



Hemp in Romania - between opportunities and constraints

Cultivation of hemp

- ❖ **Favorable pedo-climatic conditions;** glorious past (in the 70s-80s, approx. 45,000 ha cultivated, today much less - about 3000 ha)
- ❖ **Attractiveness:** technical plant, all parts of the plant are usable; fiber production (8-11 t/ha of stem, 65% long fiber) and seeds (700 kg/ha);
- ❖ **There are still problems with mechanized harvesting (lack on the market of specific equipments);**
- ❖ **Organic cultures advantages** - land sustainability, lower production but higher selling price (growing interest in "organic" seeds), export.



Equipment for harvesting hemp green stalks

- EHGH prototype, INMA – Romanian RDI Institute -

OVERVIEW

The equipment for harvesting hemp green stalks, EHGH, cuts the hemp stalks into two fractions, by two cutting devices with a double knife. The two cut fractions fall freely on the ground surface, the equipment being semi-trailed and working in aggregate with the agricultural tractor. It is recommended for small and medium lands, only.

The equipment can also harvest hemp stalks in other stages of development (dry), in which case the work speed must be adapted to the cutting capacity of the knives.

All the functional elements of the equipment are operated by a hydrostatic installation.

MAIN TECHNICAL CHARACTERISTICS

- power of unit tractor - 45 HP;
- cutting width – 1350 mm;
- maximum working capacity - approx. 1 ha/h;
- static vertical force in the tractor drawbar – 308 daN.

Overall dimensions:

- length - 3680 mm;
- width during transport – 1800 mm;
- height – 3180 mm
- transport wheels gauge – 1300 mm.



Research results: Romanian Hemp Varieties

❖ **Monograph of hemp (N. Ceapoiu, 1958):** culture, breeding results, improvement of production/ha

❖ **Agricultural research units:** SCDA Secuieni, Neamt (Moldova plateau); SCDA Lovrin, Timis county (Banat); USAMV Cluj, SCDA Turda (Transilvania Plain) - monoecious and dioecious varieties, over 70 years of research.

Stems and fibers:

- Fibrămultă 151 (1958);
- Diana (2001);
- Dacia Secuieni (2011);
- Lovrin 110 (1981),
- Silvana (2007)

Seeds:

- Zenit (2000);
- Jubilee (2012)

Mixed:

- Secuieni 1 (1984);
- Denise (1999);
- The goal;
- Theodora (2019)

Directions for improvement:

- reduced content in THC ("Dacia Secuieni", "Secuieni Jubileu"- 0.01% THC)
- Romanian reference laboratory (Blaj) – analysis, monitoring

Serious issue: lack of modern hemp processing units for fiber/textile industry and construction materials!



Legislative aspects

Due to its psychoactive properties, the use of cannabis required multiple regulations:

- ❖ The Single Convention on Narcotic Drugs (1961)- transposed by **Decree no. 626/1973**
- ❖ Convention on Psychotropic Substances (1971)- transposed by **Law no. 118/1992**
- ❖ Convention against the illicit traffick of narcotic drugs and psychotropic substances (1988)- transposed by **Law no. 143/2000**, that does not distinguish between *Cannabis sativa* - THC below 0.2% and *Cannabis indica*-marijuana, THC 3-15%) **As result: outlawing all hemp species!**
- ❖ **Law 339/2005** on the legal regime of narcotic and psychotropic plants, substances and preparations (updated in 2018), defines "cannabis" ("the flowering or fruiting tip of the *Cannabis indica* species, excluding seeds or leaves..."), but also defines "cannabis plant " as being: "all species of the genus *Cannabis*".
- **In this moment**, "cultivation for industrial and/or food purposes..." in Romania is allowed with the authorization of the Ministry of Agriculture and Rural Development, while the Ministry of Health considers that "*Cannabis sativa* seeds do not fall under the scope of Law 339/2005, being exempt from suspicion that they could have a narcotic/psychotropic action", which is why they are used in the food industry and are allowed in food supplements.



Traditional and modern food preparations from hemp seeds



➤ Oil

- extracted by cold pressing from hemp seeds (it was once used in cooking).

➤ Flour

- hemp milk
- doughs and cakes
- bread and bakery products (cakes)
- pasta recipes
- the famous **julfa** from the Christmas fast (traditional specialties)



- **The Oloinita from Volovat** (museum) was equipped with a grinder with two handles for crushing hemp seeds.

BIO food products





Food supplements

Legal provisions

Hemp is on the Romanian negative list of plants (all parts of the plant are prohibited in food supplements - [Ord. 244/2005](#))

Technical Committee Derogation: seeds and oil obtained from seeds by cold pressing are permitted in food supplements (based on safety evidence: test reports of raw materials and finished products; opinion of the Ministry of Health; published human clinical and toxicological study results; normative and legislative acts from other member states; EU regulations)

Consequence

On the Romanian market: 21 food supplements (derogation) + 44 products (mutual recognition by providing information on the legality of trading in another EU member state, exclusive responsibility of FBO for the quality and safety of the product placed on the market)

Country of origin: Netherlands, Poland, Czech Republic, Austria, Germany

Ingredients used: seeds, seed germs, fiber, hemp oil

The raw material used by Romanian producers comes from Romania, Germany, Ukraine, Hungary.



The special case of CBD and hemp extracts with CBD



CBD (cannabidiol) - unlike THC has no psychoactive properties and is not addictive; it is present in small amounts in plants and hemp oil.

CBD is not allowed in food products either in the EU or the USA - it requires authorization as a "novel food" (Reg. 2015/2283).

The status of "novel food" covers both the extract (regardless of the method of obtaining) and the products in which it is added (enriched oil); synthetic CBD is also considered "novel food";

In the USA, the FDA prohibits the addition of CBD into any type of food (and feed) as well as the interstate trade; California allows the processing and sale of hemp-based products (seeds, seed oil) on its territory, but not CBD (prohibited in food, including in dietary supplements).

Warning: CBD can be obtained from industrial hemp, but also from marijuana (THC as contaminant is the reason for banning sales in grocery stores).

Confusion: certain CBD-based products may fall under medicinal regulations in both Europe ("medical cannabis") and the USA ("medicinal products for adults").





Reasons for concern regarding the safety of CBD products



- ❖ EU study (2018, 14 products): high variability of CBD concentration in the products sold in the common market; major differences between total cannabinoid profiles; CBD preparations (registered as food supplements) promoted with therapeutic properties;
- ❖ USA study (2017, 84 products, 31 manufacturers): only 1/3 correctly labeled (CBD concentration conforms to the declaration); the rest - upper or lower content; identification of some undeclared compounds in the product (including THC 6.43 mg/ml, **major risk for a child !**);
- ❖ FDA report (2015-2016, 14 manufacturers) - the declared content of CBD was negligible or below 1%; number of non-compliant products sold at a distance (e-commerce) - much higher than those sold through pharmacies.
- ❖ Dutch market monitoring (2019, 85 products) - 10% of products did not declare the CBD content on the label; 7% have THC content above 0.2%; the highest THC values for "home made" extracts.

Warning: The information provided to the consumer is crucial (adequate consumption and expected effects); the need for safety standards (respected by manufacturers, controlled by authorities); clear regulation; continuous monitoring of the market

Official food control regulation include online commerce control and food fraud penalties (Reg. (EU) 625/2017, in force since January 19, 2019).

Online marketing of CBD with therapeutic uses

- ❖ Hemp-based products: "hemp oil", "hemp seed oil", "cannabidiol oil", "CBD oil" or "CBD hemp oil" are marketed as dietary supplements (liquid matrices or capsules);
- ❖ There are no authorized health claims for hemp or CBD, as a result the attribution of properties to prevent, treat or cure certain diseases is not allowed;
- ❖ Numerous sites sell (also in Romania) CBD hemp oil (origin Holland, Switzerland, USA) promoted with medical recommendations ("treatment of the following conditions: anxiety and depression, autism, epilepsy, migraines, multiple sclerosis, neuropathies, Crohn's disease, cancer of the liver, stomach, lungs, hypertension, diabetes").



FULL SPECTRUM
20% CBD
2000mg CBD in 10 ml

WHO report: preparations obtained from plants rich in CBD are sold online for a number of ailments, including epilepsy, cancer, AIDS, anxiety, arthritis, etc. (non-medical uses/unauthorized treatments).



The evolution and future of the hemp-based preparations market - a challenge for the authorities?

There is a trend of enriching the market with various new preparations based on hemp (food, food supplements, cosmetics, medicines).

The future for CBD and THC is, probably, to be sold for therapeutic purposes (authorized medicines).

Clinical studies that support the beneficial effects on health will be at the attention of specialists and their number is increasing (EFSA requests additional safety research for authorization as a novel food).

Consumer interest is growing, the sales volume of hemp-based foods (seeds, oil, hemp milk, protein bars, etc.) is expected to double in the next years. As a consequence, an increasing interest from processors is noticed (multiple possibilities for valorization of the species are estimated, including the use of waste rich in nutrients).

CBD will be present in a wide range of products, such as: sweets, bakery products, snacks, pastas, soups.

Challenge: establishing the allowed daily dose for consumption (CBD and THC), maximum level of THC in food (Reg.2023/915).

Consumer attractions: leaf infusions (teas and physiological effects), beer and soft drinks (hemp flavor)

Imperative need: improvement of the legislative framework (elimination of confusion/establishment of differentiation criteria, maximum daily intake), market surveillance and control, best manufacture practices, consumer education.



Thank you for your attention!

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