

SP-1™
biological

SP-1™ is a living community of microbes that supply bacteria, fungi, and algae to the soil in a balanced blend of more than 100 beneficial microbes.

Perfected long before the current resurgence in the use of biologicals, SP-1 has been enhanced many times since it's original formulation over 25 years ago. Extensively field tested and grower approved, SP-1 consistently produces results on a wide range of crops, soil types, and growing environments.

SP-1 has a shelf life of more than a year and is tank-mix compatible with a wide range of product applications used in a typical farming operation.

Key Benefits to the Grower:

Improves Soil Tilth

SP-1 increases the biological activity in the soil and transforms soil particles from a platy to a granular structure. The resulting aggregate is a healthy soil that grows healthy plants, preserves yield potential, and increases total farm profitability.

Simplifies Water Management

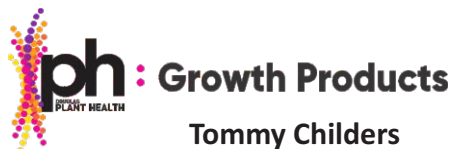
In **WET** conditions, soils drain quicker due to the increased **LARGE** spaces between the soil particles.

In **DRY** conditions, soils retain more water due to the increased **SMALL** spaces in each soil particle that act like a sponge.

Enhances Nutrient Flow

↓ The energy from the sun not used to grow the plant is more available to transition **DOWN** into the soil to feed the biology around the roots.

↑ Biological activity promotes better soil to root tip interaction and improves nutrient movement **UP** to the plant.



Tommy Childers
914.837.2171



Improved Soil Tilth

Less Sidewall compaction



Control



SP-1 applied in-furrow



Sidewall compaction causes “hatchet” rooting... a result of the roots following the coultter groove. With this condition, the plant is less likely to develop a healthy root ball structure.



MORE of this

Granular soils



LESS of this

Platy soils

SP-1™
biological



Untreated

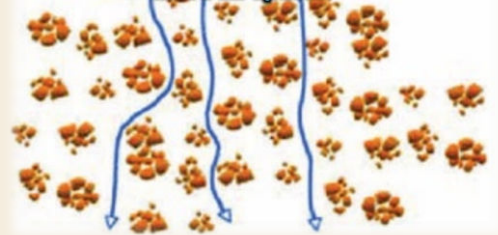


Treated

Granular soil structure promotes better seed to soil contact, resulting in improved germination and more uniform emergence.

Simplified Water Management

Granular Soils have flocculated soil particles – that are clumped together into a floc, and provide more air space.



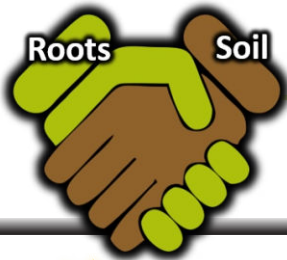
MACRO pores
the **LARGE** spaces between the soil particles.

MICRO pores
the **SMALL** spaces within a soil particle.

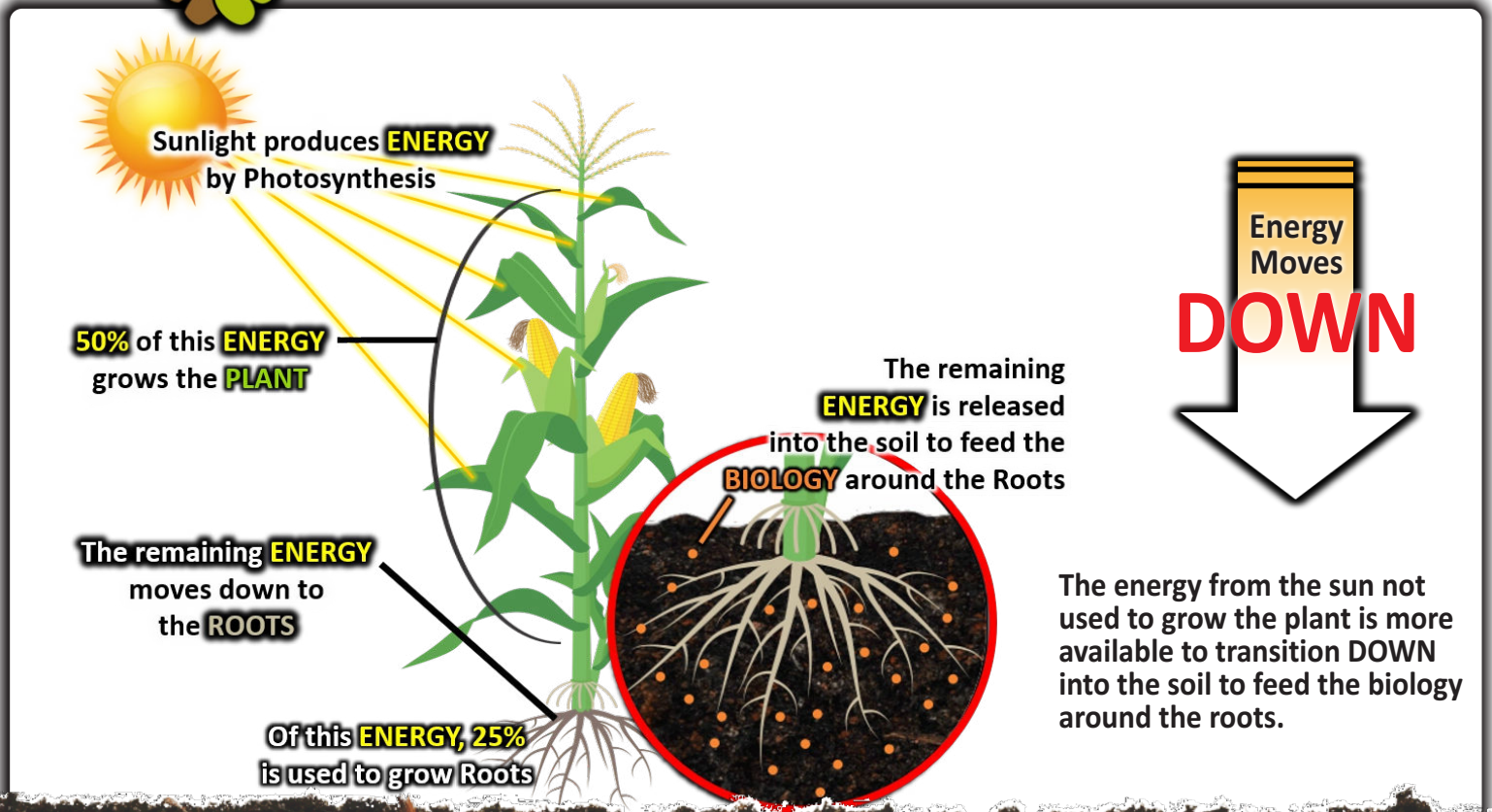
“Soils drain quicker, yet they won’t dry out as quick.”

MACRO pores provide more air space, which allows faster percolation in **WET** conditions.

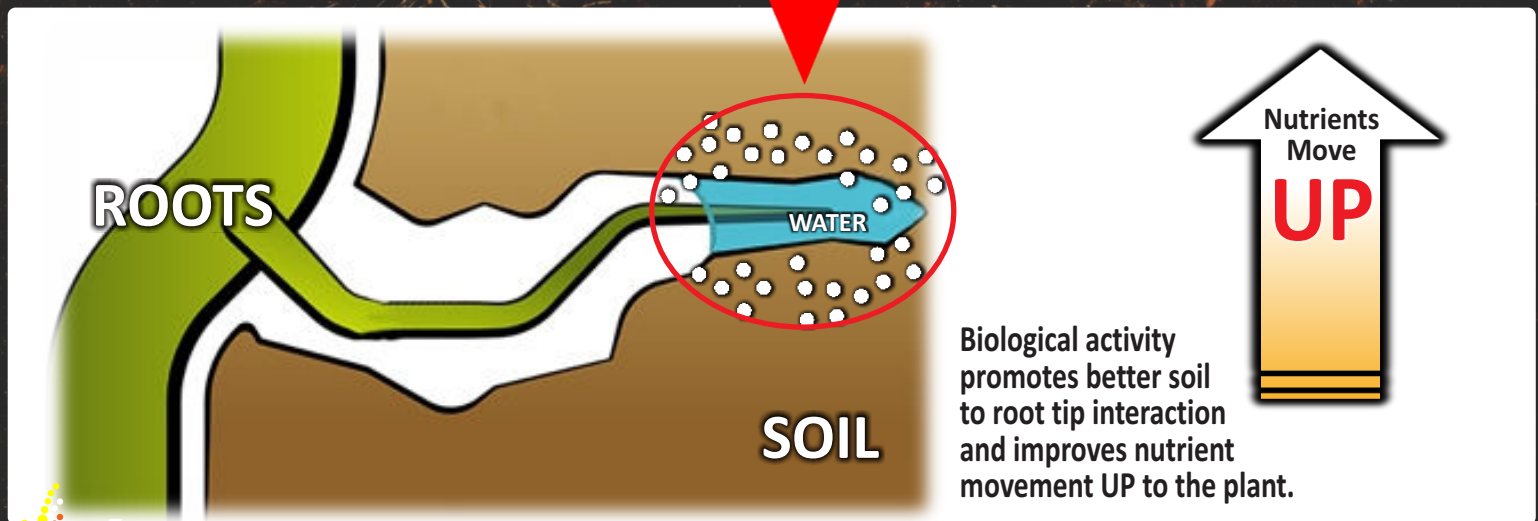
The **MICRO** pores work like sponges to retain moisture in **DRY** conditions.



At their BEST
when working together ... *as intended all along.*



Efficiency Happens Here



Results...

...from
agronomists

Hershey, PA

SP-1™ Treatment, compared to check (2019)

Soil wetting...	+15%	improvement in capillary action
Soil stability...	+12.4%	improvement
Water holding...	+3.5%	improvement
Bulk density...	+3.5%	improvement, more pore space
Soil respiration...	+17%	improvement



by Nathan Hykes and Dean Collamer
Growmark FS

...from
university
trials

Penn State Research Farm, Dr. Orzolek

SP-1™ applied at 1.5 g/a (2017 & 2018)

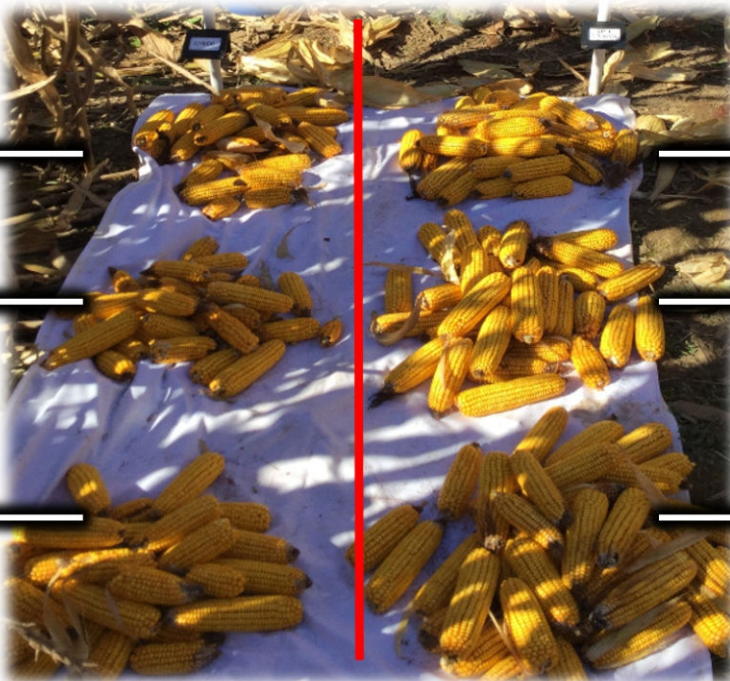
Check

135

134

121

Bushel/A



190

198

178

Bushel/A

...from
the field

Processing Tomato Trial

SP-1™ in-furrow
before planting

\$424.

Market Value Increase in AVG of
Treatments 1 and 2 over check.

Treatments:

1. Check (PSU Fertility program, N: 90 lb./acre)
2. PSU Fertility Program w/ additional N: 60lb./ac
3. (5) plots, PSU Fertility Program (same as # 2) with various rates of SP-1 applications.

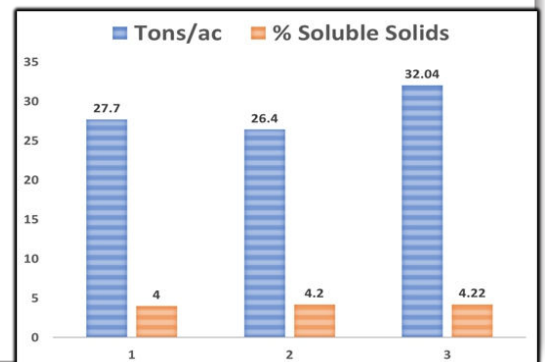
Variety: H-3406

Planting Date: May 30, 2018

Plot Size: 10 plants–12" between plants

Design: RCB with 4 reps

Treatments: All in furrow prior to planting



Conducted by
Dr. Orzolek,
Penn State Univ.

“Building a microbial community has completely changed my soil for the better.

Earthworm populations on the soils that I farm have easily increased 10 fold after adding SP-1.



Carl Long
Long Farms Coudersport, PA



Profit is about **Higher Yields**, but Profit is also about **Spending Less.**

“Soil Health” = Plant Health = Sustained Profit

IMPROVED SOIL HEALTH will help to INCREASE FARM PROFITABILITY

Restore **“LIFE to the SOIL”** with Enhanced Microbial Activity... and setup your soil to maximize the **PERFORMANCE** of your Plants.

Maximized **Use of Water**

Increased **Nutrient Exchange**

Improved **Fertilizer Utilization**

Pick Your **VALUE**

Reduced Field Time with Improved Soil Tillth

Less Tillage to Create Optimal Seed Bed

Less Fuel Use in Tillage // Harvest Operations

Improved Residue Management

Optimized Fertility Programs

Second only to our unrivaled commitment to offer the best in agronomic products, is our focus on supporting you, as our customer. We call it the **FAB-5**. In essence, our goal is to make the relationship with your Douglas Plant Health rep the most predictable part of your day.

We understand that our support works best when integrated with your existing operation. With this intent, we work

FAB - 5.

1. Save You Time.
2. Boost Your Operational Efficiencies.
3. Drive Your Revenues.
4. Help You Train all in your Farm Operation.
5. Assist in your Effort to Maximize Farm Profitability.

with you to build a custom plan that works to meets your expectations.

Our grower resources are extensive... but to provide you with a flavor, several of the most active are detailed below.

Secure on-line access to the Douglas "GateWay" for searchable resources...

Get the information you need, when you need it... no more, no less.

IMMEDIATE Cloud Connections

Research Data



NOTES from the Field



Product Sheets



Literature, specifically designed for your crops, your region, and your unique growing conditions. (Both hardcopy & digital)

ph **SP-1**

SP-1™ is a premier mix of microbes known to build soil biology. This SP-1™ formula supports tomato, zucchini, and other vegetable growth at multiple life stages.

- The unique, stabilizer phosphorus, and cyclic nutrients, to better your plant available
- Immature nutrients, and other stress on the chlorophyll, the massive regions of the soil before the plant's vital centers, can affect your yield and profit.

Biological farming is the key to a profitable and sustainable operation. Organics matter in the long run. Consider our SP-1™ as a key to your success. It's about taking what you have and making it work for you more often.

Consider that your soil biology is the key to your success, with each microbe feeding a specific role. As long as you have the right number of players, the method and background however.

Block all SP-1™ from the conductor of the biological symphony being played out in your soil.

SP-1™ is one of the most available products on the market. It's a key to your success. Organics matter in the long run. Consider our SP-1™ as a key to your success. It's about taking what you have and making it work for you more often.

Without conventional inputs, crop yields, new crops, or new, SP-1™ can help you about now SP-1™ can help you.

ph AgriEnergy Resources 815.872.1190 info@agrienergy.net

Timely "NOTES from the Field", for immediate solutions to your current agronomic challenge.

REBOUND from the 10th Spring with SP-1™

Most farmers would be glad to have the best of both worlds. SP-1™ improves the soil, increases the yield, and helps you get your crop back on track.

Biologically active soils produce more root growth. This works like a magnet to help the roots go deep and absorb nutrients from saturated soils and provide an acceptable ROI on your feeding investments.

Restored root health is vital in helping plants access nutrients from saturated soils and provide an acceptable ROI on your feeding investments.

Improving soil with SP-1™ greatly assists in water management by allowing the soil to drain quicker — due to the increased number of **aggregates** found in biologically active soils.

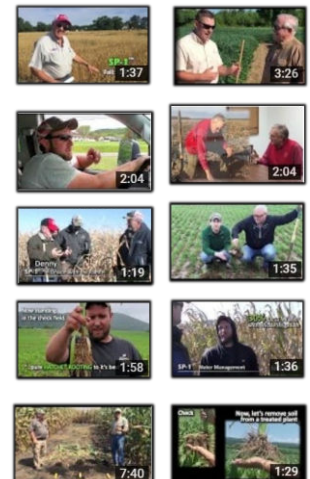
As a bonus, soils with integrated microbial activity **regenerate** and produce healthier plants that are less susceptible to stress injury and disease.

Planting delays often extend the harvest season. With faster draining soils, you're **able to harvest** sooner. Another perk is that growers have come to expect more robust yields with their SP-1™ treated crops. This increases sustainability into the fall and **reduces** the risk of a very valuable benefit with a late harvest season.

Set your planned crop up for a **PROFITABLE** **REBOUND** in your upcoming post-emergence applications.

Co-Branded

Extensive peer-to-peer video library covering a wide range of topics and field trials so you can make decisions with confidence.



Supporting your Sales Channel...

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