HUMICS 101

MAKE MORE OF THE FERTILITY YOU ARE ALREADY APPLYING

Fertilizer represents a major investment on every acre. Supplying nutrients is only part of the equation: keeping them accessible to developing roots, reducing avoidable losses and supporting nutrient uptake matter too. **Humic substances are carbon-based compounds that can influence nutrient retention, soil chemistry and root development.**

CATION EXCHANGE: RETAINING NUTRIENTS NEAR THE FERTILIZER

Humic substances have reactive functional groups that can attract, exchange or complex nutrients. Key interactions include **ammonium (NH_4^+)**, **potassium (K^+)**, **calcium** and **magnesium**; iron, zinc, copper and manganese may interact through complexation and related reactions.

Why in-furrow is interesting: Applying compatible humics alongside fertilizer concentrates reactive sites within the nutrient placement zone. That may help retain certain nutrients near developing roots and influence availability. The objective is not a dramatic increase in *whole-field* CEC; it is stronger interactions where fertilizer and roots meet.

Phosphorus works differently: Humic interactions with calcium, iron, aluminum and soil mineral surfaces may affect phosphorus availability. That is not conventional cation exchange.

THE ROOT-ZONE ADVANTAGE

Some research reports improvements in root development, nutrient uptake and crop performance under particular conditions. Cold Peace Country soils can constrain early root growth and nutrient cycling, making these interactions worth evaluating. A response is possible, not guaranteed: nutrient status, crop, soil conditions, weather and application matter.

ALBERTA HUMALITE: A CARBON-RICH LOCAL RESOURCE

Humalite is a naturally occurring, carbon-rich oxidized lignite sourced in Alberta and used to make raw and processed humic products, including Black Earth Magna granules and liquid formulations. **Total organic carbon is not the same measurement as extractable humic acid.** Compare clearly identified laboratory methods, product analyses, moisture, ash and suitability for the intended use.

The Peace Soil Works approach: Treat humics as practical tools for improving nutrient-use efficiency and soil function alongside sound soil testing, fertility planning and field measurement.

PUTTING HUMICS TO WORK

TWO PRACTICAL APPROACHES: IN-FURROW AND BROADCAST

1. IN-FURROW: WORK WITH THE FERTILIZER BAND

Placing compatible humic products near fertilizer concentrates reactive humic substances where nutrients enter the soil. This creates opportunities for local nutrient retention, micronutrient interactions and early root-zone support. Always check product instructions, fertilizer compatibility, rate, placement and seed safety.

2. BROADCAST MAGNA: REACH A LARGER SOIL AREA

Broadcasting Magna distributes partially soluble granular humic material across a field, where it can interact with soil particles and nutrients as moisture and soil movement bring them into contact. This offers a different strategy from a concentrated fertilizer band and can fit a broader soil-management program.

OUR PEACE COUNTRY EXPERIENCE: 35 LB/AC BROADCAST
Peace Soil Works has seen **excellent crop responses from broadcast Black Earth Magna at 35 lb per acre**. These are on-farm observations, not replicated yield trials. Our experience is why we evaluate broadcast applications alongside in-furrow placement.

Black Earth's Canadian Magna label lists a broadcast range of 20–75 lb/ac. Our 35 lb/ac example falls within that range. It is a practical reference point, not a universal prescription.

CHOOSE THE RIGHT PRODUCT

Raw Alberta humalite	High-volume, carbon-rich soil-amendment applications.
Black Earth Magna	Broadcast, banded and compatible dry-fertilizer / in-furrow programs.
Liquid humic acid	Compatible liquid fertilizer and soil-directed programs, by formulation.
Liquid fulvic acid	Compatible foliar and fertility applications, according to label.

PRODUCT QUALITY + RETURN ON INVESTMENT

Compare tested humic-substance content and method, organic carbon, solubility, pH, compatibility, handling and delivered **cost per acre**. A larger advertised percentage is not necessarily the better product when methods differ.

BUILD A BETTER FERTILITY PROGRAM
Peace Soil Works helps farmers evaluate broadcast Magna, in-furrow humics and compatible liquids against their soil tests, equipment and fertilizer investment.
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Beaverlodge • Peace Country • Northern Alberta • Northeast BC • Selected Canada-wide shipping

Application range: Black Earth Canadian Magna label (broadcast 20–75 lb/ac). Analysis methods: ISO 19822 where applicable. Follow the current Canadian label for permitted uses and rates.