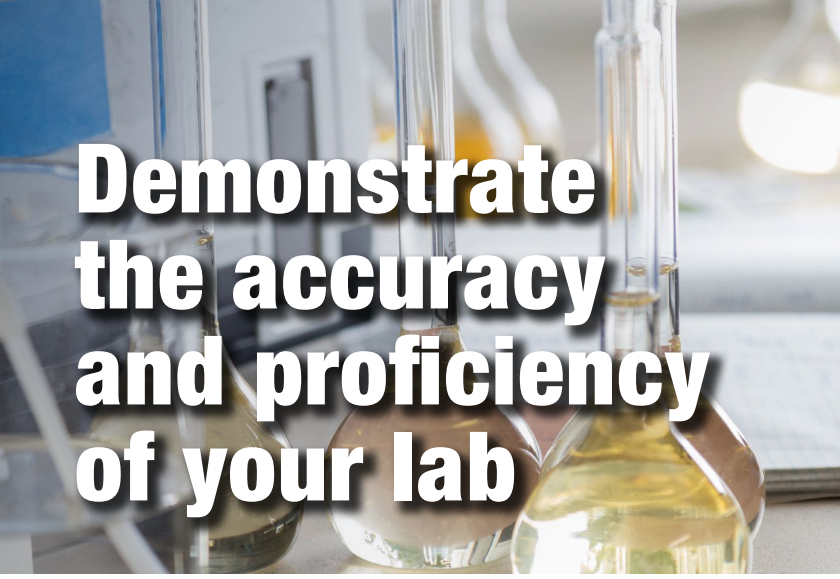
AOCS Laboratory Proficiency Program

TECHNICAL SERVICES AOCS

aocs.org/lpp

Are you a seed company, referee, research, government, or contract laboratory?

You should be a part of this program!

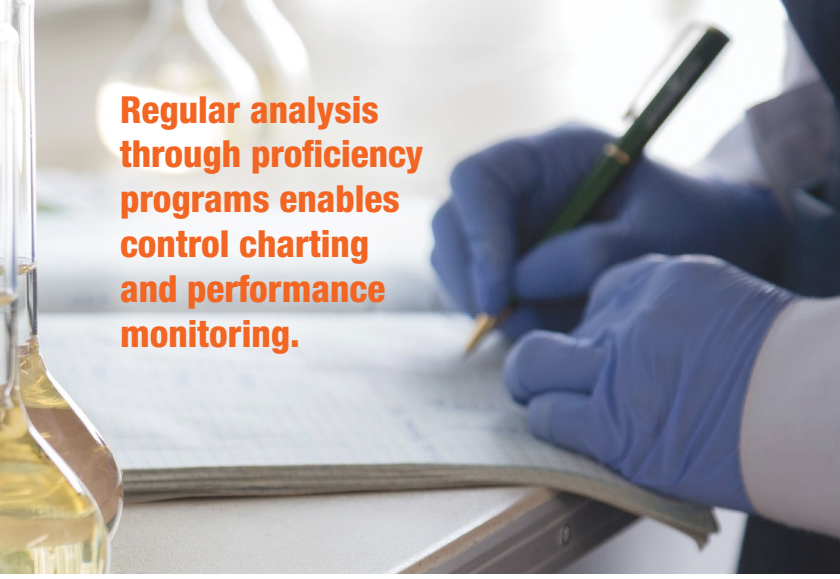


Demonstrate the accuracy and proficiency of your lab

The AOCS Laboratory Proficiency Program (LPP) is the world's most extensive and respected collaborative proficiency testing program for oil- and fat-related commodities, oilseeds, oilseed meals, edible fats, pulses and related compounds.

AOCS offers more than 40 series covering a wide array of testing skills and instrumentation. The program meets ISO 17025 accreditation requirements for proficiency testing and is run in a manner consistent with the requirements of ISO 17043. Reports are generated using an ISO 13528 compliant statistical package and contain consensus means, Z-scores, kernel density plots and much more.

Samples are sent quarterly, allowing participants to evaluate progress and make appropriate adjustments throughout the year. We use proprietary analyst numbers that change every year, to ensure confidentiality and allow you to view and compare your results with a large cross-section of laboratories utilizing similar methods and samples.



Enrollment

Enrollment and payment for LPP is administered on a 12-month period. **New members** may join the program at any time. To be eligible for AOCS Approved Chemist status or LPP awards participants must enroll by May 20 and complete all four quarters.

Enrollment Deadlines

1st Quarter:	May 20
2nd Quarter:	August 20
3rd Quarter:	November 20
4th Quarter:	February 20

Full-year LPP participants are eligible for the **AOCS Approved Chemist** program. Once Approved Chemist status is achieved, your chemists is recognized as an AOCS Approved Chemist and promoted within the official AOCS Lab Directory.

AOCS APPROVED CHEMIST

TECHNICAL SERVICES AOCS

Enroll online or contact AOCS Technical Services at:
P.O. Box 17190, Urbana, IL 61803-7190 USA
P: +1 217-693-4810 | F: +1 217-693-4855
technical@aocs.org | www.aocs.org/lpp

Material	Sample	Determination	Test Method‡
Aflatoxin Conventional Test Methods (4 series)	Corn Meal Cottonseed Meal Peanut Paste Pistachio and Almond (*n* = 8 each)	Aflatoxins B_1, B_2, G_1, and G_2 for each separately	User-Specified
Aflatoxin Test Kits (2 Series)	Corn Meal Peanut Paste (*n* = 8 each)	Total Aflatoxins	Corn Meal Test Kit Peanut Paste Test Kit
Cholesterol	Dried Protein (*n* = 8)	Cholesterol	AOAC 994.10
Cottonseed Oil	Cottonseed Oil (*n* = 4)	Bleached Color Free Fatty Acids Moisture and Volatiles Refined Color Soap	Cc 8a-52 Ca 5a-40 Ca 2b-38 Cc 13b-45 Cc 17-95
DDGS from Corn Meal	Corn Meal (*n* = 8)	Ash* Crude Fat Crude Fiber Moisture Protein	User-Specified AOAC 920.39, 945.16, or 2003.06 AOAC 978.10 or Ba 6a-05 (filterbag) NFTA 2.2.2.5 (105 C/3) hr AOAC 990.03 (Combustion) or 2001.11 (Kjeldahl)
Edible Fat	Edible Fats (*n* = 8) (Margarine Oil, Emulsified Shortening, Vegetable Shortening)	AOCS Color Capillary Melting Point* Free Fatty Acids Iodine Value Lovibond Color* Mettler Dropping Point α-Monoglycerides OSI* Solid Fat Content	Cc 13b-45 Cc 1-25 Ca 5a-40 Cd 1d-92 Cc 13e-92 Cc 18-80 User-Specified Cd 12b-92 Cd 16-81 or Cd 16b-93
Feed Microscopy	Animal Feed (*n* = 6)	Ingredient Identification by Microscope	AAFCO Terminology
Fish Meal	Fish Meal (*n* = 8)	Acid Value Ash Crude Protein Moisture Nitrogen Oil (Petroleum Ether) Pepsin Digestibility	Cd 3d-63 Ba 5a-49 Ba 4d-90 or Ba 4e-93 (Dumas) Ba 2a-38 AOAC 920.03 Ba 3-38 AOAC 971.09
Fumonisin	Corn Meal (*n* = 6)	B_1, B_2, B_3, and Total	User-Specified

‡All Methods are AOCS methods unless specified.
*** Indicates optional tests.**
n = # of samples per program year.

Material	Sample	Determination	Test Method‡
Gas Chromatography	Vegetable Oil ($n = 8$)	Fatty Acid Composition Iodine Value (calculated)*	Ce 1a-13 Cd 1c-85
GOED Nutraceutical Oils	Marine Oil ($n = 6$)	Acid Value *p*-Anisidine Value Fatty Acid Composition Peroxide Value	Cd 3d-63 Cd 18-90 Ce 1i-07 or GOED Monograph Cd 8b-90
Marine Oil	Marine Oil ($n = 8$)	*p*-Anisidine Value Free Fatty Acids Gardner Color* Insoluble Impurities Iodine Value Lovibond Color* Moisture Peroxide Value	Cd 18-90 Ca 5a-40 Td 1a-64 Ca 3a-46 Cd 1d-92 Cc 13b-45 Ca 2b-38 Cd 8b-90
Marine Oil Fatty Acid Profile	Marine Oil ($n = 8$)	Fatty Acid Composition	Ce 1b-89 or Ce 1i-07
MCT Oil	MCT Oils ($n = 6$)	*p*-Anisidine Value Fatty Acid Composition Free Fatty Acids Iodine Value Moisture Peroxide Value	Cd 18-90 Ce 1j-07 Ca 5a-40 Cd 1d-92 Ca 2b-38 Cd 8b-90
Moisture in Almonds	Ground Almonds ($n = 8$)	Moisture	User-Specified
NIOP Fats and Oils	Crude Oils (Coconut, Safflower, Sunflower, Palm) ($n = 4$)	AOCS Color Free Fatty Acids Iodine Value Mass/Unit Volume Saponification Value	Cc 13b-45 Ca 5a-40 Cd 1d-92 Cc 10c-95 Cd 3-25
Nutritional Labeling	Liquid and Dry Products ($n = 8$)	Fatty Acid Composition Minerals* Total Fat Total Protein Vitamin A* Vitamin D* Vitamin E *	Ce 1j-07 AOAC 985.35 or 984.27 User-Specified User-Specified AOAC 992.04 or 992.06 AOAC 992.26 AOAC 992.03
Oilseed Meal	Oilseed Meals ($n = 8$)	Crude Fiber Moisture Nitrogen Oil (Petroleum Ether)	Ba 6-84 Ba 2a-38 Ba 4d-90 or Ba 4e-93 Ba 3-38
Olive Oil Chemistry	Olive Oil ($n = 8$)	**PART A** Delta K (UV Extinction) Free Fatty Acids Peroxide Value	 COI/T.20/Doc.19-Rev3 or AOCS Ch 5-91 Ca 5a-40 Cd 8b-90

Material	Sample	Determination	Test Method‡
Olive Oil Chemistry Continued	Olive Oil (n = 8)	**PART B**	
		Diacylglycerols*	ISO 29822
		Fatty Acid Composition	COI/T. 20/Doc. 17, COI/T. 24-2001, ISO 5508, AOCS Ch 2-91, or AOCS Ce 2-66
		Pyropheophytin*	ISO 29841
		Triglycerides (ECN 42)	COI/T. 20/Doc. 20-2010 or AOCS Ch 1-91
		PART C	
		Biophenols*	COI/T.20/Doc. 29-2009
		Content of 2-glycerol monopalmitate*	COI/T.20/Doc.23-2006
		Sterenes*	COI/T. 20/Doc. 16-2001
		Sterols	COI/T. 20/Doc. 30-2013, ISO 12228-2 1999, or AOCS Ch 6-91
		Stigmastadienes	COI/T. 20/Doc. 11-2001 or AOCS Cd 26-96
		Waxes	COI/T. 20/Doc. 18-2003 or AOCS Ch 8-02
Olive Oil Sensory Panel	Olive Oil (n = 16)	Extra Virgin, Virgin, Lampante	International Olive Oil Council guideline COI/T.20/Doc. 15/ Rev. 7; February 2015
Palm Oil	Palm Oil (n = 6)	Cloud Point	P4.3 PORIM
		Free Fatty Acids	P2.5 PORIM
		Iodine Value	Cd 1d-92
		Lovibond Color	P4.1 PORIM
		Slip Melting Point*	P4.2 PORIM
		Solid Fat Content	Cd 16b-93 or Cd 16-81
Peanut	Peanuts (n = 8)	Foreign Matter	Ab 1-49
		Free Fatty Acids	Ab 5-49
		Moisture	Ab 2-49
		Nitrogen	Ab 4-91 or Ba 4e-93
		Oil	Ab 3-49
		Peroxide Value	Cd 8b-90
Phosphorus in Oil	Soybean Oil (n = 8)	Phosphorus	Ca 12-55
Plant Protein Meals	Dried Bean Powders, Dried Pea Powders (n = 8)	Crude Protein	Ba 4e-93
		Moisture and Volatile Matter	Ba 2b-82 or Ba 2a-38
		Ash	Ba 5a-49
		Fat	Am 2-93
		Crude Fiber	Ba 6a-05 or Ba 6-84
		Dietary Fiber	User-Specified
Solid Fat Content by NMR	Edible Fats (n = 8)	Solid Fat Content	Cd 16b-93

Material	Sample	Determination	Test Method‡
Soybean	Soybeans ($n = 8$)	Crude Fiber Free Fatty Acids* Moisture Nitrogen Oil	Ba 6-84 Ac 5-41 Ac 2-41 Ac 4-91 or Ba 4e-93 Ac 3-44
Soybean Oil	Soybean Oil ($n = 4$)	Free Fatty Acids Lovibond Color* Neutral Oil	Ca 5a-40 Cc 13e-92 Ca 9f-57
Specialty Oils	Plant Oils ($n = 8$)	*p*-Anisidine Value Fatty Acid Composition Free Fatty Acids Iodine Value Moisture Peroxide Value	Cd 18-90 Ce 1i-07 Ca 5a-40 Cd 1d-92 Ca 2b-38 Cd 8b-90
Tallow and Grease	Tallow and Grease ($n = 8$)	Free Fatty Acids Insoluble Impurities Moisture Refined and Bleached Color Titer Unsaponifiable Matter	Ca 5a-40 Ca 3a-46 Ca 2c-25 or Ca 2b-38 Cc 8d-55 Cc 12-59 Ca 6a-40
Trace Metals in Oil	Soybean Oil ($n = 8$)	Copper, Iron, Nickel	Ca 18-79
***trans* Fatty Acid Content**	Soybean Oil ($n = 8$)	Total *trans* Fatty Acids by GC Total *trans* Fatty Acids by IR	Ce 1h-05 Cd 14-95
Trypsin Inhibitor Activity in Soybeans and Pulses	Soy flour Raw soybeans Defatted soymeal Soy protein concentrate Soy protein isolate Hulless barley Pea flour Pea protein concentrate Faba bean protein concentrate ($n = 9$)	Trypsin Inhibitor	Ba 12a-2020
Unground Soybean Meal	Unground Soybean Meal ($n = 8$)	Ash* Crude Fiber Moisture Nitrogen Oil (Petroleum Ether) Urease Activity	Ba 5a-49 Ba 6-84 Ba 2a-38 Ba 4d-90 or Ba 4e-93 Ba 3-38 Ba 9-58
Vegetable Oil for Color Only	Soybean Oil ($n = 8$)	Color Lovibond Red Color*	Cc 13b-45 Cc 13e-92

AOCS LAB PROFICIENCY PROGRAM

Winning Results

> “AOCS Approved Chemist status gives clients confidence in my results.”

RUDY FULAWKA

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