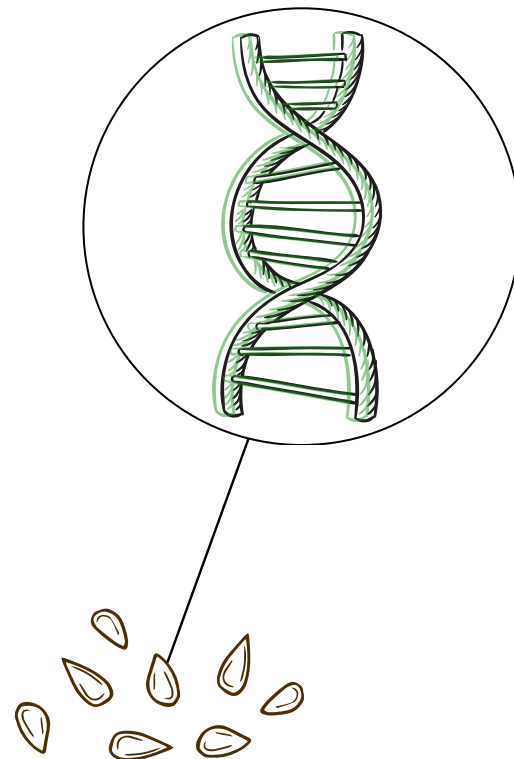


Natural Defender

BioBloom™ is a **bacteria reducing, odor eliminating full spectrum hemp extract** for polymers, produced using a superior patented process that leverages advanced seed genetics.

The benefits of BioBloom™ start with the sustainable growth of hemp, a plant known for its carbon sequestration abilities. This cutting edge hemp extract can then be combined with various polymers, including recycled nylon and recycled polyester, forming a strategically engineered fiber. This state of the art masterbatch formulation can be tailored to meet particular specifications .



Key Attributes

REDUCE BACTERIA

ODOR NEUTRALIZING

**REGENERATIVE
PROCESSING**

FULLY CUSTOMIZABLE

**PATENTED &
PROPRIETARY**

PERMANENT / IN YARN

Vibrant & Durable

BioBloom™ sets a new standard in eco-friendly bacteria reduction through innovative and sustainable practices.

During the manufacturing process, BioBloom™ must be added directly to the polymer during the dope dyeing stage, helping to significantly reduce water consumption compared to traditional dyeing methods. This process limits the need for certain topical finishes, while **conserving water resources.**



BioBloom™ is available in either pure extract oil form, or in a variety of shapes, masterbatches and polymers, including recycled or virgin polyester, recycled or virgin nylon, PLA and Polycarbonate.

Test Results (20% BioBloom™ yarn)

ASTM E2315

SAMPLE	CFU/ml	PERCENT REDUCTION
Control Time Zero	7.65+05	N/A
Control Time Final	a8.95+05	N/A
Hemp Extract	< 5.00E+00	>99.9993%

AATCC TM 100-2012

SAMPLE	Recovered Bacteria After Contact Time - 24 hrs	PERCENT REDUCTION
HB element KM 1356	< 1.0 x 10 ²	> 99.96%

AATCC TM 100-2012

SAMPLE	Recovered Bacteria After Contact Time - 24 hrs	PERCENT REDUCTION
A	1.2 x 10 ³	N/A
BControl Time CFinal	3.5 x 10 ²	N/A
Hemp Extract	2.0 x 10 ²	>99.9993%