



ANALYTICAL SERVICES **FOOD, GRAIN AND FEED**

COMPREHENSIVE TESTING SERVICES FOR FOOD COMPANIES, PROCESSORS, PRODUCERS,
DISTRIBUTORS AND CONSUMERS OF ALL TYPES OF FOOD, GRAIN AND FEED PRODUCTS.





CONTINUOUSLY

SGS North America's Agricultural Services laboratories have the equipment and experience necessary to service your complete food and feed testing needs. From food products including fresh produce, meat, processed foods and dairy, to feed grains and feed co-products, SGS has the ability to test for the quality of your product as well as contaminants such as melamine, antibiotics and genetically modified organisms (GMOs).

With cutting edge technology and the latest testing methods, the SGS laboratories in Brookings, South Dakota (USA) and Vancouver, British Columbia (Canada) are fully equipped to meet your needs. Our trained scientists and technicians hold Ph.D. and Master degrees in chemistry and microbiology, as well as years of laboratory experience. Both labs are ISO 17025 accredited and are recognized by several food and feed associations as approved laboratories.

INNOVATIVE

ANALYTICAL SERVICES

FOOD (FRESH PRODUCE, MEAT, DAIRY AND PROCESSED FOODS)

- MICROBIAL ANALYSIS
- PESTICIDE RESIDUES
- NUTRITIONAL LABELING
- CONTAMINANTS
- AMINO ACIDS
- GMO TESTING
- AUDIT SERVICES
- SAMPLING
- OIL ANALYSIS

FEED & INGREDIENTS

- MYCOTOXINS
- PESTICIDE RESIDUES
- MICROBIAL ANALYSIS
- PROXIMATE ANALYSIS
- CONTAMINANTS
- ANALYSIS LABELING
- MINERALS
- GMO TESTING
- AUDIT SERVICES
- LABORATORY RESEARCH SERVICES
- SAMPLING

WHOLE GRAINS & CO-PRODUCTS

- PROXIMATE ANALYSIS
- MYCOTOXINS
- GMO TESTING
- SAMPLING
- QUALITY MONITORING
- INSPECTION SERVICES
- CLEANLINESS AND PRODUCT INSPECTIONS





GOOD ENOUGH TO EAT?



FOOD SERVICES

MICROBIAL ANALYSIS

Testing for bacterial contamination is an important part of a food safety monitoring program. The presence of *E. coli*, *E. coli* 01:157, *Salmonella* or *Listeria* can be determined with a standardized PCR (Polymerase Chain Reaction) protocol. Traditional plate testing and culture identification are also available.

PESTICIDE RESIDUE

Many foods require a pesticide residue screen to confirm the absence of chemicals that can be detrimental. SGS utilizes specialized equipment including LC MSMS (Liquid Chromatography with Tandem mass spectrometer) and GC MS (Gas chromatography with mass spectrometer) to screen for more than 300 pesticides. This advanced technology allows us to identify and quantify individual compounds.

NUTRITIONAL LABELING

Amounts of calories, protein, carbohydrates, fat and vitamin levels of food products need to be determined for required labeling on packaging of food. This type of testing must be completed under strict guidelines in order to result in consistent labeling for consumers.

CONTAMINANTS

Melamine, heavy metals, veterinary drug residues such as antibiotics, and hormones may be concentrated in products after processing. These contaminants may harm animals and humans in concentrated levels. Testing of specific contaminants needs to be identified for analysis. These contaminants may be determined with use of the LC MSMS, GC MS, or ELISA (Enzyme Linked Immunosorbant Assay) technologies.

AMINO ACIDS

Amino acids of interest or a standard screen of the major amino acids can be determined with the LC MSMS. Comparisons of amino acids content can be made between products or processing steps, or used to supply additional nutritional information to the customer.

GMO TESTING

Some specifications require food to be free of genetically modified organisms (GMO). DNA analysis is completed by PCR protocol and may be qualitative or quantitative to the 0.01% detection level.

OIL ANALYSIS

In addition to crude fat analysis, gas chromatography is used to determine the different types of fatty acids in the product. This information can be used to market desirable fatty acids (e.g. Omega, DHA, CLA) or the absence of undesirable fats (trans fats).

AUDIT SERVICES

SGS offers a variety of audit solutions, including customized second-party audits as well as third-party audits through both accredited and non-accredited programs. Our auditors are trained in GMP+, GlobalGAP, ISO and HACCP based schemes.

SAMPLING

SGS offers sampling according to contractual specifications (FDA, GAFTA, FOSFA, INCOGRAIN, etc.) during loading and unloading. Your samples can then be tested on-site or at any of our network of laboratories across the globe.



SAFETY AND COMPLIANCE

FEED SERVICES

MYCOTOXIN

Toxins that are produced by fungi can impact the health of animals and humans. Mycotoxins range in their toxicity by type and end user. Depending on the level of detection and quantification that is needed, either an ELISA (Enzyme Linked Immunosorbant Assay) or liquid chromatography will be used to identify and quantify the presence of mycotoxins in the feed product.

PESTICIDE RESIDUE

Many feeds require a pesticide residue screen to confirm the absence of chemicals that can be detrimental. SGS utilizes specialized equipment including LC MSMS (Liquid Chromatography with Mass Spectrophotometry) and GC MS (Gas Chromatography) to screen for more than 300 pesticides. This advanced technology allows us to identify and quantify individual compounds.

MICROBIAL ANALYSIS

Testing for bacterial contamination is an important part of a feed safety monitoring program. The presence of *E. coli*, *E. coli* 01:157, *Salmonella* or *Listeria* can be determined with a standardized PCR (Polymerase Chain Reaction) protocol. Traditional plate testing and culture identification are also available.

PROXIMATE ANALYSIS

Protein, fat, moisture, ash, and fiber analysis can be conducted to assess the nutritional value of a feed. Wet chemistry methods or Near-Infrared Reflectance (NIR) technology are utilized and referenced by feed associations and analytical associations. Calculations are added to give nutritional value for animal needs.

CONTAMINANTS

Melamine, veterinary drug residues such as antibiotics, and hormones may be concentrated in products after processing. These contaminants may harm animals and humans in concentrated levels. Testing of specific contaminants need to be identified for analysis. These contaminants may be determined with use of the LC MSMS, GC MS, or PCR technologies.

ANALYSIS LABELING

Amounts of calories, protein, carbohydrates, fat and vitamin levels of feed products need to be determined for required labeling on packaging of animal food. This type of testing must be completed under strict guidelines in order to result in consistent labeling for consumers.

MINERALS

Sixteen minerals can be determined with an ICP (Inductively Coupled Plasma) spectrometer. Different minerals are important for determining feed rations or necessary supplements (e.g. phosphorus, calcium). Other minerals are detrimental to livestock and must be monitored (e.g. lead, sulfur).

GMO TESTING

Some processes require GMO-free (genetically modified organism-free) products to be used in animal or pet food. A PCR technology is used to detect and quantify any GMO present in the feed.

AUDIT SERVICES

SGS offers a variety of audit solutions, including customized second-party audits as well as third-party audits through both accredited and non-accredited programs. Our auditors are trained in GMP+, GlobalGAP, FeedAssure™, and other ISO and HACCP based schemes.

LAB RESEARCH SERVICES

New innovations are continuously occurring within the feed industry. SGS is at the forefront of test method development and has the experience and expertise to perform or develop the necessary tests to evaluate product performance and can assist your company by providing quality third party laboratory evaluation.

SAMPLING

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QUALITY WITHOUT CONTAMINANTS

WHOLE GRAINS & CO-PRODUCTS

Main products of whole grains and co-products include corn grain, soybeans, dried distiller grains, soybean meal, corn gluten meal, cotton seed and canola meal, and other feedstuffs used in the production of animal feeds. SGS has the technology and experience to test these products, as well as haylage and silage products, fodder, hay and grass products.

PROXIMATE ANALYSIS

Protein, fat, moisture, ash, and fiber analysis can be conducted to assess the nutritional value of a grain or co-product. Wet chemistry methods or Near-Infrared Reflectance (NIR) technology are utilized and referenced by feed associations and analytical associations. Calculations are added to give nutritional value for animal needs.

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QUALITY MONITORING

SGS offers testing to determine moisture and test weight, as well as grading samples to FGIS (Federal Grain Inspection Services) standards.

INSPECTION SERVICES

SGS furnishes trade risk guarantees, mainly for weight and quality discrepancies. These services provide for reimbursement of shortages or quality differences ascertained between loading and discharge.

CLEANLINESS AND PRODUCT INSPECTIONS

This service applies to inspection of ships holds and tanks, containers, railway cars and trucks to ensure that the areas/units that are to carry the agricultural goods are free from any odor, foreign matter, dirt, cargo residues or pest infestation, and watertight and safe for the cargo transported.

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WHEN YOU NEED TO BE SURE

