u>
Aluminum
Antimony
Barium
Cadmium
Chromium
Cobalt
Lead
Molybdenum
Nickel
Silicon
Silver
Strontium
Sulfur
Titanium
Zinc

**Table 8:
Mycotoxins by LC-MS-MS in Feed**

<u>Analytes</u>
Aflatoxin B1
Aflatoxin B2
Aflatoxin G1
Aflatoxin G2
Total Aflatoxins
Deoxynivalenol
Zearalenone



Table 9:
Pesticide Residues

<u>Analytes</u>
Aldrin
alpha Benzene Hexachloride (alpha BHC)
Chlorodane
Chlorpyrifos (Dursban)
Dieldrin
Endrin
Heptachlor
Heptachlor Epoxide
Hexachlorobenzene (HCB)
Lindane
Methoxychlor
Mirex
Polychlorinated Biphenyls (PCB)
pp' TDE/op' DDT
pp' DDE
pp' DDT
Toxaphene



Accredited Laboratory

A2LA has accredited

TYSON FOOD SAFETY AND RESEARCH LABORATORY **ALSO DOING BUSINESS AS WBA ANALYTICAL LABORATORIES** *Springdale, AR*

for technical competence in the field of

Chemical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of A2LA's R204 - *Specific Requirements - Food and Pharmaceutical Testing Laboratory Accreditation Program*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 3rd day of October 2024.

A blue ink signature of Trace McInturff, written in a cursive style.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1970.02
Valid to July 31, 2026

For the tests to which this accreditation applies, please refer to the laboratory's Chemical Scope of Accreditation.