Hops: ECOMETHOD

Aim of the trial

This report shows the results of 3 years of trials (2008-2010) in which the use of BMS MN foliar fertilizers was investigated, in combination with reduced soil fertilization (Ecomethod).

General information

Conditions of the trial:

Trial location: Slovenia Variety: Aurora
Soil type: Sand, pH: 6.4. Nitrogen: low. Excess of P and adequate K.
In cooperation with: Sloveniaen Institute of Hop Research and Brewing

Treatments

Control : conventional soil fertilization : N (170 kg/ha in 3 fractions), P and K, no foliar fertilizers. P and K based on soil analysis. Identical program for the 3 years.

BMS MN 1 :

- ⇨ Soil fertilization:

	N	P_2O_5	K_2O
Year 1	170 kg/ha in 3 fractions	0	0
Year 2	120 kg/ha in 2 fractions	0	0
Year 3	120 kg/ha in 2 fractions	Yes (based on soil analysis)	Yes (based on soil analysis)

- ⇨ Foliar fertilization:

	End of May	Mid June	End of June	End of July
Year 1	Fructol NF 1.5 kg/ha	Kappa V 2 kg/ha	Fructol NF 2 kg/ha	Kappa G 2 kg/ha
Year 2	Fructol NF 1.5 kg/ha	Kappa V 3 kg/ha	Kappa V 4 kg/ha	Kappa G 2 kg/ha
Year 3	Fructol NF 1.5 kg/ha	Kappa V 3 kg/ha	Kappa V 4 kg/ha	Kappa G 2 kg/ha

BMS MN 2 :

- ⇨ Soil fertilization: No N, P and K in the first 2 years. Year 3: 70 kg/ha N in one fraction, P and K based on soil analysis.
- ⇨ Foliar fertilization:

	End of May	Mid June	End of June	End of July
Year 1	Fructol NF 1.5 kg/ha	Kappa V 2 kg/ha	Fructol NF 2 kg/ha	Kappa G 2 kg/ha
Year 2	Fructol NF 1.5 kg/ha	Kappa V 3 kg/ha	Kappa V 4 kg/ha	Kappa G 2 kg/ha
Year 3	Fructol NF 1.5 kg/ha	Kappa V 3 kg/ha	Kappa V 4 kg/ha	Kappa G 2 kg/ha

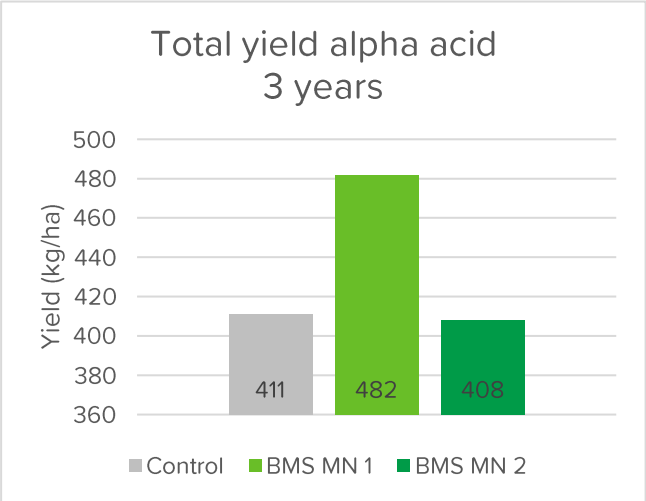
Results

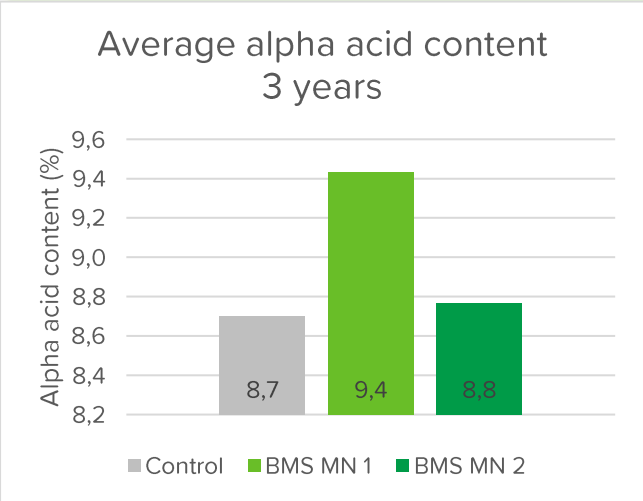
There were no significant differences in plant growth between modalities.

Year 1	Yield (kg/ha DM)	Alpha acid content (% DM)	Yield alpha acid (kg/ha)
Control	1745 a	9.0 a	156 a
BMS MN 1	1879 a	9.6 a	180 a
BMS MN 2	1669 a	9.7 a	162 a

Year 2	Yield (kg/ha DM)	Alpha acid content (% DM)	Yield alpha acid (kg/ha)
Control	1527 a	8.4 a	128 a
BMS MN 1	1550 a	9.0 a	141 a
BMS MN 2	1537 a	8.4 a	129 a

Year 3	Yield (kg/ha DM)	Alpha acid content (% DM)	Yield alpha acid (kg/ha)
Control	1462 a	8.7 a	127 a
BMS MN 1	1662 b	9.7 a	161 b
BMS MN 2	1416 a	8.2 a	117 a





Calculation of the carbon footprint of Ecomethod

Calculation for 1 ha and for the 3 years of the trial. Without taking into account P and K (incomplete data).

Quantity CO_2 eq. ECOMETHOD BMS MN 1	Quantity CO_2 eq. ECOMETHOD BMS MN 2	Quantity CO_2 eq. TRADITIONAL FERTILIZATION (Control)
1897 kg/ha	378 kg/ha	2279 kg/ha

~~CO_2~~	BMS MN 1: 382 BMS MN 2: 1901	The reduction of CO_2 eq. expressed in kg/ha
~~%CO_2~~	BMS MN 1: 16.7% BMS MN 2: 83.4%	The saving percentage of CO_2 eq.