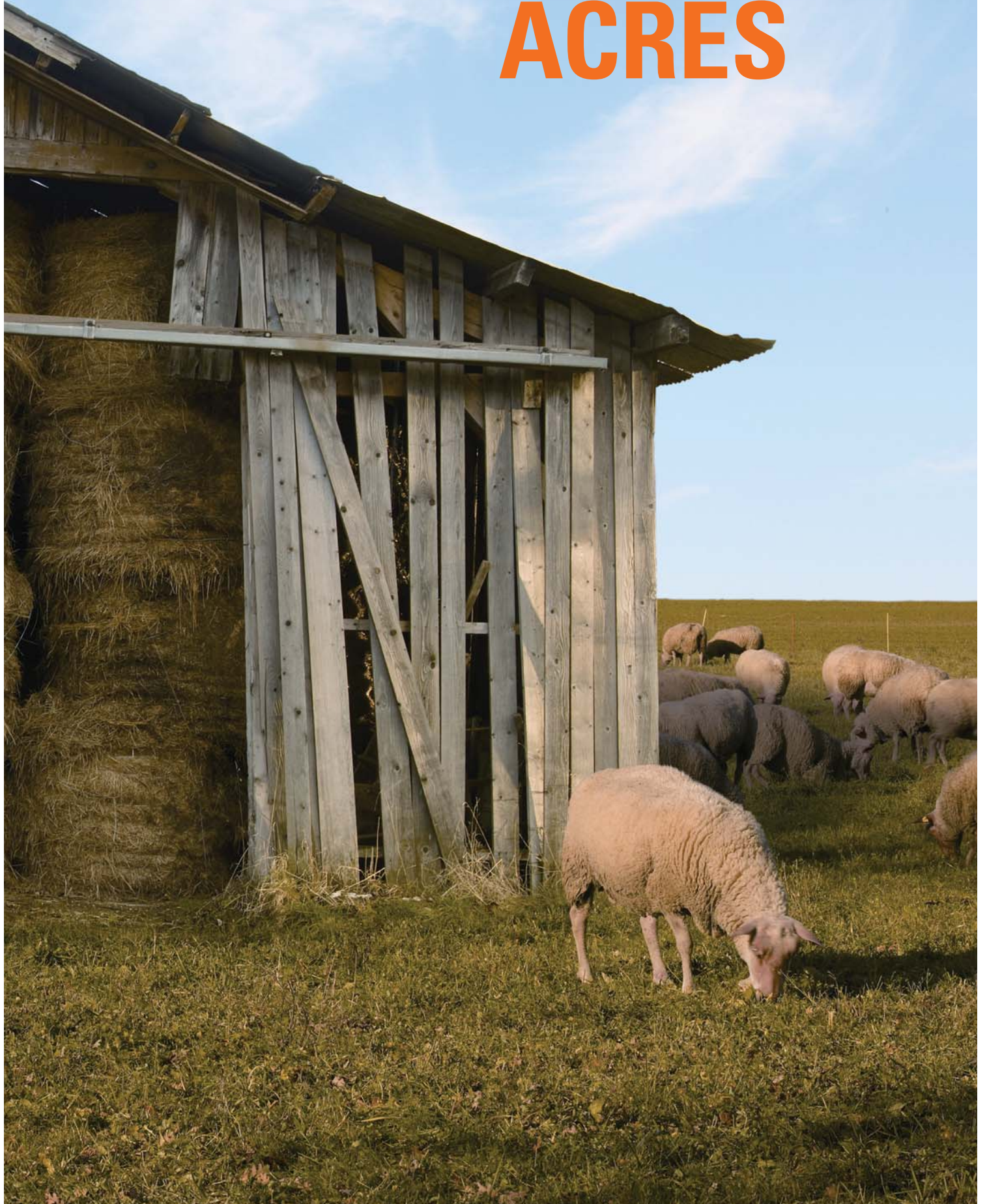


SGS

**SGS
AGRI-FOOD
LABORATORIES
2011**

**AGRI-FOOD LABORATORIES IS NOW PART OF SGS,
THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY**

FROM ACRES



TO THOUSANDS OF **HECTARES**



FEED AND INGREDIENT PACKAGES

INGREDIENTS AND FINISHED FEEDS

Package I

Crude protein, moisture

Package II

Crude protein, moisture, calcium, phosphorus, potassium, magnesium, sodium

Package III

Type II plus zinc, manganese, copper

Package V

Crude protein, moisture, calcium, phosphorus, Ca/P ratio, sodium,

Proximate I

Crude protein, moisture, crude fat, ash, carbohydrate (calculated)

Proximate II

Proximate I with fat by acid hydrolysis instead of crude fat

Options

(If no base package is selected, a \$10 base fee will apply)

Crude Fibre

Crude Fat

Hydrolyzed Fat

Salt

Ash

pH

ADF

NDF

Iron

Same Day Protein

Applies to samples received before 11am and can be reported "as is"

MINERAL PREMIX PACKAGES

Mineral I

Calcium, phosphorus

Mineral II

Calcium, magnesium

Mineral III

Calcium, phosphorus, sodium, potassium, magnesium

Mineral IV

Zinc, copper, manganese, iron

Mineral V

Calcium, magnesium, phosphorus, sodium, potassium, copper, zinc, manganese, iron

Any Single Element

TOXIN SCREENS

Vomitoxin

Zearalenone

T-2

Aflatoxin

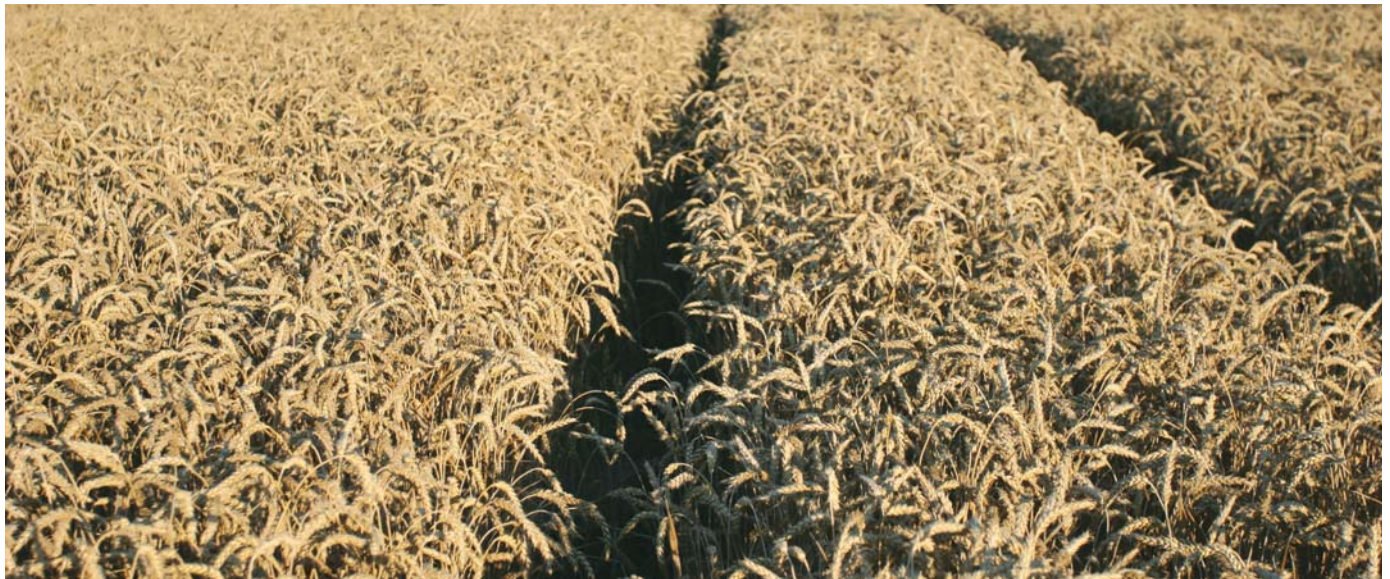
MICROBIOLOGICAL

Yeast

Mold

Salmonella

Salmonella Confirmation



FATS AND OILS

MIU
Peroxide Value
Free Fatty Acids
20 Hour AOM
Iodine Value

OTHER ANALYSES

Feed Particle Size

Mixer Study
Mixer Na / Mn / Zn
Mixer Salt

Minimum 9 replicates. HACCP recommends Sodium.
Other elements can be requested, contact the lab for more details.

MANURE ANALYSES

Liquid

Dry matter, nitrogen, phosphorus, potassium, total salt, ammonium nitrogen

Dry

Dry matter, nitrogen, phosphorus, potassium, ammonium nitrogen

Options

(If no base package is selected, a \$10 base fee will apply)
Calcium and Magnesium
Zinc, Manganese, Copper, Iron
Total Salt
Carbon/Nitrogen Ratio
pH

HEAVY METALS

Arsenic
Lead
Mercury
Selenium

Please allow 10 days for results

LIVESTOCK WATER

AFL Mineral Analysis

pH, nitrate nitrogen, phosphorus, potassium, magnesium, calcium, chloride, sulphate, total salt (EC), bicarbonate, sodium, total dissolved solids, total hardness, zinc, manganese, copper, iron, boron, silicon

Minimum sample size: 500 ml

Samples in a microbiological bottle cannot be used for mineral analysis.

Samples for human consumption will not be analyzed based on the Safe Water Drinking Act 2002.

MICROBIOLOGICAL TESTS

Total Coliform

E. Coli

Faecal Coliform

Listeria

Faecal Streptococcus

Minimum sample size: 250 ml

Sterile bottle required.

Microbiological analysis will be on a separate report.

Please submit your sample at the beginning of the week.

Samples will not be accepted on Fridays.



FEED AND FORAGE PACKAGES

WET CHEMISTRY PACKAGES

Type I

Moisture, crude protein

Type II

Moisture, crude protein, calcium, phosphorus, Ca/P ratio, potassium, magnesium sodium

Type III

Type II plus copper, zinc, manganese

Type IV

Type II plus acid detergent fibre, net energy lactation, total digestible nutrients

Type V

Moisture, crude protein, calcium, phosphorus, Ca/P ratio, sodium

Swine ME

Type II plus fat, ash, crude fibre, metabolizable energy

Poultry ME

Type II plus fat, starch, total sugar, metabolizable energy

NCPS—Non-Forages

DM, CP, Ca, P, K, Mg, Na, SP, ADF-CP, ADF, NDF, lignin, NDF-CP, fat, ash, starch

Calculations for: TDN, NEL, NEG, NEM, NFC, UIP (est.), RFV, OARDC energy calculations.

AFL Excel Basic

DM, CP, ADF, NDF, Ca, P, K, Mg, Na, TDN, NEL

AFL Excel Plus

DM, CP, SP, UIP, ADF, NDF, Ca, P, K, Mg, Na, TDN, NEL

NIR FORAGE PACKAGES

NW40

Crude protein, moisture, soluble protein, ADF-CP, degradable protein (est.), acid detergent fibre, neutral detergent fibre, total digestible nutrients, net energy lactation, net energy gain, net energy maintenance, relative feed value, non-fibre carbohydrates, starch, lignin

By Wet Chemistry: Dry matter, calcium, phosphorus, potassium, magnesium, sodium

OARDC energy calculations

NW41

NW40 with copper, zinc and manganese, Iron by wet chemistry

NIR 20

NW40 with all results by NIR

NIR 40

Fermented forages only

CP, SP, ADF-CP, ADF, NDF, lignin, NDF-CP, fat, ash, starch, 24 hr and 48 hr NDF digestibility (for haylage and corn silage) (RFQ where applicable), calcium, phosphorus, potassium, magnesium, pH, digestibility rate, potentially digestible NDF with all the results by NIR

Milk 2006

Similar to NCPS Forage. All results using NIR.

Package includes NDFD (48hr) as well as calculated milk per tonne and milk per acre.

Rapid Scissor Cuts

DM, by NIR: CP, ADF, NDF, RFV

Quick turnaround results to evaluate forage stand quality.

Options

(If no base package is selected, a \$10 base fee will apply)

Starch (NIR)

24 hr or 48 hr NDF Digestibility (forages only)

ADDITIONAL FORAGE PACKAGES

AFL Excel Dry Cow

Forages only

By NIR: crude protein, soluble protein, ADF-CP, degradable protein (est.), acid detergent fibre, neutral detergent fibre, lignin, total digestible nutrients, net energy lactation, non-fibre carbohydrates, relative feed value.

By Wet Chemistry: dry matter, calcium, phosphorus, potassium, magnesium, sodium, chloride, sulfur, pH, dietary cationic-anionic balance index

CPM

Fermented forages only

By NIR: CP, SP, ADF-CP, ADF, NDF, lignin, NDF-CP, fat, ash, starch, 24 hr and 48 hr NDF digestibility (for haylage and corn silage) (RFQ where applicable) Potentially digestible NDF

By Wet Chemistry: dry matter, calcium, phosphorus, potassium, magnesium, sodium, copper, zinc, manganese, pH, digestibility rate.

NCPS—Forages

By NIR: CP, SP, ADF-CP, ADF, NDF, lignin, NDF-CP, fat, ash, starch

By wet chemistry: DM, Ca, P, K, Mg, Na

Calculations for: TDN, NEL, NEG, NEM, NFC, UIP (est.), RFV, OARDC energy calculations.
MEASURE

Equine DE

NW41 plus total digestible nutrients and digestible energy for horses

Equine Complete

NW41 plus fat, NDF-CP, ash, starch, sugar, total digestible nutrients and digestible energy for horses.

PHYSICAL TESTING

Penn State Particle Size

For TMR, corn silage, haylage

Physically Effective NDF

By Penn State Particle Separator (Lammers 1996)

Calculated from physically effective factor which has been determined as the sum of the dry matter retained on two sieves of the Penn State particle Separator (for forages) or as the sum of dry matter retained in two sieves of PSPS plus dry matter retained on 1.18mm screen (TMR).

Options

(If no base package is selected, a \$10 base fee will apply)

Degradable Protein or UI

ADF-CP

NDF-CP

Soluble Protein

Acid Detergent Fibre

Neutral Detergent Fibre

Crude Fat

Crude Fibre

Iron

Lignin

pH

Sulphur

Salt

Sodium

Starch (Enzymatic)

Molybdenum

Nitrate Nitrogen (Nitrates)

Metabolizable Energy*

(for swine or poultry)

Corn Silage Processing Score

Percentage of total starch that passes through a 4.75 mm screen

*All required tests for this calculation must be selected before the option can be selected.

Supplies and Forms

If you require sample containers or submission forms, please contact the laboratory.

Our submission forms are also available in a writable PDF format on our website.



SOIL TESTING PACKAGES

SOIL PACKAGES

AFL Package I

pH, phosphorus, potassium, magnesium
(includes buffer pH, if pH is less than 6.5)
OMAFRA Recommendations

AFL Package II

Basic I plus zinc and manganese
OMAFRA Recommendations

AFL Package III

Basic I plus organic matter, calcium, base
saturation, cation exchange capacity
AFL Recommendations

AFL Package IV

Basic I plus organic matter, calcium, base saturation,
cation exchange capacity, zinc, manganese, copper,
iron, boron AFL Recommendations

Options

(If no base package is selected, a \$10 base fee will apply)

Boron

Total Salt

Bray Phosphorus

Sulphate Sulphur

Organic Matter

Zinc and Manganese

Aluminum

Nitrate Nitrogen (12" or 24" depth)

Atrazine

Nematode Count

Soybean Cyst Nematode

Physical Analysis

% Sand, % Silt, % Clay

Sand Fraction

Bulk Density*

Hydraulic conductivity/permeability

TOPSOIL PACKAGE

Top Soil Basic

Texture (% sand, % silt, % clay), total salts, pH,
buffer pH, phosphorus, potassium, magnesium,
calcium, cation exchange capacity, chloride, sodium,
sodium absorption ratio, organic matter.

Written recommendations for amendments

HOME, LAWN AND GARDEN

pH, phosphorus, potassium, magnesium calcium,
sodium, organic matter and total salts, with lime
requirements and fertilizer recommendations

SOIL PACKAGES

GPS Grid Sampling

Includes: GPS field mapping, soil sampling and soil
analysis. Colour maps and soil reports in a binder.

Soil tests: pH, organic matter, phosphorus, potassium,
magnesium, calcium, cation exchange capacity, zinc,
manganese

Rates on a per acre basis

1 Ha Grids

(2.47 acres) (330' X 330')

0.40 Ha Grids

(1.0 acres) (208' X 208')

Field Perimeter Maps

Calculation of workable acres - \$50 minimum charge

Zone Sampling

Includes maps and sample extraction. Soil analysis
extra. Samples are taken from pre-determined
management zones

Composite Plus Sampling

Includes maps and sample extraction. Soil analysis
extra. GPS boundary map with geo-referenced
random bulk composite samples every 25 acres.

Regular Sampling

plus sample analysis. Random bulk composite
samples pulled every 25 acres. No GPS mapping
included.

HEAVY METALS

Heavy Metals

Arsenic, cadmium, chromium, cobalt, copper, lead,
mercury, molybdenum, nickel, selenium, zinc

This package is designed for agricultural use in obtaining
a Certificate of Application from the Ministry of the
Environment for application of bio-solids and NASMs.

FERTILIZERS

N, P2O5, K2O

Nitrogen, available phosphorus, soluble potash

N

P2O5

K2O

Agricultural Lime

Dry matter, calcium, magnesium, neutralizing value,
particle size, agricultural limestone index.



PLANT TISSUE PACKAGES

Basic

Nitrogen, phosphorus, potassium, magnesium, calcium

Complete

Basic plus zinc, manganese, copper, iron, boron, sulphur

Options

(If no base package is selected, a \$10 base fee will apply)

Sulphur

Nitrate Nitrogen

Molybdenum

Chlorides

Aluminum

MANURE ANALYSIS

Liquid

Dry matter, nitrogen, phosphorus,
potassium, total salt, ammonium nitrogen

Dry

Dry matter, nitrogen, phosphorus,
potassium, ammonium nitrogen

Options

(If no base package is selected, a \$10 base fee will apply)

Calcium and Magnesium

Zinc, Manganese, Copper, Boron, Fe

Total Salt

Carbon/Nitrogen Ratio

pH

GREEN ROOF PACKAGE

Rooftop Substrate

Sand fraction, bulk density, water content,
total pore space, maximum water capacity,
air filled porosity, hydraulic conductivity/permeability,
organic matter, largest grain size

COMPOST PACKAGES

Compost I

Dry matter, nitrogen, organic matter, organic carbon,
C/N ratio, pH, calcium, phosphorus, potassium,
magnesium, total salt, sodium

Compost II

Compost I plus cadmium, cobalt, chromium,
copper, mercury, molybdenum, nickel, lead,
selenium, zinc, arsenic, manganese

Options

(If no base package is selected, a \$10 base fee will apply)

PCB

Foreign Material

Solvita Test

Faecal Coliform

Salmonella

Salmonella +ve confirmation

CO2 evolution

Available Soil Nutrient

Available Nutrients by SME

GREENHOUSE PACKAGES

GREENHOUSE MEDIA

Basic

pH, nitrate nitrogen, phosphorus, potassium, calcium, magnesium, total salt, sodium, chloride, sulphate

Complete

Basic plus ammonium nitrogen, iron, zinc, manganese, copper, boron, molybdenum, Aluminum

Options

(If no base package is selected, a \$10 base fee will apply)

Ammonium Nitrogen

Organic Matter

DNA MULTISCAN

This analysis can detect the presence of plant pathogenic and beneficial organisms in various mediums quickly and simultaneously. Levels are reported as high, medium, low and not detected.

Basic Scan

Best suited to monitor and detect the presence of 25 common plant pathogens in soil, water and plant tissue including Pythium, Phytophthora and Verticillium.

Diagnostic Scan

Best suited as a diagnostic tool; can detect the presence of 66 pathogens and beneficial organisms.

Additional Tests

Bacterial Tomato Canker only

GREENHOUSE SOLUTION

Complete Water

For water without fertilizer

Total salt, pH, nitrate nitrogen, phosphorus, potassium, calcium, magnesium, sodium, chloride, sulphate, zinc, molybdenum, manganese, copper, iron, boron, silicon, total hardness, bicarbonate, total dissolved solids

Complete Solution

For fertilizer solutions

Total salt, pH, nitrate nitrogen, phosphorus, potassium, calcium, magnesium, sodium, chloride, sulphate, zinc molybdenum, manganese, copper, iron, boron, silicon, bicarbonate, ammonium nitrogen

PLANT TISSUE PACKAGES

Basic

Nitrogen, phosphorus, potassium, magnesium, calcium

Complete

Basic plus zinc, manganese, copper, iron, boron, sulphur

Options

(If no base package is selected, a \$10 base fee will apply)

Sulphur

Nitrate Nitrogen

Molybdenum

Chlorides

Aluminum



COMPOST PACKAGES

Compost I

Dry matter, nitrogen, organic matter, organic carbon, C/N ratio, pH, calcium, phosphorus, potassium, magnesium, total salt, sodium

Compost II

Compost I plus cadmium, cobalt, chromium, copper, mercury, molybdenum, nickel, lead, selenium, zinc, arsenic, manganese, aluminum

Options

(If no base package is selected, a \$10 base fee will apply)

PCB

Foreign Material

Solvita Test

Fecal Coliform

Salmonella

CO₂ evolution

Available Soil Nutrient

Available Nutrients by SME

GREEN ROOF PACKAGES

Rooftop Substrate

Sand fraction, bulk density, water content, total pore space, maximum water capacity, air filled porosity, hydraulic conductivity/permeability, organic matter, largest grain size.

Physical Properties

Total porosity, total air space, water holding capacity, bulk density, moisture.

FERTILIZERS

N, P2O5, K2O

Nitrogen, available phosphorus, soluble potash

N

P2O5

K2O

MICROBIOLOGICAL TESTS

Total Coliform

E. Coli

Faecal Coliform

Listeria

Faecal Streptococcus

Minimum sample size: 250 ml

Sterile bottle required — Microbiological analysis will be on a separate report.

Please submit your sample at the beginning of the week to ensure accurate results.

SUPPLIES AND FORMS

If you require sample containers or submission forms, please contact the laboratory.

Our submission forms are also available in a writable PDF format on our website.

CONTACTS

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WHEN YOU NEED TO BE SURE

