#### **APPLICATIVE RESEARCH PROJECT:**

Effectiveness of the product Cora agrohomeopathie X62 in case of drought and high temperatures in growing seasons Successful & efficional strengthening of agricultural plants and crop on their ability to adapt to Climate Change – to the conditions of drought and high temperatures

# Abstract, Summary, Conclusion

This our aplicative research project deals about field trial and confirmation, that with use of appropriate combination of natural, energized – quantum homeodinamic products Cora agrohomeopathie<sup>®</sup>, is possible to grown also hop without use of any pesticide and harvested good yield per quality and quantity. This project's results confirmed that very well.

#### Severe drought and hop

In the growing season 2013 also occured severe drought and high temperatures waves. It occured combination of meteorological and hydrological droughts, and occurring in a time of intense growth and development of agricultural plants, i.e. in critical phenological - developmental periods, in July and Avgust.

The effects of drought on hops have been the subject of a scientific study (<u>link</u> <u>on extract of main findings</u>). They exposed, that such in such circustamces normally is the crop is reduced or even completely destroyed.

### The range of applicability of the results obtained

Hop is demanding plant regarding water supply. So **our results, our novel natural quantum homeodinamic products may be very useful also for wide range of other sorts of plants yield growing, also in areas, where is in growing seasons not possible wattered or irrigated becouse of lack of watter.** 

# **Specifics**

In 2013, the average temperatures and precipitation in the critical months of vegetative and generative development of hops in Slovenia were unfavorable - this is expecialy valid for August 2013 in terms of absolute values and per distribution over the period in these two months (July, Avgust).

This discrepancy was significant given the long-term monitoring of temperature and precipitation statistics.

That's the reason, that expert consultant –specialist of hops growing from Chamber of Agriculture and Forestry of Slovenia, Agricultural department Celje (\*\*10), has advised us to use only appropriate data from 2013 for comparison.

We compared:

 Data from our experimental hop fields of hop production without irrigation using the Cora agrohomeopathie X62 product . Variatey of hop: Aurora. Location: near to the Slovenian Institute for hops research and brewing

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and

 data from regular monitorings and controls of hop on irrigated hop fields of Slovenian Institute for hops research and brewing. Variatey of hop: Aurora. Location: near to the our hop field trial surface.

## **Conclusions and highlights**

Combination of appropriate used natural, energized products Cora agrohomeopathie<sup>®</sup> with products codes: C1, C3, X62, X66, covered strengthening of plants vitality as well also their own resistance to hops diseases, hop pests, own hop resistance to biotic and abiotic stress and hop strengthening of own plants adaptability to demanding weather and climate changes. We excluded any irrugation or watering of hop trial surface throught the whole groowing season. This applicative research project results confirm, that products Cora agrohomeopathie<sup>®</sup> combined use was very effectiveness in terms of strengthening the vitality of agro-cultural plants (hop in this case) and indirectly specifically strengthening their own resistant to pests and diseases, as well as their adaptability to the conditions of severe drought and heat, where irrigation was excluded. The hop field trial was conducted in extreme conditions of severe drought and several heat waves during the growing season, which were occured also in sensitive developmental phenophasys of hop.

Monitoring and testing were carried out by highly specialized experts of the field of hop growing in Slovenia. At this stage, was included the Slovenian Institute for hop researching and brewing, which later for comparations of results made available data and the results of the monitoring of the production of hop from year 2013 of the Aurora variety, on their hops fields, which were irrigated (\*). Basic monitoring results was obtained from company involved in first part of project.

With results excellent results was also confirmed the effectiveness of the product Cora agrohomeopathie X62 by its use on hop plants on severe drought and heat, while it has been proven:

- that the yield in terms of quantity was very comparable with the yield from irrigated surfaces,
- that the yield in terms of quality, compared to the value of alpha acids, had the equal result as the highest value of alpha acids, which was measured on yield from the comparative and irrigated hops field (\*).

Quality was tested for hop produced on non-irrigated hopfields using the Cora agrohomeopathie X62 product. From the average yield of the same variety in relation to the content of alpha acids in air dry cones, **our hop results were per quality better for 22,98%** and **in terms of quantity, it deviated down only for 0.3%**. In this context is needed take into account the fact, that hop cones were included in the calculation of the average annual results of the year, were mostly produced on irrigated or watered hop fields. None of these growers used any Cora agrohomeopathie<sup>®</sup> products in 2013.

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In terms of the quantity of crop on our non-irrigated and non-watered hops fields, which was sprayed with the Cora agrohomeopathie X62 product in 2013 (hereinafter signed as (1)), per quantity of harvested hop cones was only 0.3% maller / worse than the hop that was produced on irrigated hops fields of the Slovenian Institute for hop research in brewing. The exact same conclusion is to compare (1) with the Slovenian average of the Aurora hop variety for year 2013.

#### Those are very good results, which confirmes both:

- succesfully growing hop without pesticide with implimenting this fielf trial spraying program with products Cora agrohomeopathie<sup>®</sup> (C1, C3, X62, X66);
- great effects of Product Cora agrohomeopathie X62 in growing seasons with drought and heat on non irrigated and non watering field trial surface.

### **Costs compare**

Hop sort Aurora during its growing season need about 38.500 l of water per ha ( cca 11 liters per one hops plant). Costs for irrigation of 1 ha of agricultural surface are in Slovenia/ hops production cca 125€ per one irrigation (\*\*10). In year 2013 was on irrigated hops fields needed aproximatlly 5 irrigations, which costed 725 € per ha. Costs of used product Cora agrohomeopathie X62 were 510,57€ per ha.

### The final findings and conclusion

Especially in areas where agricultural land can not be irrigated or watered during the drought for a variety of reasons the use of product Cora agrohomeopathie X62 can be very meaningful and can significantly reduce economic loss due to loss of crops in arid and hot conditions, as well as increasing food security in such areas. For those, who want to offer excellent pesticide-free hops to breweries and beer consumers, our products without active substances are a great choice, opportunity and a competitive advantage, which may be for the world market interesting for big breweries as well for small breweries.

#### Sources:

(\*) Slovenian Insitute for hopresearch and brewing

(\*\*10): Expert Consulting oppinion of Mrs. Irena Friskovec, BSc. and ing. agr. Specialist Advisor II (in the field of hop growing, crop production and irrigation); Chamber of Agriculture and forestry Slovenia, Agriculture Dpt. Celje

Note: for export of our products will be used another brand name, probably AHAC NQP<sup>™</sup>

### Invitation

Please, notice content on page 6!

You are kindly invited in business cooperation with us.

In case of your business cooperation interes, you are invited to contact me!

Majda Ortan, ing.

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