



Soil Secrets

# TerraPro® Analyses and EPA Limits

6-Jan-05		EPA LIMITS			
TerraPro®		Soil Inhale	Soil Dermal	Soil Injest	Residential
<b>As Is Basis:</b>		<b>Soil (PRG)</b>			
Bulk Density	50 lbs.				
Moisture %	25 to 30				
pH	6.82				
% Humic Substances	of the <b>Cultured Humus®</b> ingredient 96%				
Texture	a soft, moist, black humus with an earthy aroma				
<b>Elements:</b>	<b>PPM</b>	<b>PPM</b>	<b>PPM</b>	<b>PPM</b>	<b>PPM</b>
Nitrogen	15105				
Phosphorus	100				
P2O5	20400				
Potassium	8350				
K20	300				
Sulfur	1950				
Magnesium	2550				
Calcium	15500				
Sodium	2400				
Aluminum	5170	2900000		79000	76000
Antimony	3.85	120000		31	31
Arsenic	3.25		280	23	22
Barium	140.05	290000		5500	5400
Beryllium	2.05	12000		160	150
Boron	20.4	12000000	25000	7000	5500
Cadmium	0.2		700	39	37
Chromium	0.95			230	210
Cobalt	1.25			4700	4700
copper	160.25			2900	2900
Iron	4479			23000	23000
lead	0		0.028	0.008	400
Lithium	0				1600
Manganese	229.95	29000		1900	1800
mercury	0.045		28.000	7.8	23

**Soil Secrets LLC**

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Molybdenum	6.9			390	390
Neodymium	0				
Nickel	2.8			1600	1600
Selenium	4.05			390	390
Silver	0			390	390
Strontium	0			47000	47000
Tantalum	0			7	
Thallium	0				6.3
Tin	0			47000	47000
Vanadium	6.4			550	550
Zinc	203.7			23000	23000

**Definitions: TerraPro<sup>®</sup>** - The bulk of TerraPro<sup>®</sup> is biologically viable and soluble humus called **Cultured Humus<sup>®</sup>**, which has also been charged with a full spectrum inoculant of Mycorrhizal tissues and spores, specific bacteria (all EPA registered), indigenous soil born bacteria, protozoa and many more elements of a complete Soil Food Web inoculant. The humus is also saturated with a broad spectrum of enzymes that are needed for the soils biochemical reactions needed to keep a soil alive and sustainable. The bacteria that made these enzymes are also included in TerraPro. The product is sole source, unique and exclusive as it's the only source of viable humus not made from Humate, world-wide. This source of humus and the equipment needed to culture it was discovered and the product is now manufactured by Michael Martin Melendrez – owner of Soil Secrets LLC. The high-tech growth chambers, mixers and culture tanks are all equipment that do not exist outside of Soil Secrets as Michael is the inventor and builder of these unique devises needed to Culture Humus. A second objective of TerraPro is to provide an excellent source of Humic substances (Humus technical name) that is completely soluble at a normal pH. Humus is the single largest limiting factor in our soils and defines whether or not you have a topsoil.

The key to the Humus Culturing process is proprietary, but Michael will say that an exact process of increasing the reaction rate between oxygen and humus precursors, such as phenols and hydroxybenzoic acids, to form quinones is the key. Amino acids produced by the rapid microbial degradation of proteins react with quinones which then form complex, durable molecules called humic polymers or humic substances better know by most people as Humus. Balancing the humus precursors, the phenols and acids along with amino acids and proteins are all part of the complex chemical and biological equation that Michael has been working on for the better part of two decades.

**What TerraPro is not:** TerraPro is not Humate blended with fertilizers, a common product of the so called organic technology fertilizer industry. While there are naturally occurring elements in TerraPro (see analyses above), fertilizer, either organic or in-organic are not blended into TerraPro as it is not intended to be a nutrient package. TerraPro is simply a Humus Soil Inoculant designed to jump start the Soil Food Web. TerraPro's inoculation is trademarked as **Restoring the Natural Process of the Soil Food Web<sup>®</sup>**. Humates on the other hand are mined geological shale naturally impregnated with Humic substances and are often represented or sold as humus, more correctly identified as the salts of Humus, common name **Humate**. The limiting factors of Humates are the low solubility – less than 1 % in water at a normal pH. The acidic low pH nature of the material is less able to sustain an inoculum if fortified with such, therefore is not a biologically suitable media for the delivery of inocula.

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