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Project Nr.: 561708-EPP-1-2015-1-DEEPPKA2-CBHE-JP

# Department of Animal Nutrition

Faculty of Agrobiology and Food Resources
Slovak University of Agriculture in Nitra

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**Vice – head of the department**

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***Pedagogic staff***

**Profesors**

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**Lecturer**

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# Research of the Department

Quality of feeds

Mycotoxins

Phytoadditives

Bioactive fatty acids (meat, eggs, milk)

Continuous rumen monitoring

Polyphenols and tannins

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# Laboratory of Quality and Nutritional Value of Feeds

- atomic absorbance spectrophotometer,
- liquid chromatograph,
- aminoacid analyzer,
- calorimeter,
- analytical weights,
- microwave device for sample mineralization,
- vacuum vaporizer,
- kjeltec,
- ultrasound bath,
- daisy incubator,
- mineralizer,
- ankom fiber analyzer,
- muffle furnaces,
- dosifiber,
- fibertec system,
- dry ovens,
- destilling device,
- pH meter,
- isotachophoresis,
- polarimeter,
- soxtec system,
- lyophilisator,
- deep freezer.

Operational Programme **Research and Development** financed by European Fund for Regional Development

**Excellence Center for Agrobiodiversity Conservation and Benefit and Excellence Center for Agrobiodiversity Conservation and Benefit Plus**

(ITMS 26220120015 and 26220120032)

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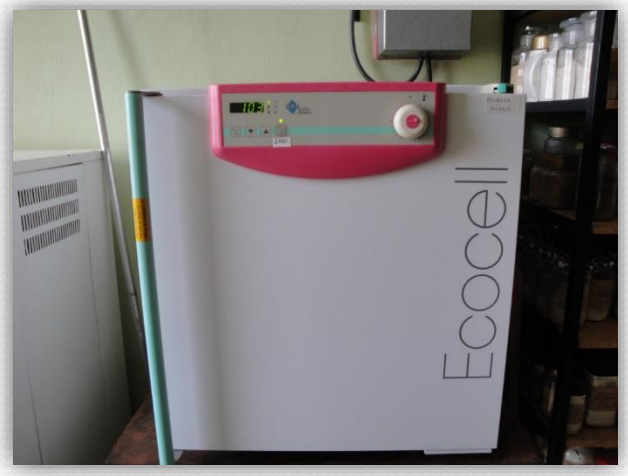
# Dry matter

- Content of dry matter is determined by drying of the sample by gravimetric method. Samples of 5 g ± 1 mg weigh have been put into dryer preheated on 103 °C for 4 hours



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# Crude proteins

- Total nitrogen determination by Kjeldahl method (mineralization, distillation, titration) multiplied by factor 6,25 in order to calculate crude protein content.

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# Ash

- Content of ash is determined by complete combustion of the sample in a muffle furnace at 550° C ± 25 °C (4-6 hours) to oxidize all organic matter. Ash represented inorganic residue weight.

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# Crude fiber

- Hydrolysis of organic material in samples in two steps: boiling in sulphuric acid and potassium hydroxide solution.

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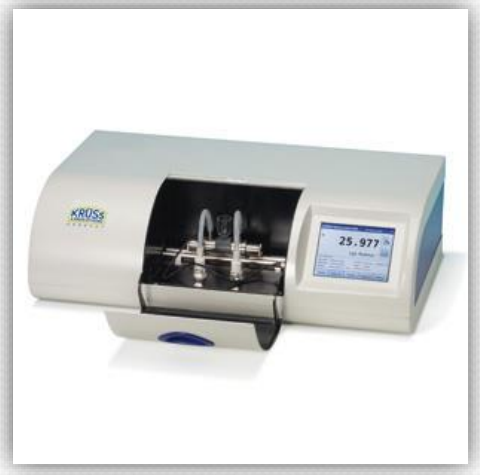
- After clarification and filtration the optical rotation of the solution is measured by polarimetry.




# Starch

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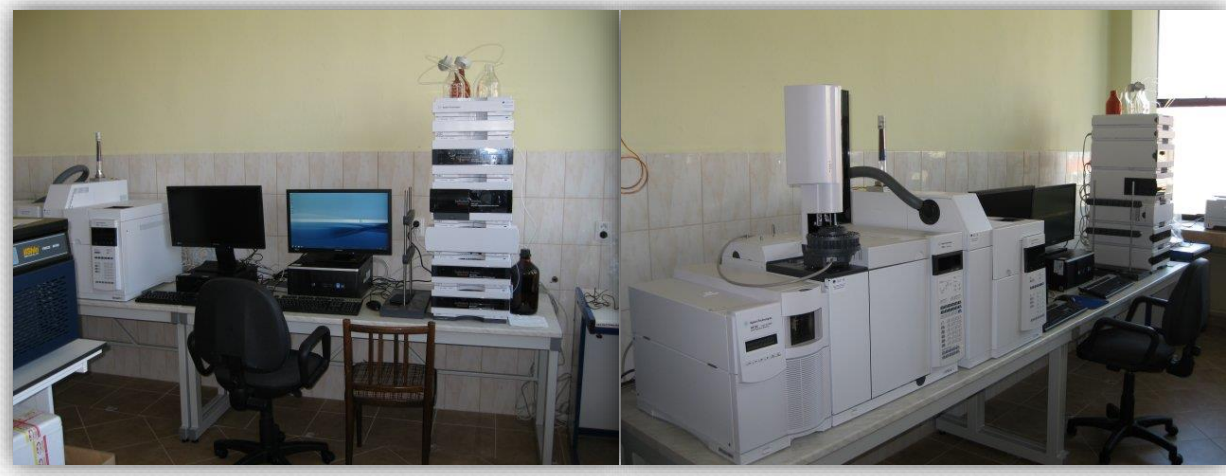
# Fatty acids

- For the identification column 37 components mixture (Supelco 47885-U) is used. The content of fatty acids on machine Agilent 6890A GC (Agilent Technologies, USA) as a percentage in crude fat is determined.



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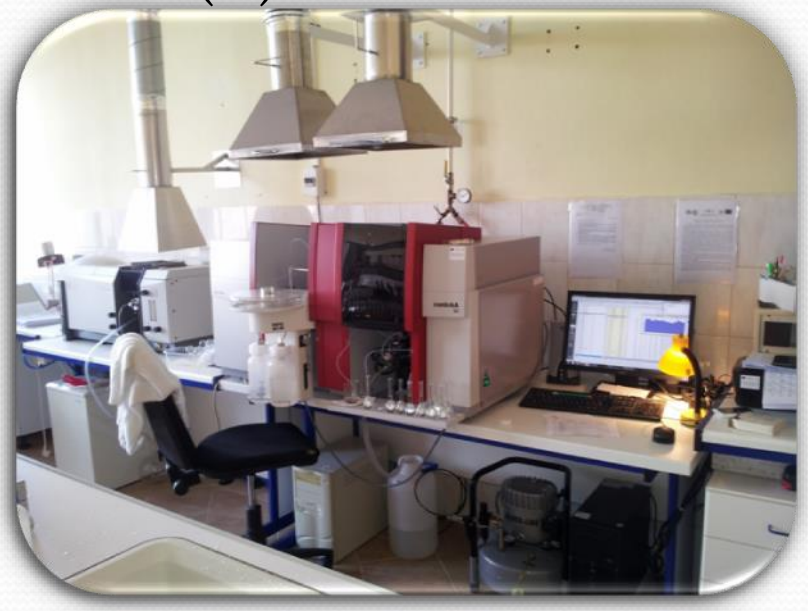
# Minerals

- The contents of mineral nutrients is determined by High Resolution Continuum Source Atomic Absorption Spectrometer ANALYTIK JENA contrAA 700 (Ca, Mg, Na, K, Zn, Cu, Fe, Mn) and 6400 Spectrophotometer (P).



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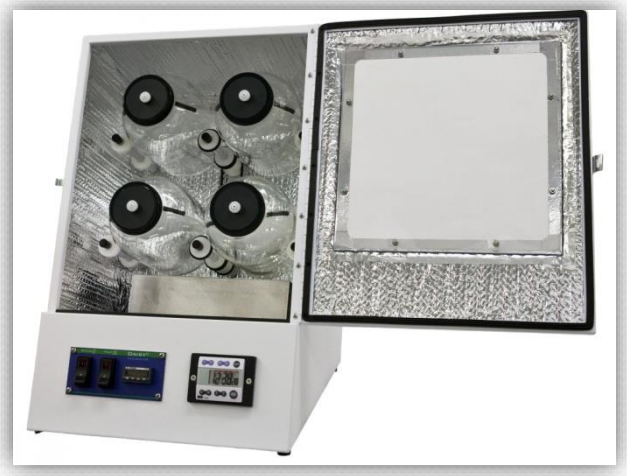
- Ankom Technology Daisy Incubator II (Ankom Technology, U.S.A.) is used for the estimation of in vitro digestibility. Each sample is incubated at 39,5°C with 40 ml of 0,2% pepsin in diluted hydrochloric acid per bag for 24 h and stirred it constantly.



# In vitro digestibility

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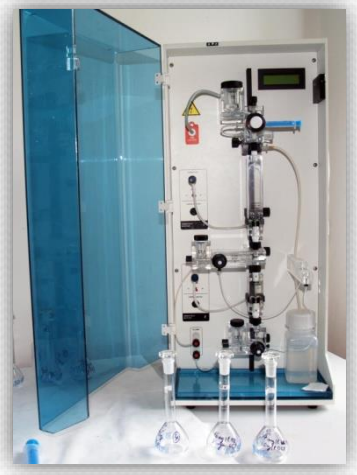
# Organic acids

- Lactic, acetic, butyric and formic acid concentration is determined by ionic electrophoresis by EA 100 Analysator (Villa Labeco, Slovakia).



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Thank you for your attention!

Ing. Hanušovský