



LIST OF RESEARCH EQUIPMENT WITH A VALUE EXCEDING 100,000 EUROS

Faculty of Agriculture

AGRONOMICAL RESEARCH CENTER IASI

I. Plant - Soil Analysis Laboratory

| Name of equipment | Value (euro) | Use (what can be determined with the respective equipment) |
|---|--------------|---|
| INFRASTRUCTURE FOR MOLECULAR BIOLOGY RESEARCH IN HORTICULTURAL PLANTS | | |
| Mass absorption spectrophotometer with graphite furnace (AA-6300) | 45000 | Expeditious determination of the soil and plant chemical composition. Applications: food control with minimum toxic content, analysis of heavy metals |
| Gas chromatograph - model QP 2010 Plus | 40000 | Quantitative and qualitative analysis of semi-volatile and volatile organic compounds; residue analysis of organo-phosphorous and organo-chlorinated pesticides in food (fruit and vegetable juices); residue analysis of organo-phosphorous and organo-chlorinated pesticide |
| HPLC liquid chromatograph - Prominence series. | 35000 | Residue analysis of organo-phosphorous organo-chlorinated pesticides in food; residue analysis of organo-phosphorus and organo-chlorinated pesticides in water, vegetable and animal oils and fats. |
| Accelerated Solvent Extractor | 37000 | |
| Kjeldahl system consisting of InKjel P digester, Vapodest 20 distiller, with 6 stations | 5000 | The device allows the recording of 99 programs, with differential timing, up to a maximum of 10 intervals, each with a maximum of 199 minutes, in 1 minute steps. |
| Fiber test | 4500 | Determination of cellulose compounds from forages. |
| Microwave mineralization system | 7000 | Used for mineralization of samples in order to undergo further spectrophotometric or flamfotometrice analysis. Types of samples include: food, feed, grain, residual sludge, soil, metal plating baths, plant tissue, beverages and oils. |
| Calcination furnace | 1500 | Used for calcinating fodder samples to obtain ash. |
| Grinding mill | 2000 | Used for grinding samples to be analyzed. |
| Thermobalance MA 100. | 2500 | The possibility of adjusting the temperature between 40-160 degrees allows fast determinations of dry matter in plants |
| Total | 179,500 | |

II. Laboratory for the Expertise, Certification and Control of Genetically Modified Organisms and Agro-Alimentary Products

| Name of equipment | Value (euro) | Use (what can be determined with the respective equipment) |
|--|--------------|--|
| Visualization and analysis system of DNA fragments consisting of Real Time PCR 7300 Applied Biosystem + sequencer ABI Prism 310. | 45000 | The Applied Biosystems 7300 Real-Time PCR System is an affordable platform for the detection and quantification of nucleic acid sequences that will not compromise the data quality or dye choice flexibility. The 7300 Real-Time PCR System combines thermal cycling, fluorescence detection, and application-specific software to measure the cycle-by-cycle accumulation of PCR products in a single-tube, homogeneous reaction. |

III. Soil Physics Research Laboratory

| Name of equipment | Value (euro) | Use (what can be determined with the respective equipment) |
|---|--------------|--|
| Plant growth chamber for fitotron - standard (walking room) with internal volume 28 m ³ | 500000 | With controlled temperature and humidity conditions 24 hours out of 24, controlling the cycle day / night or dawn / dusk, controlled lighting, interior size 2.75m x 5.1m x 2.0 m, internal volume 28 m ³ . Max temp. 35°C, temp. minimum 15°C with the lights on and 10°C with the lights on lights off (4 pcs.) |
| Plant growth chamber for fitotron - CO ₂ cycle control (walking room) | 450000 | Controlled temperature and humidity conditions 24 hours out of 24, controlling cycle day / night or dawn / dusk lighting 500 mmol.m ⁻² s ⁻¹ fluorescent lamps, interior size 2.75m x 5.1m x 2.0 m, internal volume 28 m ³ . |
| Plant growth chamber for fitotron | 400000 | Creates, in addition to a standard room, extreme temperatures (-20 + 50 ° C) (walking room) (1 pc). -Simulates climatic conditions from the arctic and tropical climate |
| Plant growth chamber for fitotron - standard (walking room) with internal volume 7 m ³ . | 400000 | Controlled temperature and humidity conditions 24 hours out of 24, controlling the cycle day / night or dawn / dusk, lighting 500 mmol.m ⁻² s ⁻¹ fluorescent lamps, interior size 1.95m x 1.8m x 2.0 m, internal volume 7 m ³ . |
| Plant growth cabin for fitotron | 250000 | Standard (chamber) with internal volume 1100 liters - and controlled temperature and humidity conditions 24 hours out of 24, controlling cycle day / night or dawn / dusk, interior size 1.3m x 0.69m x 1.48m, 1100 liters internal volume, constant temperature (6 pcs.). |
| Monitoring and integrated control system for climate chambers. | 120000 | Classic Wintersteiger harvester equipped with sensors (GrainGage HM800, Junyper Systems) for weighing production obtained per parcel, fast determinations of moisture and hectoliter mass of seeds. The system is controlled by the board through a palm pc (AllegroMX, Junyper Systems) equipped with special software (HarvestMaster, Junyper Systems) for harvesting, also useful for making observations in the experimental field |
| Motorized equipment for quick collection of soil samples and adjacent automotive platform. | 45000 | It takes average soil samples from previously established depths for chemical analysis, having higher sampling accuracy and speed. It has the ability to extract 32 average samples per hour from 12 samples each, which means over 450 tests / hour. |
| Transporter | 35000 | Transports the research team to the field, tow car for mobile platforms with research devices and sampling ground, 4X4. |

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| Autolaboratory equipped for field research | 25000 | Prepared especially for transportation of the equipment for field sampling and analysis in site. 3 seats, 4x4, 3.5 tons, furniture, sinks, water tank, gas lamps, workspace, refrigerator for storing samples, equipment lockers. Autolaboratory is equipped with the following mobile devices: agrochemical probe for arable layer, agrochemical probe for 0-60 cm soil profile, agrochemical probe set 1 m, type purckhauer, kit for fast determinations of soil quality, Mitscherlich probe, sampling cylinder set in natural placement, steel cylinder kit (cylinder Carrying + 24 / set) plant roots probe, Penetrologger, WET sensor kit, aluminum folding wheelbarrow, various chemical soil testing kit, manual screening kit, portable scales, measuring tapes 50 m, measuring wheel, Clinometer, GPS professional, dedicated field orientation, Ø = 51.4x22mm aluminum vials, Ø = 58.4x45mm aluminum, etc. |
| Total | 2,225,000 | |

IV. Research Laboratory for the Mechanization of Agriculture and Food Industry

| Name of equipment | Value (euro) | Use (what can be determined with the respective equipment) |
|--|--------------|---|
| New Holland TC 5050 combine | 100000 | Wheat, maize, sunflower harvesting. |
| Soil Bin | 3200 | Modeling of the soil-tillage active parts and soil-wheels interaction. |
| TYAN graphical station + Ansys Fluent software | 12000 | CFD computer simulations. |
| AGPS-24DR | 6000 | Complex unit for seedbed preparation and seeding in untillaged terrain. |
| VALTRA T 190 tractor | 110000 | For plowing. |
| Opal 140 reversible tractor mounted plowing | 1500 | For plowing. |
| BS 400 A kompaktor | 1100 | Soil tillage and seedbed preparation. |
| John Deere 572 roun baler | 12200 | Producing cylindrical straw bales. |
| Total | 246,000 | |

I. Oenology Laboratory

| Name of equipment | Value (Euro) | Use (what can be determined with the respective equipment) |
|--|---------------|---|
| EQUIPMENT FOR ANALYSIS AND CHEMICAL DETERMINATIONS IN HORTICULTURE | | |
| Chemical niche | 4865 | Used as working surface for conducting chemical testing with release of dangerous vapours. |
| Exhausting Vertical Laminar Flow Cabinet | 2743 | Creating conditions of a relatively sterile environment. |
| Chest freezer | 425 | Preserving samples |
| Kern Analytical balance EG 2200 Mode | 871 | - accurate counting: automated reference optimized gradually, the average value of the weighing piece; - programming a certain limit for the checking of the weight. Weighing grams, pieces or %; - lists the capacity. A graphic upwards band lists what remains available. |
| Analytical balance | 947 | precise weighing operations. |
| Analytical mill | 3407 | processing of solid substances. |
| 50 ml Automated burette | 683 | Titration operations. |
| 50 ml Automated burette | 683 | Titration operations. |
| Magnetic stirrer | 684 | Stirring with or without heating. |
| Magnetic stirrer | 684 | Stirring with or without heating. |
| Sand bath | 637 | Heating samples at >100°C. |
| Portable turbidimeter | 2639 | Determination of turbidity in beverages. |
| pH-meter | 496 | Determination of pH values for the tested samples. |
| Portable FT-IR spectrometer | 47387 | Identification of various compounds. |
| FT-IR Spectrometer | 27450 | Identification of various compounds. |
| Horizontal autoclave | 5493 | Used for the sterilization of laboratory objects/ vessels. |
| Total | 100095 | |
| INFRASTRUCTURE FOR ANALYSIS AND QUALITY CONTROL OF BEVERAGES | | |
| Liquid Chromatographer with detectors: UV-Vis diode array, refractive index, fluorescence, conductivity, IT-TOF mass spectrometer. | 418000 | Determination of: - sugars so as to determine the quality of beverages through liquid chromatography; - phenolic compounds for the establishment of beverages' quality through liquid chromatography; - malvin for the establishment of beverages' quality through liquid chromatography; Cations analysis of SO_4^{2-} and Cl^- for the establishment of beverages' quality through liquid chromatography. |

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| Shimadzu gas chromatography, with FID and ECD detectors | 85000 | Determination of: - esters in wines and other beverages; |
| Shimadzu gas chromatography coupled with mass spectrometer | 110000 | - volatile alcohols in wines and other beverages; - terpenic compounds in wines and other beverages. |
| TOTAL | 613000 | |
| SYSTEM FOR ANALYSING HORTICULTURAL PRODUCTS' QUALITY | | |
| Refrigerator | 260 | Preserving the samples |
| Water Bi-distiller | 2165 | Obtaining distilled water |
| Radwag Analytical Balance | 910 | Weighing substances |
| Radwag Analytical Balance | 894 | Weighing substances |
| Analytical Balance | 652 | Weighing substances |
| Water Distiller | 1163 | Preparing distilled water |
| Pol Eko Drying oven | 1093 | Drying at a controlled temperature |
| Fruit/vegetables Viscometer/penetrometer | 8110 | Determination of structural and textural firmness of fruit and vegetables |
| Kruss HR 92 Refractometer | 163 | Determination of dry substance |
| PG Instruments T 90 + Spectrophotometer | 1946 | Color analysis |
| SPECTROstar NANO with MARS analysis software and PC | 20382 | Quantitative DNA and RNA analysis Quantitative analysis of proteins, aminoacids enzyme immunotests Testing the enzymatic Cell proliferation and apoptosis proteins aggregation enzyme incubation |
| SHIMADZU UV-VIS 3600 Spectrophotometer with a sample analysis software | 7142 | Determining the concentration of molecules with a known chemical structure from the products of grape vine. |
| Atomic absorption spectrometer | 26963 | Quantitative determination of metals |
| portable multiparameter device | 2405 | Usual determinations of fruit must (sugar content, total acidity, pH, conductivity, dissolved oxygen, selective ions) |
| device for grape destemming and crushing | 1969 | Grape destemming and crushing for obtaining grape marc and must |
| Air/pneumatic press | 12793 | Pressing grape marc |
| stainless steel tanks | 18168 | Fermentation and preservation of beverage |
| Oakwood barrels | 2746 | Maturation of wines and other beverages |
| bottling system | 8269 | Beverage bottling |
| TOTAL | 118193 | |
| TOTAL SUM OF LABORATORY EQUIPMENT VALUE | 831288 | |

II. Fruit-Tree Growing Laboratory

| Name of equipment | Value (Euro) | Use (what can be determined with the respective equipment) |
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| INFRASTRUCTURE FOR MOLECULAR BIOLOGY RESEARCH IN HORTICULTURAL PLANTS | | |
| Freezer -20°C | 1870 | Used for storing biological samples and chemical reagents at -20°C |
| Freezer -80°C | 7140 | Used for storing biological samples and chemical reagents at -80°C |
| Storage system of biological material in liquid nitrogen | 1103 | Preparing samples for genetical test of the nucleic acids |
| Bioanalyzer | 26061 | Used for the electrophoresis of nucleic acids and proteins |
| Photodocumenting gel chemiluminescence and fluorescence system | 15559 | Analysis of electrophoresis gel in UV |
| Real Time PCR System | 24025 | Analysis of gene activity in real time |
| RoboCycler (PCR) | 2759 | For PCR reactions |
| Electrophoresis unit for sequencing nucleic acids + accessories | 1339 | Electrophoresis of nucleic acids in acrylamide gel |
| Spectrophotometer with micro-volume (Nanodrop) | 16217 | Reads the concentration of nucleic acids and proteins |
| Growing Incubator with day-night lighting cycle | 3946 | Used for growing cell/tissue cultures and small plants in controlled conditions |
| Vortemp 1550 Shaking Incubator | 2282 | Incubation of samples by shaking |
| TS 100 C Thermo-Shaker with cooling and SC20 blocks of 1,5 mL | 1381 | Incubation of samples by shaking at constant temperatures in tubes of 1.5 – 2.5 mL |
| Digital Dry Bath (double block capacity) | 1229 | Used for incubation of samples at constant temperatures in tubes of 1.5 – 2.5 mL |
| SDS-PAGE System | 435 | Used for SDS-PAGE tests |
| Blotting system | 575 | Used for the immunoblotting tests |
| Hotplate/Magnetic Stirrer Combo | 742 | Stirring the samples in a magnetic field |
| Vortex Mixer | 420 | Homogenizing sample |
| Double Platform Rocker | 607 | Homogenizing samples |
| Mini Incubator | 599 | Incubation of samples at constant temperatures |
| Nahita Microcentrifuge | 968 | Centrifuging micro-samples for DNA test |
| Termocycler PCR 96 Well Gradient | 8207 | Carries out PCR reactions |
| Transilluminator with automated photographing system and data processing software | 2805 | Visualizing mono- and polymorphic strips of DNA |
| TOTAL | 120,269 | |
| EQUIPMENT FOR DETERMINING BIOTIC AND ABIOTIC STRESS IN HORTICULTURAL PLANTS | | |
| Plant efficiency analyser (PEA) | 4826 | Continuous Excitation Plant Efficiency Analyser, provides the high time resolution essential in performing measurements of fast chlorophyll fluorescence induction kinetics. |
| Pulse amplitude modulator (PAM) fluorometer | 19861 | PAM fluorometers are applied for measurements of photosynthetic parameters of plants. |

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| Photosynthesis Measurement System LCI600 (ADC Instruments UK) | 12947 | Measures Photosynthesis, Transpiration, Substomatal CO ₂ and Stomatal Conductance |
| CL – 01 Chlorophyll Content Meter 1 | 2082 | Convenient method of measuring the relative chlorophyll content of a leaf sample. |
| Quantitherm Combined PAR/Temperature Sensor | 2449 | Accurately measures PAR light levels and temperature. |
| FieldScout CM 1000 Chlorophyll Meter Portable equipment for the determination of stress in plants | 4207 | Detects the plants' stress quicker than visual monitoring -"Point-and-shoot" technology immediately measures the content of relative chlorophyll |
| SMZ 168 trinocular microscope with a camera | 1448 | - used for the capture of images in key moments during research activities of different subjects determined by observation and afterward used for dimensional submillimetric determination in order to create databases for the statistical processing. |
| Rumed seed testing equipment | 18344 | - division of samples - determining the purity - determining the germination degree - allows for the control of climatic germination parameters |
| AM 300 leaf area meter | 5586 | Evaluation of leaf diseases for grape vine PC processing of images for the multidimensional statistical analysis of morphological features of grape vine leaf; |
| CCM200 chlorophyll content meter | 2843 | Determining the impact of environmental stress on plants; Management of nutrients for grape; Evaluation of the old age of leaves; impact of using herbicides by evaluating phyto-toxicity of the leaf apparatus |
| PHOTOCHEM – Analytik Jena | 22989 | Determination of total antioxidant capacity |
| Multiparameter PH-meter | 9583 | For pH determination, conductivity and dissolved oxygen |
| Mono-fascicular Colour Meter | 2538 | colorimetric determination of substances |
| PALMER gel electrophoresis | 713 | Determination of proteins and aminoacids on agarose gel |
| TOTAL | 110,415 | |
| INTEGRATED EQUIPMENT FOR STUDYING HORTICULTURAL PLANTS CULTIVATION | | |
| A. Integrated equipment for the study of seeds in horticultural plants Rapid Seed Analyzer; Sanyo Germinator; Sanyo drying oven; seed testing equipment; paraffin line. Automatic microtone; digital pH-meter; stereo microscope; thermostatic bath; balance; electrophoresis cell; MBL microscope with lens; trinocular microscope, Jena spectrophotometer | 82234 | Anatomic, morphologic and genetic study for <i>in vitro</i> and <i>in vivo</i> conditions. |
| B. Integrated equipment for the study horticultural plants cultivation: solarium for a | 380917 | Studies regarding the behaviour of horticultural plants in different cultural systems, establishing |

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| galvanized structure, electrical aggregate; portable electronic equipment; heating system vegetation room; BCS 10 CP motocultivator; BCS 7,5 CP motocultivator; ploughs; weeding devices; drip irrigation equipment. | | the most adequate cultivation technologies and cultivars for the North-East area of the country, establishing a density of cultivars for the latest of them or the introduction of the most adequate season for it. |
| TOTAL SUM OF EQUIPMENTS' VALUE | 463,151 | |
| EQUIPMENTS AND DEVICES FOR ECOLOGICAL HORTICULTURAL CULTURES | | |
| Valtra Tractor 82 CP., Goldoni 45 CP tractor, Transcar tractor, + accessories for working in the field wagon, plough, tillage cutter, rooter, controller, disc harrow, borer | 675000 | Works of horticultural ecological crop initiation and maintenance |
| TOTAL | 155172 | |
| TOTAL SUM OF LABORATORY EQUIPMENT VALUE | 385,856 | |

Faculty of Animal Husbandry

ANIMAL HUSBANDRY RESEARCH CENTER IASI

I. Processing of Products of Animal Origin Laboratory

| Name of equipment | Value (Euro) | Use (what can be determined with the respective equipment) |
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| EQUIPMENT FOR MEAT, MILK, WATER AND BLOOD QUALITY DETERMINATION | | |
| Laboratory condensing unit | 312 | Preserving the samples in optimal conditions |
| Device for the heating of samples | 354 | Heating the samples |
| Brand pipette controller | 65 | Assuring a determined solution volume |
| Ceramus 1-5 ml dispenser | 186 | Assuring a determined solution volume |
| Ceramus 2-10 ml dispenser | 199 | Assuring a determined solution volume |
| Ceramus 5-30 ml dispenser | 260 | Assuring a determined solution volume |
| Hemacytometer set | 41 | Counting the red and white cells in the blood |
| Sprout mini-centrifuge | 409 | Separation of the solid phase from the liquid phase |
| Pipette nline 10-100 µl | 180 | Assuring a determined solution volume |
| pipette nline 100-1000 µl | 180 | Assuring a determined solution volume |
| Electric stove | 85 | Heating of samples and solutions |
| Hecht assistant sampling set 2-piece | 146 | Harvesting samples |
| Colorimeter system hecht assistant | 69 | Preparing blood samples |
| Colorimeter system hecht assistant | 101 | Preparing blood samples |
| Colorimeter system hecht assistant | 60 | Preparing blood samples |
| Hecht drying system of coverslips 2-piece | 52 | Drying the coverslips |

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| Ammarell laboratory thermometer | 49 | Temperature Determination |
| Zanussi chest freezer | 321 | Preserving the samples in optimal conditions |
| Automated meat analyzer | 22363 | Chemical test of the meat samples |
| Automated biochemistry analyzer | 13231 | Used for a varied range of tests such as: clinical chemistry, specific proteins, drugs and electrolytes monitoring |
| Hemathologic analyzer | 9768 | Blood test |
| Analyzor imuno-enzimologic and hormonal | 11260 | Imuno-enzimologic and hormonal |
| Semi-automated biochemistry analyzer | 4533 | Used for a varied range of tests such as: clinical chemistry, specific proteins, drugs and electrolytes monitoring |
| Water laboratory baths | 566 | Heating the solutions and maintaining them at constant and fixed temperatures |
| Sand laboratory baths | 931 | Heating the solutions and maintaining them at constant and fixed temperatures |
| Technical balance | 711 | Weighing the samples and chemical substances |
| Bi-distiller | 2165 | Obtaining bi-distilled water |
| Automatic burette | 1274 | Titration of solutions |
| 50 ml solarus digital burette | 592 | Titration of solutions |
| Electrophoresis cell | 648 | Component of the electrophoresis system |
| Universal centrifuge | 779 | Separation of the solid phase from the liquid phase |
| Fridge freezer | 1251 | Preserving samples in optimal conditions |
| Calcination oven | 855 | Determining the mineral content of samples |
| Pressure cleaning equipment | 791 | Cleaning the laboratory equipment |
| 50 l oven | 761 | Drying samples at set temperatures |
| Refrigerator | 896 | Preserving samples in optimal conditions |
| Ion-cromatography | 30900 | Ions and polar molecules determination |
| Chest freezer | 478 | Preserving samples in optimal conditions |
| DMWB 1 microscope with video camera 9-piece | 8249 | Visualising components from the studied material |
| Optical microscope | 511 | Visualising components from the studied material |
| Digital pH-meter hi 98230 | 571 | Determining the pH value and the solution's temperature |
| pH-meter 212 58 1212000 | 489 | Determining the pH value and the solution's temperature |
| Vaccum pump | 477 | Creating vaccum for the equipment |
| C200 pressure reducing valve | 517 | Creating a set level of pressure |
| Buchi B extraction system | 7237 | Determining the lipid content of samples |
| Fat extraction system | 4693 | Determining the lipid content of samples |
| Kjeldahl system | 5181 | Determining the protein content of samples |
| Kjeldahl velp system | 7080 | Determining the protein content of samples |
| TOTAL | 142,827 | |

EQUIPMENT TO ASSESS THE QUALITY OF ANIMAL PRODUCTS

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| Orka egg analyzer | 7509 | Assessing the quality of eggs used for consumption |
| Rapid milk analyzer | 2229 | Assessing the milk's physical-chemical quality |
| Incubator for 1200 eggs | 687 | Incubation and hatching of eggs |
| Small capacity incubator | 35 | Incubation and hatching of eggs |
| 50 ml automatic burette pellet 2-piece | 350 | Titration of solutions |
| 25 ml automatic burette pellet 2- | 157 | Titration of solutions |

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| piece | | |
| Automatic burette pellet | 83 | Titration of solutions |
| Arctic refrigerator | 264 | Preserving samples |
| Proline 1-5 ml pipettor | 126 | Controlled dosing of reagents |
| Funke gerber cenrifuge | 921 | Assessing the content of fat in the food products |
| TOTAL | 12,361 | |
| INTEGRATED EQUIPMENT FOR GENETIC STUDIES | | |
| RT-PCR analyzer | 24451 | Magnifying a specific DNA sequence |
| Electrophoresis systems with isoelectric focusing | 8393 | Separarea proteinelor pe baza punctului lor izoelectric Separation of proteins based on their isoelectric point |
| Thermostat | 829 | Maintaining the test samples and the reagents at constant-optimal temperatures |
| Electrophoresis cell | 648 | Component of the electrophoresis system |
| Akeruss microscope | 435 | Visualising components from the studied material |
| Trinocular microscope | 796 | Visualising components from the studied material |
| Hettik centrifuge | 708 | Separation the solid phase from the liquid one |
| TOTAL | 36,260 | |
| RESEARCH INFRASTRUCTURE FOR AQUACULTURE | | |
| Automatic biochemistry analyzer | 9949 | Used for a wide range of tests such as: clinical chemistry, specific proteins, drugs and electrolytes monitoring |
| Automated hemathology analyzer | 7863 | Analysis of blood components |
| Meat analyzer | 15695 | Chemical analysis of the meat |
| Anemometer testo 435-1 4-piece | 1983 | Portable instrument for the measurement of flow velocity |
| Bod testing equipment | 2648 | Determination of biochemical use of oxygen |
| Bathometer | 903 | Water sampling |
| Cell OX 325 | 614 | Electro-galvanic fuel cell |
| Colony counter | 7042 | Enumeration of cultivated organisms |
| Colony counter | 345 | Enumeration of cultivated organisms |
| OXI 340i 2b30-0011 oxygen-meter | 1143 | Measuring the oxygen dissolved in water |
| Portable ph-meter | 729 | Determination of pH value and solution temperature |
| TOTAL | 48,914 | |
| EQUIPMENT TO PROCESS AND ANALYZE MICROSCOPIC SAMPLES | | |
| Bi-distiller | 2165 | Obtaining bi-distilled water, necessary for the functioning of other laboratory equipment |
| Radwag analytical balance | 910 | High precision weighing of test samples and chemical substances |
| Water laboraotry bath | 566 | Heating and maintaining the solutions at constant and determined temperatures |
| Sand laboratory baths | 931 | Heating and maintaining the solutions at constant and determined temperatures |
| Mikro 22r centrifuge | 2023 | Separation of solid phase from the liquid phase |
| Electric calcination oven | 986 | Determination of mineral content |
| Incubator | 829 | Maintaining the test samples and the reagents at constant-optimal temperatures |
| DMWB 1 mcroscope | 917 | Visualizing components from the studied material |

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| Optical microscope | 481 | Visualizing components from the studied material |
| pH-meter | 1139 | Determination of the pH value and solution temperature |
| Freezer | 54 | Preserving the samples |
| Total | 11,001 | |
| TOTAL SUM OF LABORATORY EQUIPMENT VALUE | 251,363 | |

II. LABORATORY FOR THE CONTROL OF FODDER QUALITY

| Name of equipment | Value (Euro) | Use (what can be determined with the respective equipment) |
|--|--------------|---|
| EQUIPMENT FOR MEAT, MILK, WATER AND BLOOD QUALITY DETERMINATION | | |
| Magnetic shaker with heating 2-piece | 678 | Homogenizing solutions and distributing the temperature in the entire sample mass |
| Orbital shaker Nahita | 442 | Shaking, homogenizing, rapid dissolution, distribution of the temperature in the entire sample mass |
| Jenway chloride meter | 245 | Determination of chlorides |
| Anemometer testo | 168 | Portable instrument for the measurement of flow velocity |
| Parnas-wagner apparatus 4-piece | 549 | Determining the protein content in the fodder |
| Soxhlet apparatus | 363 | Determining the lipid content in the fodder |
| Memmert laboratory water bath | 566 | Heating the solutions and maintaining them at constant and fixed temperatures |
| Selecta sand laboratory bath | 931 | Heating the solutions and maintaining them at constant and fixed temperatures |
| Selecta laboratory thermo-regulating battery | 963 | Heating source for the extraction of fat |
| Radwag analytical balance | 910 | High precision weighing of test samples and chemical substances |
| Pi-214 denver analytical balance 2-piece | 2027 | High precision weighing of test samples and chemical substances |
| Kern technical balance | 554 | Weighing the fodder and the chemical substances |
| Bi-distiller | 3151 | Obtaining bi-distilled water, necessary for the functioning of other laboratory equipment |
| Automatic burette assistant | 1274 | Titration of solutions |
| Automatic burette pellet | 425 | Titration of solutions |
| Hettich-universal 320 laboratory centrifuge | 2392 | Separation of the solid phase from the liquid phase at fodder |
| Supertherm -61 calcination oven | 1121 | Determining the mineral content of fodder |
| Heidolph laborota 4002 cont rol rotating evaporator | 2387 | Concentration, separation and purification of substances |
| Gas chromatography 7890 combined with mass spectrometer 5975 with quadropol-agilent detector | 69931 | Analysis of organic volatile compounds, persistent organic pollutants (pesticide residues, chlorinated organic insecticides) from the fodder |
| Incubator (Memmert) | 829 | Preserving the test samples and reagents at constant-optimal temperatures |
| Grindomix laboratory mill | 2298 | Grinding the samples smoothly and very smoothly |
| Grindomix laboratory knife mill | 2802 | Raw grinding of the fodder |

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| Single channel electronic pipette with adjustable volume | 178 | Controlled dosing of reagents from the pipettes |
| Handystep electronic pipette | 510 | Controlled dosing of reagents from the pipettes |
| Hirschman pipettor | 515 | Controlled dosing of reagents from the pipettes |
| Portable ph-meter (windaus) | 693 | Determining the pH value and the temperature of the solution |
| Inolab laboratory ph-meter | 1139 | Determining the pH value and the temperature of the solution |
| Silodrill sampler | 852 | Harvesting silo samples |
| Cereal mill | 25 | Grinding the samples smoothly and very smoothly |
| Pressure reducing valve | 566 | Creating a set pressure level |
| Velp fiber analyzer | 4455 | Determining the fibre content in the fodder |
| Velp Fiber analyzer | 3871 | Determining the fibre content in the fodder |
| Velp fat extraction system | 11542 | Determining the lipid content in the fodder |
| kjeldahl velp system | 6679 | Determining the protein content in the fodder |
| Kjeldahl velp system | 7080 | Determining the protein content in the fodder |
| UV-vis mini 1240 Shimadzu spectrophotometer | 3441 | Determining the content of nitrates/nitrites, macro and microelements |
| Sterilizer -esac 50 (thermo-regulating oven) | 819 | Determining the content of dry substance in the fodder |
| Sterilizer -esac 100 (thermo-regulating oven) | 972 | Determining the content of dry substance in the fodder |
| Kern thermobalance (shimadzu) | 1202 | Rapid determination of fodder humidity |
| Electronic thermometer | 241 | Measuring the temperature |
| Automatic titrator with titronic dispenser | 1256 | Titration of solutions |
| TOTAL | 141,041 | |