ABI
APPLIED BIOTECH INDUSTRIES

Proven in the field, crop by crop.

Documented field-trial results from ABI microbial consortiums, blends built entirely from the beneficial bacteria and fungi we manufacture and DNA-verify in our own U.S. fermentation facility.

+36% Field tomato yield	**+41%** Greenhouse tomato yield	**+157%** Orchid blooms	**+31%** Potato yield
+26% Strawberry yield	**+182%** Rice yield, saline soil	**+123%** Tomato leaf phosphorus	**+55%** Broccoli shoot length
+25% Hemp CBD	**+147%** Green pepper yield	**100%** Pepper transplant survival	**+71%** Rose stems
+21% Ancho pepper yield			

Every result here comes from an ABI microbial consortium, a blend of beneficial bacteria and fungi. We grow and DNA-verify every strain at our own U.S. fermentation facility.

In each trial, treated crops were grown next to untreated controls under the same program. The only difference was the ABI consortium. The numbers are shown as they were recorded. These are results from specific trials, not a promise of what you will get. What microbes do on any given farm depends on the crop, the soil, the fertility program, the weather, the timing, and how it is managed.

Results at a glance

CROP	LOCATION	RESULT
Tomato · field	Georgia, USA	**+36% yield** and about **$192,000** added gross revenue across a 20-acre zone
Tomato · greenhouse	Querétaro, Mexico	**+41% yield**, 660 kg more per harvest, about $572 added revenue per harvest
Orchid	Mexico	**+157% blooms** and +87% branches per plant over four months
Potato	Shandong, China	**+31% yield**, 76,275 vs 58,035 kg/ha, larger and more uniform tubers
Strawberry	China	**+26% production** and higher fruit Brix in every harvest month
Rice	Jilin, China	**+182% yield** on severe saline-alkali soil, nearly 3× the control
Tomato · tissue test	Tennessee, USA	Leaf **N +23%, P +123%, K +20%** within three weeks (independent BeCrop lab)
Broccoli	Colombia	**+55% shoot length**, 14.5 cm vs 9.37 cm, four weeks after treatment
Hemp	South Carolina, USA	**+25% CBD**, +26% total cannabinoids, Δ9 THC unchanged at 0.03%
Green pepper	Multi-Tricho pot trial	**+147% yield**, 156 g vs 63 g per plant, denser roots and more top growth
Pepper	Arizona, USA	**100% transplant survival** vs 71%, +39% root mass, +18% pods
Rose · cut flower	Bogotá, Colombia	**+71% harvestable stems**, about $9,468 added revenue per 600 m²
Ancho pepper	Guanajuato, Mexico	**+21% marketable yield**, more fruit in every size grade

+36%

tomato yield vs untreated control

About $192,000 added gross revenue across the 20-acre treated zone.

Tomato · field

GEORGIA, USA

OMRI LISTED · CDFA REGISTERED

A grower ran a 20-acre treated block next to a matched untreated block, with the same program on both.



Untreated control on the left, ABI-treated on the right. The grower is standing on the line between the two blocks, Georgia.

Control	2,200
ABI treated	3,000

cartons per acre

Control	$528K
ABI treated	$720K

gross revenue, 20-acre zone (USD)

+41%

greenhouse tomato yield

660 kg more per harvest, about $572 added revenue per harvest.

Tomato · greenhouse

QUERÉTARO, MEXICO

+$572 added revenue per harvest

A commercial greenhouse tomato trial adding an ABI microbial biofertilizer to the grower's program.



UNTREATED CONTROL · 16 weeks



ABI TREATED · 16 weeks

Control	1,590
ABI treated	2,250

kg marketable per harvest

+157%

orchid blooms per plant

+87% branches per plant over a four-month trial.

Orchid

MEXICO

A grower added an ABI consortium to the existing program and counted branches and blooms over four months.



UNTREATED CONTROL rows



ABI TREATED rows

Control	127
ABI treated	327

blooms per plant (avg. treated)

Control	36
ABI treated	67.5

floral branches per plant

+31%

potato yield per hectare

Larger and more uniform tubers.

Potato

SHANDONG, CHINA

An ABI consortium added to the grower's standard program. Same planting date, 48,000 plants per hectare on both.



UNTREATED CONTROL harvest



ABI TREATED harvest

Control	58,035
ABI treated	76,275

kg per hectare

+26%

strawberry production

Higher fruit Brix in every harvest month, December through February.

Strawberry

CHINA · GREENHOUSE

Yield and fruit sugar (Brix) tracked over three months, with no change to the nutrient program. Sweeter fruit sells at a higher grade.



UNTREATED CONTROL rows



ABI TREATED rows

Control	3,870
ABI treated	4,863

marketable yield, kg (Dec to Feb)

Control Brix	9.64
Treated Brix	10.71

Brix, February harvest (higher every month)

+182%

rice yield vs untreated control

Nearly 3x the control on soil where most crops fail.

Rice

JILIN, CHINA · SALINE-ALKALI

Harsh saline-alkali soil, pH 9 to 10, where fewer than half the seedlings usually come up. The grower picked the worst plots on purpose.



ABI TREATED · trial field, thriving



UNTREATED CONTROL · typical for the region

Control	212.5
ABI treated	600

kg per 1,000 m²

N · P · K

leaf nutrient uptake, 3 weeks

Independent BeCrop lab tissue analysis.

Tomato · tissue test

TENNESSEE, USA · LAB

Independent lab tissue tests on fresh-market tomatoes in eastern Tennessee, three weeks after treatment.

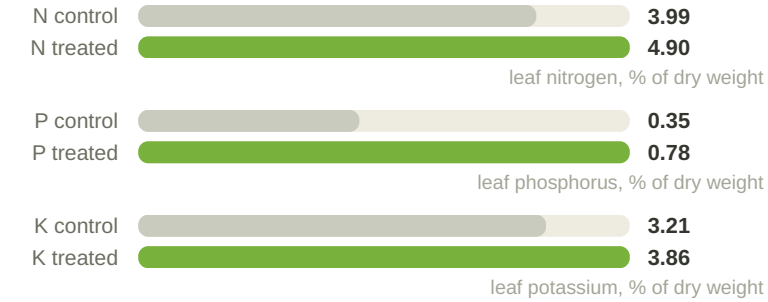


UNTREATED CONTROL · open, uneven rows



ABI TREATED · full, even rows

+23%	+123%	+20%
Nitrogen	Phosphorus	Potassium



+55%

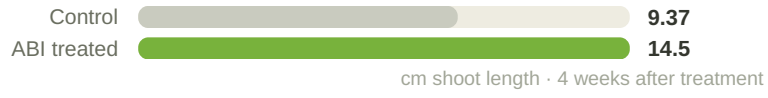
broccoli shoot length vs control

14.5 cm vs 9.37 cm, four weeks after the first treatment.

Broccoli

COLOMBIA · FIELD

An ABI consortium trial in Colombia. Shoot length measured four weeks after the first treatment.



+25%

total CBD

+26% total cannabinoids. Δ9 THC held at 0.03%, within the 0.3% federal limit.

Hemp

SOUTH CAROLINA, USA

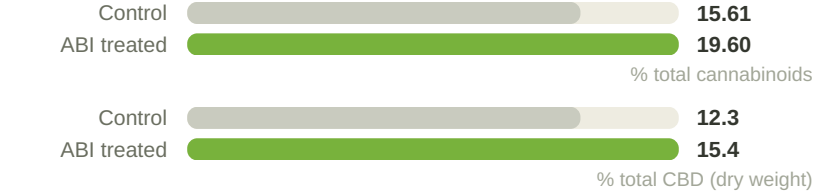
In hemp, the price rides on cannabinoid percentage. Treated plants gained about a quarter more, and stayed under the legal THC limit.



UNTREATED CONTROL · dried flower



ABI TREATED · denser flower



+147%

green pepper yield

156 g of pepper per plant group vs 63 g for the untreated control. Denser roots and more top growth.

Green pepper

MULTI-TRICHO · POT TRIAL

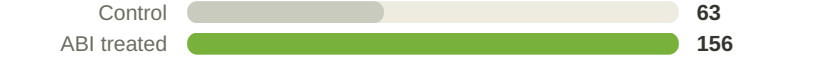
A side-by-side pot trial comparing an ABI Trichoderma consortium (Multi-Tricho) against untreated pots under the same watering and light, applied monthly from April to July.



UNTREATED CONTROL · roots



ABI TREATED · roots



100% / 71%

transplant survival, treated vs control

+39% root mass (26 cm vs 14 cm roots) and +18% pods per plant. Also beat a competitor product.

Pepper

ARIZONA, USA

A controlled test against an untreated control and a competitor product, run across three separate lots. Transplanting is where growers lose the most plants.



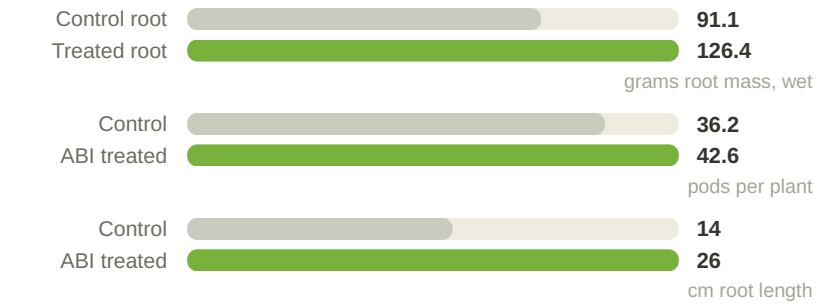
Control on the left, ABI-treated product trial on the right, same lab.



UNTREATED CONTROL · roots



ABI TREATED · roots



+71%

harvestable rose stems

About $9,468 added revenue from a single 600 m² block.

Rose · cut flower

BOGOTÁ, COLOMBIA

+$9,468 per 600 m² · at $1.20 / stem

Eight-year-old Freedom roses, timed for the Valentine's harvest. Two matched 600 m² plots, a weekly root drench, counted over 41 days.



+21%

ancho pepper yield

More fruit in every size grade, especially the larger ones.

Ancho pepper

GUANAJUATO, MEXICO · GREENHOUSE

A commercial greenhouse trial produced more marketable weight and more large fruit, so each harvest was worth more.



Both plots shown at the same scale, matched by the measuring stick and aligned at the ground. The dashed line marks the control canopy height; the ABI-treated plants rise above it.

Control	15,358
ABI treated	18,607

kg marketable per harvest

Control	35
ABI treated	40

fruit per 10 plants

How these trials were run

These are results from specific field trials and grower case studies. They are not a promise of what any future crop will do. In each trial, treated crops were grown against untreated controls under the same program, with the ABI consortium as the only difference. Dosage, timing, and conditions varied by site and are recorded in the case studies, which we can send on request.

A note on claims. ABI products are sold as biofertilizers and microbial soil inoculants. Nothing here is a pesticide claim. Yield and quality depend on the crop, the soil, the fertility program, the weather, the application method and timing, and overall management, and will vary from farm to farm.

The full ABI strain library

We manufacture more than two dozen bacterial and fungal strains, every one grown and DNA-verified at our U.S. facility. The blends in this pack were built from this library. Start with the result you want in the field, such as better phosphorus and nitrogen availability, stronger roots, or more stress tolerance, and we match strains from this list to that goal.

BENEFICIAL BACTERIA

Bacillus subtilis · *Bacillus licheniformis* · *Bacillus amyloliquefaciens* · *Bacillus pumilus*

Bacillus megaterium · *Bacillus mucilaginosus* · *Bacillus methylotrophicus* · *Bacillus velezensis*

Bacillus thuringiensis · *Bacillus coagulans* · *Brevibacillus laterosporus*

Pseudomonas fluorescens · *Pseudomonas protegens* · *Streptomyces rochei*

BENEFICIAL FUNGI

Trichoderma harzianum · *Trichoderma koningiopsis* · *Trichoderma longibrachiatum*

Trichoderma asperellum · *Aspergillus niger* · *Aspergillus oryzae* · *Beauveria bassiana*

Paecilomyces lilacinus · *Penicillium bilaiae* · *Endo mycorrhizae*

Why a consortium. A single strain does only a handful of jobs, and each strain works best in a narrow set of conditions, a certain temperature, pH, and nutrient level. Stack several strains together and you cover a much wider range of soils and field conditions, with more of those jobs happening at once. That is why every trial here used a multi-strain blend, not one strain on its own.

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Want results like these on your crop?

Tell us your crop, region, and volume, and we will send pricing and documentation straight from our U.S. facility.

Request a quote at abimicrobes.com

Since 2005
20 years fermenting

24 strains
bacteria & fungi

40+ countries
shipped factory-direct

20,000 sq ft
8 fermenters

DNA-tested
in-house

CoA per lot
every batch