

Product Details:

HS®-300BIO BASIC is a liquid soil conditioner based on high quality micronized German [Leonardite](#) that contains a high proportion of [humic substances](#). Produced via a mechanical micronizing process, the humic particles (< 5 µm) are held in aqueous suspension. As a result, the humic acids remain as humic substances molecules, which endure in the soil for a longer period, raising organic matter levels over time.

HS®-300BIO BASIC improves soil structure, the buffer capacity and nutrient exchange capacity of soils. It has a low precipitation reactivity and a low pH-4 which allows for good compatibility with most pesticides and fertilizers.

HS®-300BIO BASIC stimulates root growth and sustainably improves the soil structure. It can be applied in fertigation and hydroponic systems or sprayed using conventional foliar or sprinkler techniques.

Trial description:

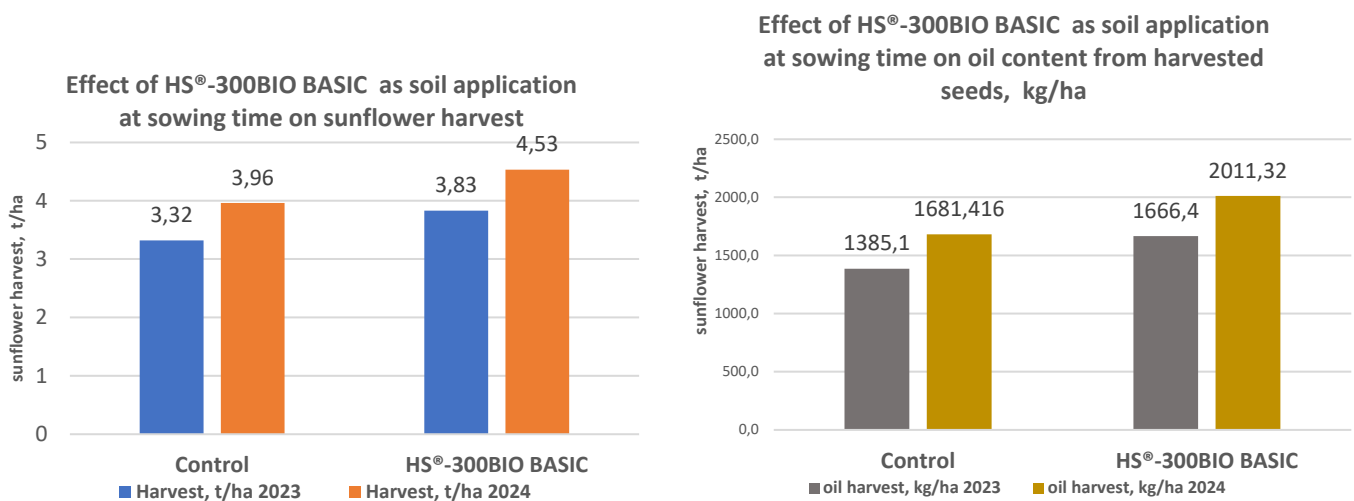
- This trial was carried out at the Experimental Field of Humintech GmbH, Am Pösenberg 9-13, 41517 Grevenbroich, Germany during 2023-2024.
- The studied Variety is [Hybrid RGT – BILLYKID](#), it is a medium maturity variety, with high content of oil 46-47% and oleic acid 88-89%, recommended density 70-75000 plants per hectare.
- The plants were sown in loamy soil with Ph -7,0, the soil analysis are mentioned in the below Table 1.
- Additional fertilizer was applied 500 kg/ha Kalksalpeter-27 and 25kg/ha of Ferty 1
- 10 L/ha of HS®-300BIO BASIC as soil applications bevor sowing dissolved in 300-liter water.

Table 1. Soil fertilizer content before sowing

Soil analyzes		Phosphor		Kalium		Magnesium		Calcium	Bor	Kupfer	Mangan	Zink	Molybdän	
parameter	pH-Wert	P	als P ₂ O ₅	K	als K ₂ O	Mg	als MgO	Ca	B	Cu	Mn	Zn	Mo	
		mg/100g [B]								(mg/kg LTS)				
Soil analyzes results	7,0	10,8	24,7	18,4	22,2	8,2	13,6	174	0,8	2,7	200	8,9	0,22	

Efficacy results:

HS®-300BIO BASIC has good efficiency for sunflower growth and development. During the growing period it was observed a uniform plant appearance, a strong plant development and uniform flowering and ripening. It increases the quantity and the quality of yields.



Comments and Conclusions:

The above-mentioned results show an increase in seed yield with more than 15% in 2023 and more than 14% in 2024. It is known that humic products increase not only the seed yield for sunflowers but also the oil content in the harvested seeds. Our results show that the control plants have oil content of 41,7% (2023) and 42,4% (2024) and the HS®-300BIO BASIC treated plants have the oil content of 43,5% (2023) and 44,4% (2024) that finally increases the oil harvest with 20,3% (2023) and 19,6% (2024).

In conclusion we can see that the applications of 10L/ha of HS®-300BIO BASIC have very good effectiveness on plant growth and development concluding not only for higher yield but also yield characteristics, in our case oil content.