



## Set<sub>fx</sub><sup>TM</sup> *For use on potatoes*

### What is Set<sub>fx</sub> and what makes it unique?

Set<sub>fx</sub> is a selected combination of fungi, bacteria and microorganisms that have been tested to colonize within potatoes and enhance tuber set and size. It enhances the plants ability to metabolize nutrients to efficiently support growth. Set<sub>fx</sub> can be applied at three different timings to influence production. Applied to the seed potatoes, Set<sub>fx</sub> promotes root and stolon development prior to vegetative growth, leading to a dominant potato set and uniform size. Applied in furrow, Set<sub>fx</sub> increases overall yield by influencing size and number of potatoes of each set. Applied to foliage in early development it increases overall yield. Some benefits include: phosphate solubilization through microbial activity, increased total leaf area, reduced ethylene production (associated with aging and senescence), pH regulation, reduced reactive oxygen species, general stress mitigation, better stems and increased yield.

### Mechanisms of actions:

- Plant pH regulation through the ability to exchange electrons in chemical pathways
  - o Most photosynthesis down regulates during the heat of the day
  - o pH regulation overcomes "slowdowns" during the heat of the day
- The symbiotic and hormonal relationship elicits larger leaves.
- Facultative anaerobic bacteria regionalize in the root system to elicit a more robust root system that helps improve nutrient uptake.
  - Enables plants to tolerate short term droughts by mitigating or buffering Reactive Oxygen Species

### What to watch for:

Improved seedling vigor early with larger plants and leaves as they mature. Stimulates root and stolon growth when applied to the seed potato and in-furrow – though to a lesser degree. Should improve seedling vigor may support overall plant health for the season. Set<sub>fx</sub> helps reduce heat stress and associated plant response, thus allowing optimal production during such periods.

### Morphological response:

- Increase in leaf size to support yield
- More consistent potato size when applied to the seed, less culls
- More robust roots and root system
- Better stem support and nutrient flow
- Improved potato size and grade out

### How to apply:

**Seed:** 4 fl. oz. per cwt before planting. Can be applied in combination with other seed treatments – separately applied or in a slurry. Conduct a jar test for physical compatibility.

**In furrow:** 32 fl. oz/acre. Apply with a minimum of 5 gpa total solution.

**Foliar:** 32 fl. oz/acre with a minimum of 10 gallons solution. Can be applied alone or in combination with other products (conduct jar test). For best results apply when potatoes are small (2-4 leaves per plant).

### Tank mixtures:

No surfactant is needed for the microbes to enter the plant, though a surfactant may be acceptable if tank mixing with other products. Perform a jar test to verify compatibility of product mixture. Do not use with antimicrobial water conditioners, or water containing levels not approved under EPA human drinking water standards. This includes copper, bleach, fluoride, chloramines, chloride, bactericides, phosphoric or sulfuric acid. Do not use with propiconazole (Slant<sup>TM</sup>, Tilt<sup>®</sup>, Quilt<sup>®</sup>...).

Mixing with glyphosate may result in microbial mortality.



**Cautions:**

Should not use hormone-based plant growth regulators (PGR) with this product because the combination may result in stunted growth. Do a jar test to verify compatibility with other products.

**Spray tip selection**

TEEJET™ XR, XRC OR TEEJET TURBO		
	Line Pressure	Application Speed
Red Tip	20 psi	8 mph
Red Tip	30 psi	10 mph
Red Tip	Max 40 psi	12 mph
Brown Tip	20 psi	8 mph
Brown Tip	30 psi	10 mph
Brown Tip	Max 40 psi	12 mph

**Application standards:**

Follow good sprayer (and line and nozzles) cleanout before using these biologicals. Don't mix concentrated microbials with concentrated pesticides or fertilizers. Conduct a jar test for compatibility before mixing a tank load.

For foliar applications use a minimum of 10 gpa total solution.

Aerial application is acceptable, but thoroughly clean the tank and line before using and use Set<sub>fx</sub> only.

Screen size recommendation: Not smaller than 50 mesh. No tip screen required.

Residence time on the plant before rain (rainfast): 3 hrs.

Application temperature range: 40° to 85° F (4° to 29° C)

**Improving yield:**

For best results apply proper nutrients and rates so they don't become the yield limiting factor. BioPryme can also be used to support crop development and maximize yield. Best timing to apply BioPryme would be at tuber fill. BioPryme contains plant nutrients and enzymes that enhance yield and facilitate the flow of plant synthates to the seed.

**Storage and use:**

Store between 50° and 90° F in a place out of the sun. Use contents within 72 hrs. of opening the seal on the container.

Shake container well before using. Keep jugs upright and don't "burp." This is a combination of living organisms in the jug so be mindful that it may swell or contract. The jug has a pressure sensitive seal and will self-regulate as designed.

**Guaranteed analysis:**

Soluble Potash (K<sub>2</sub>O) 1.00% From potassium carbonate

**Nonplant food:**

*Bacillus megaterium* 1.0 x 10<sup>5</sup> CFU/ml

*Bacillus subtilis* 1.0 x 10<sup>2</sup> CFU/ml

Microorganisms exempt from CFR requirements – 40 CFR 725.

**Packaging:** 2 x 2.5g jugs, bulk