

The oregano cultivar CARVA offers a reliable supply of natural carvacrol for veterinary medicine

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Introduction

Public awareness of the potential health risks are increasing concerning environmental problems caused by in-feed antibiotics, growth hormones and some synthetic pharmaceuticals. To develop a more natural approach of food production, numerous research programs were established focusing on cultivation and extraction of plants and the use of their health related compounds for feeding animals.

Oregano (*Origanum vulgare* L.) with its essential oil rich in carvacrol is a very promising plant with a high potential for animal health and nutrition. The aim of this project was to compare 3 cultivars of oregano in different production sites on the dry weight yield, the leaf-flower ratio and the yield in essential oil and the carvacrol content.

Material and method

Plantation: 5 plants/m², planted in July 2004, irrigation after planting, Saône and Jura en France.

Treatments: Effect of three cultivars in three production sites in 2005 and 2006.

Replications: 3 (RCBD).

Analysis: Dry matter yield, % leaves-flowers, hydro-distillation, GC for composition of essential oil.



Results

The oregano cultivar CARVA, developed by the Swiss Research Station Agroscope, answers the demand of high essential oil yield with a high content of the molecule carvacrol. The contents of essential oil (7 to 8 %) and carvacrol (75 %) are very high as shown by several tests conducted in 3 sites in France (Table 1). With an annual production potential of about 200 l/ha of essential oil with a carvacrol content of 75 %, the cultivar CARVA can be considered as a valuable source of natural carvacrol for veterinary medicine.

Table 1. Influence of oregano cultivars on important parameters. Harvest stage: full flowering. The values correspond to the average of 2 years, 3 sites and 3 field replications (Tukey-test, p<0.05).

Parameters	Oregano cultivars		
	Carva (mediSeeds, CH)	Origalia (Iteipmai, F)	Bolier (Hem Zaden, NL)
Dry weight leaf and flower yield (t dw/ha)	2.8 a	2.5 ab	2.3 b
Leaf-flower to yield ratio (%)	48	55	50
Essential oil content in leaves and flowers (% v/w)	7.6 a	7.2 a	6.0 b
Essential oil yield (l/ha)	212 a	177 b	143 c
Carvacrol content in the essential oil (%)	75 b	82 a	75 b

Conclusions

- The cultivar CARVA showed the highest annual production with about 200 l/ha essential oil with 75 % carvacrol content.
- The production of carvacrol through the cultivation of the oregano cultivar CARVA offers a high value natural product with a high supply security, a high quality and a good traceability.

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