



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ



**Inovace studijních programů AF a ZF MENDELU
směřující k vytvoření mezioborové integrace
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**Tato prezentace je spolufinancovaná z Evropského sociálního fondu a
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Production systems in viticulture

- Organic management of grapevine cultivation has increased, and more and more growers tend to opt for organic cultivation
- There are four basic types of production systems in today's viticulture:
 - Conventional production
 - Integrated production
 - Organic production
 - Biodynamic production



Conventional production

- Wildly used throughout the 20th century; objectives - maximum yields, maximum use of chemicals regardless of the environment
- This caused decrease in soil quality, and minimized numbers of plants and animals in the ecosystem (decrease in biodiversity)
- All vineyard floor (all soil in the vineyard) was treated with herbicides; protection of the vineyards – regular applications of herbicides and insecticides regardless of actual occurrence of pests and diseases

Integrated production

- The most common and widely used method of environmentally-friendly production; objective of the production is to provide for a sustainable development in the vineyard in compliance with section 6 of the Act No 17/ 1992 Sb. on environment
- Production is governed by various directives; it utilizes and promotes natural regulation mechanisms
- Principles of integrated production:
 - Nutrition and fertilization of grapevine
 - Protection from diseases and pests
 - Soil protection

- A regular agrochemical sampling of soil is a basic tool in soil nutrition and fertilization
- Average dose of N in mineral fertilizers in one agricultural business cannot exceed 50 kg of the pure nutrient (N) per 1 ha.
- Other than root nutrition supplies microbiogenic elements. Waste products from cultivation of grapevine must be returned back to the vineyard

- Protection from diseases and pests is based on a combination of direct and indirect measures.
- Plants management is the core of indirect protection.
Prognosis and warning services
- Objective of the protection is to manage healthy vineyards while minimizing a number of protective interventions (six interventions for mould and powdery mildew; 2 kg of pure copper per 1 ha a year for copper-based products).

- Biological and bio-technological products are preferred
- Soil management: Cover plants in every other interrow
- Termination of tillage works in August at latest. Cover plants must be mulched regularly







Organic production

- Organic production must comply with Council Regulation (EEC) No 2092/91 on organic production of agricultural products and foodstuffs, and Act No 242/2000 Sb. providing from organic production
- No synthetic and mineral fertilizers and no synthetic products for canopy may be used in organic production; application of herbicides is prohibited

- Organic winegrowers cultivate PIWI varieties which are more resistant to fungi diseases; a potential to increase grapevine natural defense mechanisms and use modern products from a mildly ground clay and plant extracts







Biodynamic production

- Control of plants growth using knowledge about motions of the Moon, Sun and planets; most attention is paid to the soil
- Products help promote natural defense mechanisms of the plants and soil