Tradition of more than 55 years

- More than 100 products in current portfolio

  *Manufacturing program is based almost on its own trademark*

- Strong cooperation with world companies

- Quality as a business concept

- Keeping up with trends in the crop protection industry
Associations membership

• The Company has become a member of the European Association of Generic Pesticide Producer (European Crop Care Association – ECCA) since 2006.

• A member of ISAA (International Society for Agrochemical Adjuvants) since 2009
Production based on modern technology

• Company has 155 employees (at least 47% are highly-qualified)

• Production plant has two sections:
  - Liquid pesticide plant
  - Powder and granulated pesticide plant

• Annual production capacity is 8,000 tones of liquid and 6,000 tones of solid pesticides formulations

• More than 10,000 m² of warehouse premises

• Final product warehouse capacity 4,000 palette places (more than 2,000 MT)
Production plant - Liquid and powder/granulated facility

Liquid facility:
- Divided into five departments; the automatic control of the process and equipment; visual controls of the process, total capacity 38 t/shift

Powder/granulated facility
- Divided into six lines, total capacity of powder/granulated pesticides is about 20t/shift

Supervisory Control and Data Acquisition (SCADA)
Quality Standards

• Since 2004 ISO 9001:2008 certified

• Accreditation of the laboratory according to ISO 17025 since 2008.

• Environmental Protection Management System ISO 14001, 2012.

Following project is in procedure:

• Implementation of the Occupational Health and Safety Assessment Series Management System OHSAS 18001
Laboratories

- Confirmation of product quality
- Checking significant properties of the products in different phases of product’s manufacturing

The main equipment:
- 3 GC Agilent 7890A,
- GC Agilent 7890/5975C,
- 2 HPLC 1200 Agilent and one Waters HPLC (1525 CH),
- 2 CILAS particle analyzers (1064 DL and 990 L), etc.
More about laboratories...

Research & development of new products
Formulation design: equipment + know-how

- Fully equipped lab
- Latest generation’s additives and experience for development of different kind of formulations: EC, SC, EW, WP, G, FS, SL, ME and OD.

- To achieve the highest chemical and biological performances of products, under stringent regulatory guidelines.
Formulations of pesticides must ensure:

- The highest bio-delivery / even distribution on the crop
- High physico–chemical stability
- Easy dilution with water / Easy and safe handling
- Lowest environmental impact

- Regulatory restrictions tightening on active ingredients, inert ingredients and formulations
  - EEU Registration – new rules 1107/2009 U REACH regulation
  - EU CLP regulation
  - UN Globally Harmonised System GH
Formulation design for activity/ bio-delivery

What we have to know?

- Plant uptake
- Nature of active ingredient
- Nature of additives

requests for performances of additives
The complexity of Bio-delivery

Active ingredient

Additives
The highest bio-delivery: Designing the best!

- Optimised delivery to the target site (environment benefits)
- Maximising the dose which reaches the site of action.
- Minimising loss processes to the environment.
- Rainfastness
- Lack of foliar retention

Rainfastness

GALENIKA - FITOFARMACIJA a.d.
Solution to a physical compatibility challenge: OD

- Sulcotrione 😊 + Nicosulfuron 😊 to dissolve
- Sulcotrione 😊 + Nicosulfuron 😊
- Sulcotrione 😊 + Nicosulfuron 😊

Market preference for a liquid formulation

EC

SC

WG
Created OD technology

• Dispersion of solid particles in mineral or vegetable oil to be used as a dilution in water for spraying.

• OLEOCHEMICALS: To allow active components to develop maximum effect, using these highly effective additives.

• To improve the environmental compatibility of plant protection products at the same time.

• FLUID POWER
OD formulation opens up possibilities for innovations!

- Useful for AI’s which are unstable in water on a long term period

- Oil dispersions may give better retention on crops, improved rainfastness and enhanced biological activity.

- Optimize the use of natural oils in the ag industry and to replace the petrochemical based herbicide formulations by providing environmentally friendly oleochemicals based herbicide formulations.

Oil medium may also act as bio enhancing agent
The innovation as demand

Constantly strives to improve the quality and efficiency of plant protection products, with the final aim of enhancing availability and food quality

Checking efficiency – Field trial station in Sremska Mitrovica
Field trial station

- Location: Sremska Mitrovica (80 km from Belgrade)
- 4 ha of total area (1h is orchard)
- Estimation of biological efficiency (not under GEP confirmed)
- Testing of possibility (effect) of mixing different products, potential phytotoxicity
Future Perspective

• In the future the company will invest great amounts of financial and human resources to achieve a stable position as a regional leader in agrochemical markets.

• Making the registration dossier for our products in accordance with EU regulations are absolutely a development priority and strategic goal of Galenika Fitofarmacija.
Thank you for your attention!