

List of normative documents concerning test methods of the soil-  
agrochemical laboratory «TerraLab»

Analysis of fertilizer

Index	Test methods	
pH (25°C, 1%)	Internal Instruction TerraLab F01*	Fertilizers. Determination of pH
Specific electrical conductivity (0,1%)	Internal Instruction TerraLab F02*	Fertilizers. Method of determining the specific electrical conductivity
Solubility	Internal Instruction TerraLab F03*	Fertilizers. Determination of solubility
Dissolution rate	Internal Instruction TerraLab F04*	Fertilizers. Determination of the dissolution rate
Density	Internal Instruction TerraLab F05*	Fertilizers. Determination of density
Mass fraction of water in fertilizer	GOST 20851.4-75	Mineral fertilizers. Methods for determination of water
Mass fraction of total nitrogen	DSTU EN 15604:2015	Fertilizers. Method of determination of various forms of nitrogen in a single sample for fertilizers containing nitrogen in the form of nitrites, ammonia, urea and cyanamide
Mass fraction of nitrate nitrogen	DSTU EN 15476:2015	Fertilizers. Determination of the content of nitrate and ammonia nitrogen by the Deward method
Mass fraction of ammonium nitrogen	DSTU EN 15475:2015	Fertilizers. Method of determination of ammonium nitrogen
Mass fraction of amide nitrogen	DSTU EN 15478:2015	Fertilizers. Method for determining the total content of nitrogen in urea
Mass fraction of water-soluble phosphorus (P <sub>2</sub> O <sub>5</sub> )	DSTU EN 15958:2015	Fertilizers. Method of extraction of water-soluble phosphorus
Mass fraction of water-soluble potassium (K <sub>2</sub> O)	DSTU EN 15477:2015	Fertilizers. Method of determining of the content of water-soluble potassium
Mass fraction of water-soluble calcium (CaO)	Internal Instruction TerraLab F06*	Fertilizers. Determination of water-soluble calcium by ICP-OES
Mass fraction of water-soluble magnesium (MgO)	Internal Instruction TerraLab F07*	Fertilizers. Determination of water-soluble magnesium by ICP-OES
Mass fraction of water-soluble sodium (Na)	Internal Instruction TerraLab F08*	Fertilizers. Determination of water-soluble sodium by ICP-OES
Mass fraction of water-soluble sulfur (S)	Internal Instruction TerraLab F09*	Fertilizers. Determination of water-soluble sulfur by ICP-OES
Mass fraction of water-soluble iron (Fe)	DSTU EN 15962:2015	Fertilizers. Method of determining the total content of microelements and fractions of microelements
Mass fraction of water-soluble manganese (Mn)	DSTU EN 15962:2015	Fertilizers. Method of determining the total content of microelements and fractions of microelements
Mass fraction of water-soluble zinc (Zn)	DSTU EN 15962:2015	Fertilizers. Method of determining the total content of microelements and fractions of microelements
Mass fraction of water-soluble copper (Cu)	DSTU EN 15962:2015	Fertilizers. Method of determining the total content of microelements and fractions of microelements

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Mass fraction of water-soluble cobalt (Co)	DSTU EN 15962:2015	Fertilizers. Method of determining the total content of microelements and fractions of microelements
Mass fraction of water-soluble boron (B)	Internal Instruction TerraLab F10*	Fertilizers. Determination of water-soluble boron by ICP-OES
Mass fraction of water-soluble molybdenum (Mo)	Internal Instruction TerraLab F11*	Fertilizers. Determination of water-soluble molybdenum by ICP-OES
Mass fraction of complexed iron (Fe) and complexed fraction of a micronutrient in fertilizer	DSTU EN 15962:2015	Fertilizers. Method of determining the total content of microelements and fractions of microelements
Mass fraction of complexed manganese (Mn) and complexed fraction of a micronutrient in fertilizer	DSTU EN 15962:2015	Fertilizers. Method of determining the total content of microelements and fractions of microelements
Mass fraction of complexed zinc (Zn) and complexed fraction of a micronutrient in fertilizer	DSTU EN 15962:2015	Fertilizers. Method of determining the total content of microelements and fractions of microelements
Mass fraction of complexed copper (Cu) and complexed fraction of a micronutrient in fertilizer	DSTU EN 15962:2015	Fertilizers. Method of determining the total content of microelements and fractions of microelements
Mass fraction of complexed cobalt (Co) and complexed fraction of a micronutrient in fertilizer	DSTU EN 15962:2015	Fertilizers. Method of determining the total content of microelements and fractions of microelements
Mass fraction of phosphorus (P <sub>2</sub> O <sub>5</sub> ) dissolved in min. acids	DSTU EN 15959:2015	Fertilizers. Method of extraction of phosphorus, soluble in mineral acids
Mass fraction of total potassium (K <sub>2</sub> O)	Internal Instruction TerraLab F12*	Fertilizers. Microwave acid decomposition of mineral fertilizers and detection by ICP-OES
Mass fraction of total calcium (CaO)	Internal Instruction TerraLab F12*	Fertilizers. Microwave acid decomposition of mineral fertilizers and detection by ICP-OES
Mass fraction of total magnesium (MgO)	Internal Instruction TerraLab F12*	Fertilizers. Microwave acid decomposition of mineral fertilizers and detection by ICP-OES
Mass fraction of total sodium (Na)	Internal Instruction TerraLab F12*	Fertilizers. Microwave acid decomposition of mineral fertilizers and detection by ICP-OES
Mass fraction of total sulfur (S)	Internal Instruction TerraLab F12*	Fertilizers. Microwave acid decomposition of mineral fertilizers and detection by ICP-OES
Mass fraction of total iron (Fe)	Internal Instruction TerraLab F12*	Fertilizers. Microwave acid decomposition of mineral fertilizers and detection by ICP-OES

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Mass fraction of total manganese (Mn)	Internal Instruction TerraLab F12*	Fertilizers. Microwave acid decomposition of mineral fertilizers and detection by ICP-OES
Mass fraction of total zinc (Zn)	Internal Instruction TerraLab F12*	Fertilizers. Microwave acid decomposition of mineral fertilizers and detection by ICP-OES
Mass fraction of total copper (Cu)	Internal Instruction TerraLab F12*	Fertilizers. Microwave acid decomposition of mineral fertilizers and detection by ICP-OES
Mass fraction of total cobalt (Co)	Internal Instruction TerraLab F12*	Fertilizers. Microwave acid decomposition of mineral fertilizers and detection by ICP-OES
Mass fraction of total boron (B)	Internal Instruction TerraLab F12*	Fertilizers. Microwave acid decomposition of mineral fertilizers and detection by ICP-OES
Mass fraction of total molybdenum (Mo)	Internal Instruction TerraLab F12*	Fertilizers. Microwave acid decomposition of mineral fertilizers and detection by ICP-OES
Mass fraction of chlorides (Cl)	DSTU EN 16195:2015	Fertilizers. Method of determination of chlorides in the absence of organic material
Mass fraction of biuret	DSTU EN 15479:2015	Fertilizers Spectrophotometric method for determination of biuret in urea

## Analysis of water

Index	Test methods	
pH (25°C)	DSTU 4077-2001	Water quality. pH determination (ISO 10523:1994, MOD)
Specific electrical conductivity	Internal Instruction TerraLab W01*	Water quality. Method of determination of specific electrical conductivity
Partial alkalinity	DSTU ISO 9963-1:2007	Water quality. Determination of alkalinity. Part 1. Determination of total and partial alkalinity
Total alkalinity	DSTU ISO 9963-1:2007	Water quality. Determination of alkalinity. Part 1. Determination of total and partial alkalinity
Mass concentration of chlorides	DSTU ISO 9297:2007	Water quality. Determination of chlorides. Titration with silver nitrate using chromate as an indicator (Mora method) (ISO 9297:1989, IDT)
Mass concentration of sulfates	GOST 4389-72	Drinking water. Methods for determination of sulfates
Mass concentration of sodium	DSTU ISO 11885:2005	Water quality. Determination of 33 elements by ICP-OES
Mass concentration of potassium	DSTU ISO 11885:2005	Water quality. Determination of 33 elements by ICP-OES
Mass concentration of calcium	DSTU ISO 11885:2005	Water quality. Determination of 33 elements by ICP-OES
Mass concentration of magnesium	DSTU ISO 11885:2005	Water quality. Determination of 33 elements by ICP-OES
Mass concentration of phosphorus	DSTU ISO 11885:2005	Water quality. Determination of 33 elements by ICP-OES
Mass concentration of iron	DSTU ISO 11885:2005	Water quality. Determination of 33 elements by ICP-OES
Mass concentration of manganese	DSTU ISO 11885:2005	Water quality. Determination of 33 elements by ICP-OES
Mass concentration of zinc	DSTU ISO 11885:2005	Water quality. Determination of 33 elements by ICP-OES
Mass concentration of copper	DSTU ISO 11885:2005	Water quality. Determination of 33 elements by ICP-OES
Mass concentration of boron	DSTU ISO 11885:2005	Water quality. Determination of 33 elements by ICP-OES
Mass concentration of molybdenum	DSTU ISO 11885:2005	Water quality. Determination of 33 elements by ICP-OES
Mass concentration of ammonium nitrogen	DSTU ISO 5664:2007	Water quality. Determination of ammonia. Distillation and titration method
Mass concentration of nitrate nitrogen	Internal Instruction TerraLab W02*	Water quality. Determination of nitrate nitrogen by Deward method

## Analysis of plant

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Mass fraction of total nitrogen	DSTU ISO 5983-1:2014	Forage for animals. Determination of nitrogen content and calculation of crude protein content. Part 1. Kjeldahl Method
Mass fraction of total phosphorus	Internal Instruction TerraLab P01*	Plants. Determination of the total phosphorus, potassium, calcium, magnesium, sodium, sulfur, iron, manganese, zinc, copper, boron, molybdenum and cobalt content by ICP-OES
Mass fraction of total potassium	Internal Instruction TerraLab P01*	Plants. Determination of the total phosphorus, potassium, calcium, magnesium, sodium, sulfur, iron, manganese, zinc, copper, boron, molybdenum and cobalt content by ICP-OES
Mass fraction of total calcium	Internal Instruction TerraLab P01*	Plants. Determination of the total phosphorus, potassium, calcium, magnesium, sodium, sulfur, iron, manganese, zinc, copper, boron, molybdenum and cobalt content by ICP-OES
Mass fraction of total magnesium	Internal Instruction TerraLab P01*	Plants. Determination of the total phosphorus, potassium, calcium, magnesium, sodium, sulfur, iron, manganese, zinc, copper, boron, molybdenum and cobalt content by ICP-OES
Mass fraction of total sodium	Internal Instruction TerraLab P01*	Plants. Determination of the total phosphorus, potassium, calcium, magnesium, sodium, sulfur, iron, manganese, zinc, copper, boron, molybdenum and cobalt content by ICP-OES
Mass fraction of total sulfur	Internal Instruction TerraLab P01*	Plants. Determination of the total phosphorus, potassium, calcium, magnesium, sodium, sulfur, iron, manganese, zinc, copper, boron, molybdenum and cobalt content by ICP-OES
Mass fraction of total iron	Internal Instruction TerraLab P01*	Plants. Determination of the total phosphorus, potassium, calcium, magnesium, sodium, sulfur, iron, manganese, zinc, copper, boron, molybdenum and cobalt content by ICP-OES
Mass fraction of total manganese	Internal Instruction TerraLab P01*	Plants. Determination of the total phosphorus, potassium, calcium, magnesium, sodium, sulfur, iron, manganese, zinc, copper, boron, molybdenum and cobalt content by ICP-OES
Mass fraction of total zinc	Internal Instruction TerraLab P01*	Plants. Determination of the total phosphorus, potassium, calcium, magnesium, sodium, sulfur, iron, manganese, zinc, copper, boron, molybdenum and cobalt content by ICP-OES

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Mass fraction of total copper	Internal Instruction TerraLab P01*	Plants. Determination of the total phosphorus, potassium, calcium, magnesium, sodium, sulfur, iron, manganese, zinc, copper, boron, molybdenum and cobalt content by ICP-OES
Mass fraction of total boron	Internal Instruction TerraLab P01*	Plants. Determination of the total phosphorus, potassium, calcium, magnesium, sodium, sulfur, iron, manganese, zinc, copper, boron, molybdenum and cobalt content by ICP-OES
Mass fraction of total molybdenum	Internal Instruction TerraLab P01*	Plants. Determination of the total phosphorus, potassium, calcium, magnesium, sodium, sulfur, iron, manganese, zinc, copper, boron, molybdenum and cobalt content by ICP-OES

## Analysis of soil

Index	Test methods	
pH (H <sub>2</sub> O)	DSTU ISO 10390:2007	The quality of the soil. Determination of pH (ISO 10390:2005, IDT)
pH (KCl)	GOST 26483-85	Soil. Preparation of salt extract and determination of its pH by CINAO method
Specific electrical conductivity	DSTU 8346:2015	The quality of the soil. Methods of determination of specific conductivity, pH and precipitate of aqueous extract
Water content on dry weight	DSTU ISO 11465-2001	The quality of the soil. Determination of dry matter and moisture content by mass. Gravimetric method (ISO 11465:1993, IDT)
Particle size of soil, sand, clay, silt	Internal Instruction TerraLab S01*	Soils. Determination of particle size distribution
Organic matter content	DSTU 4289:2004	The quality of the soil. Methods of determination of organic matter
Carbonate content (CaCO <sub>3</sub> )	DSTU ISO 10693-2001	The quality of the soil. Determination of carbonate content. Volumetric method (ISO 10693:1995, IDT)
Mass fraction of ammonium nitrogen	DSTU 4729:2007	Determination of nitrate and ammoniacal nitrogen in the modification of the NSC ISSAR named after O.S.Sokolovsky
Mass fraction of nitrate nitrogen	DSTU 4729:2007	Determination of nitrate and ammoniacal nitrogen in the modification of the NSC ISSAR named after O.S.Sokolovsky
Mass fraction of mineral nitrogen	DSTU 4729:2008	Determination of nitrate and ammoniacal nitrogen in the modification of the NSC ISSAR named after O.S.Sokolovsky
Mass fraction of easily-hydrolyzable nitrogen	DSTU 7863:2015	The quality of the soil. Determination of easily-hydrolyzable by the Cornfield method
Mass fraction of mobile phosphorus by Machigin	DSTU 4114-2002	Soils. Determination of mobile compounds of phosphorus and potassium by modified Machigin method
Mass fraction of mobile phosphorus by Chirikov	DSTU 4115-2002	Soils Determination of mobile compounds of phosphorus and potassium by modified Chirikov method
Mass fraction of exchangeable potassium	DSTU 7861:2015	The quality of the soil. Determination of exchangeable calcium, magnesium, sodium and potassium in the soil by Schollenberger in the modification of the NSC ISSAR named after O.N.Sokolovsky
Mass fraction of exchangeable sodium	DSTU 7861:2015	The quality of the soil. Determination of exchangeable calcium, magnesium, sodium and potassium in the soil by Schollenberger in the modification of the NSC ISSAR named after O.N.Sokolovsky
Mass fraction of exchangeable calcium	DSTU 7861:2015	The quality of the soil. Determination of exchangeable calcium, magnesium, sodium and potassium in the soil by Schollenberger in the modification of the NSC ISSAR named after O.N.Sokolovsky
Mass fraction of exchangeable magnesium	DSTU 7861:2015	The quality of the soil. Determination of exchangeable calcium, magnesium, sodium and potassium in the soil by Schollenberger in the modification of the NSC ISSAR named after O.N.Sokolovsky

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Mass fraction of mobile sulfur	GOST ISO 22036-2014	Soil quality. Determination of microelements in soil extracts by ICP-OES
Mass fraction of iron	DSTU ISO 14870:2005	The quality of the soil. Displacement microelements with buffer DTPO (ISO 14870:2001, IDT)
Mass fraction of manganese	DSTU ISO 14870:2005	The quality of the soil. Displacement microelements with buffer DTPO (ISO 14870:2001, IDT)
Mass fraction of zinc	DSTU ISO 14870:2005	The quality of the soil. Displacement microelements with buffer DTPO (ISO 14870:2001, IDT)
Mass fraction of copper	DSTU ISO 14870:2005	The quality of the soil. Displacement microelements with buffer DTPO (ISO 14870:2001, IDT)
Mass fraction of mobile boron	GOST ISO 22036-2014	Soil quality. Determination of microelements in soil extracts by ICP-OES
Number of equivalents of chloride ion	DSTU 7908:2015	The quality of the soil. Determination of chloride ion in water extraction
Mass fraction of chloride ion	DSTU 7908:2015	The quality of the soil. Determination of chloride ion in water extraction
Number of equivalents of carbonate ion	DSTU 7943:2015	The quality of the soil. Determination of carbonate and bicarbonates ions in water extraction
Mass fraction of carbonate ion	DSTU 7943:2015	The quality of the soil. Determination of carbonate and bicarbonates ions in water extraction
Number of equivalents of bicarbonate ion	DSTU 7943:2015	The quality of the soil. Determination of carbonate and bicarbonates ions in water extraction
Mass fraction of bicarbonate ion	DSTU 7943:2015	The quality of the soil. Determination of carbonate and bicarbonates ions in water extraction
Number of equivalents of sulfate ion	DSTU 7909:2015	The quality of the soil. Determination of sulfate ion in water extraction
Mass fraction of sulfate ion	DSTU 7909:2015	The quality of the soil. Determination of sulfate ion in water extraction
Number of equivalents of sodium	DSTU 7944:2015	The quality of the soil. Determination of sodium ions and potassium in water extraction
Mass fraction of sodium	DSTU 7944:2015	The quality of the soil. Determination of sodium ions and potassium in water extraction
Number of equivalents of potassium	DSTU 7944:2015	The quality of the soil. Determination of sodium ions and potassium in water extraction
Mass fraction of potassium	DSTU 7944:2015	The quality of the soil. Determination of sodium ions and potassium in water extraction
Number of equivalents of calcium	DSTU 7945:2015	The quality of the soil. Determination of calcium and magnesium ions in water extraction
Mass fraction of calcium	DSTU 7945:2015	The quality of the soil. Determination of calcium and magnesium ions in water extraction
Number of equivalents of magnesium	DSTU 7945:2015	The quality of the soil. Determination of calcium and magnesium ions in water extraction
Mass fraction of magnesium	DSTU 7945:2015	The quality of the soil. Determination of calcium and magnesium ions in water extraction

\* Internal Instruction TerraLab - internal instructions developed by TerraLab in connection with the absence of current standard techniques.