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GRANULES

Organic Soil Conditioner

Granulated Native Humic Acids
FOR SOIL AND SUBSTRATE APPLICATION

DESCRIPTION
PERLHUMUS® Granules is a high quality humic material soil conditioner (Leonardite) which acts as natural chelator. Main ingredients of the granulate are 1/4 of immediately available nutrient humus and 3/4 of high quality permanent humus, which cannot be easily decomposed by microorganisms of the soil.

ORIGIN
German Leonardite (highly oxidized lignite) is a natural raw material containing a high content of humic matter (humic acid and fulvic acid). These are formed in specific sedimentation layers of soft brown coal, which did not reach the stage of brown coal. It arises at the chemical and biological humification of plant and organic matter, by the biological activity and geological processes.

Unter staatlicher Kontrolle der Landwirtschaftlichen Untersuchungs- und Forschungsanstalt Bonn
Kontrolliert: PERL HUMUS LUFA Bonn

COMPOSITION: (Typical analysis)

Humic acids	approx. 60%
Rich in micronutrients in form of humic acid complexes	
Dry matter	75% as shipped
Salinity	0,22 ms/cm
N (organic)	1.0%
P_2O_5	0.2%
K_2O	0.3%
CEC	> 400 meq/100g
pH-value	4-5
Product type	Granules

FORM OF DELIVERY
Bag
25 kg

OMRI™ Listed
Organic Materials Review Institute

BENEFITS
The most outstanding benefits of **PERLHUMUS® Granules** as a soil conditioner are the demonstrable positive impacts on plant growth and health as well as on resistance against stress factors (dryness, salt and pesticides). These benefits result from its high cation exchange capacity and pH-buffering capacity as well as from its high water holding capacity.

PERLHUMUS® Granules stimulates the activity of beneficial soil organisms by its high carbon content. Due to these excellent properties, it can be applied on all types of soils and for all plants to stimulate plant growth and increase yields. It can be mixed with all granular fertilizers.

- Improves structure, friability and aeration of the soil
- Optimizes use of soil water by plants
- Improves soil buffering capacity
- Reduces soil erosion
- Helps neutralizing toxins and ties up heavy metals in the soil
- Reduces nutrient leaching
- Adjusts the soil pH value to neutral range and reduces soil salinity
- Stimulates plant growth, plant enzymes and cell division in plants and bacteria
- Increases biomass production and plant membrane permeability
- Promotes root respiration and development, especially vertically (better use of soil humidity)
- Improves nutrient uptake through the root system
- Acts as an organic catalyst

DIRECTION FOR USE *	PERLHUMUS® Granules	
CROP	**OBJECTIVE**	**RECOMMENDED APPLICATION**
In all crops	Soil conditioning	400 kg/ha
Vegetables in green houses (tomatoes, bell peppers, eggplants, cucumbers, zucchini)	Soil conditioning, root growth stimulation, during soil preparation	Band application 10-20 kg/100 m^2
Horticultural trees (kiwi, citrus groves, banana, wine grapes stone fruit)	Soil conditioning, root growth stimulation, during soil preparation	0.5 kg - 2 kg/tree to hole during planting or 10-15 kg/m^2 with the first fertilizer to total tree shade area
Open field vegetables	Soil conditioning, root growth stimulation, during soil preparation	10-15 kg/m^3 during the soil preparation or as band application with the first soil fertilizer applicationr
Cereals (wheat, rye, barley, oat, maize, rice, etc.), potatoes, beans, peanuts	Soil conditioning, root growth stimulation, during soil preparation	300-400 kg/ha during the soil preparation or as band application with the first soil fertilizer application
Ornamental plants and forest nursery	Soil conditioning, root growth stimulation, during soil preparation	10-15 kg/m^3 during the preparation of substrates
Landscaping (in general)	Soil conditioning, root growth stimulation, during soil preparation	5-10 kg/100 m^2 Flower beds
Turf grass	Soil conditioning, root growth stimulation, during soil preparation	20-30 kg/100 m^2 during the soil preparation for lawns or 10 kg/100 m^2 every year

** This recommendation could be varied according to the soil characteristics and farm conditions*

HUMIN TECH® HUMIC ACIDS BASED PRODUCTS

Administration & Distribution: Humintech GmbH
Heerdter Landstraße 189/D • D 40549 Düsseldorf / Germany
Tel.: +49 (0) 211 50 66 57 0 • Fax: +49 (0) 211 50 66 57 22
E-Mail: **info@humintech.com** • Internet: **www.humintech.com**