PicoAg 25B and its application from V1 until Harvest.

PicoAg 25B Growing Plants, Lets look at some plants that were grown. We want to start with Post Harvest Analysis of some foliar feed plants. Ask yourself where did all these increases in fertilizer element come from?

Trace element analysis of soybean pods indicates Soysoap helps mobilize foliar-applied micronutrients

Farmers who raise glyphosate-tolerant corn and soybeans *often foliar feed manganese boron, zinc and other elements to assure adequate levels in plant tissue.*

Crop consultants report that corn and soybeans often have low trace elements. They're concerned that glyphosate ties up, or chelates, these critical elements.

Dr. Dan Skow, International Ag Labs of Fairmont, MN, says that foliar feeding is a cost-effective way to overcome micronutrient deficiencies. He has seen manganese levels in soybeans as low as 10 parts per million, when 20 to 100 is the desired range.

One way to "encourage" crop leaves to absorb and translocate micronutrients is to chelate or bind them with humic acids, which are complex plant-source compounds readily accepted by crop metabolism. Dr. Dan Skow and a colleague, Dave Larson, pioneered that concept years ago.

A second enhancement for getting micros absorbed and metabolized is to tank-mix them with the translocation Soysoap

The pico sized atoms in Soysoap bond with micronutrients and make them more soluble in water. This is the "missing link" needed to make foliar nutrients more effective , says surfactant specialist Jerry Pritchard of Coila, MS. He says, " We finally have that missing link Biobased USA solved it picotechnology.

Evidence of Soysoap 's effectiveness : Each trace element analysis shown in this chart is the average of seven randomized plots. The test was conducted on beans with glyphosate tolerant genetics . Seven plots were back-pack-sprayed Aug . 3, 2010 with a mix of trace elements alone (analysis in box below). Effective rate was about two pints per acre.

Seven other sites in the same test field were sprayed with the trace mix tank -mixed with Soysoap at 1/2 oz per gallon of spray solution. The beans were at R6, developing new pods.

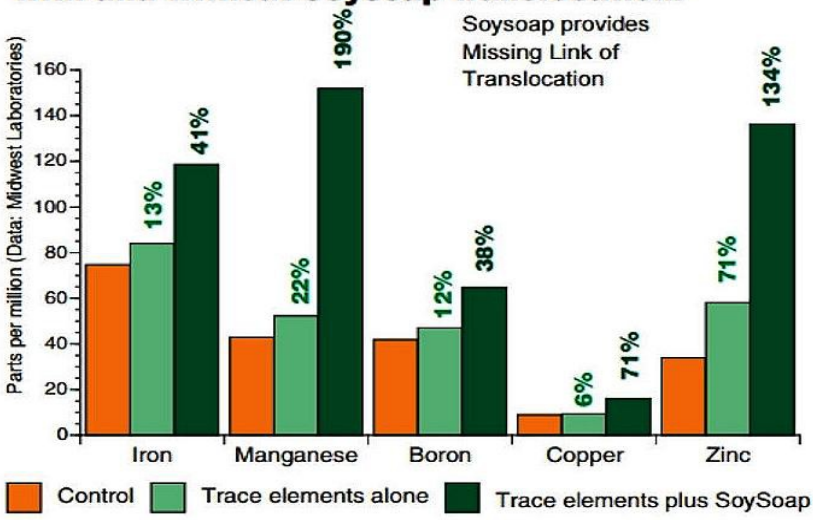
Seven unsprayed controls were randomly distributed through the experimental field. Plot design was supervised by Dr. Bertel Schou, owner of ACRES, a research farm.

After two weeks to allow for nutrient translocation into soybean pods, 30 or more pods were pulled from each of the 21 plots and analyzed by Midwest Laboratories of Omaha, NE. Very little of the spray had reached the pods, which were under a full leaf canopy . The trace mix alone showed a 13% gain in pod level of iron , a 22% gain in manganese , a 12 % gain in boron and a 71% gain in zinc.

Tank-mixed with Soysoap, the absorption and translocation of traces showed substantially higher levels of all trace elements in pods, compared to the trace mix sprayed alone.

The greatest gain in pod analysis was a 190% increase in manganese, to 151 parts per million. Zinc analysis

Trace element content of soybean pods and beans with foliar-applied trace element blend, with and without Soysoap translocation.



Drops form when and nutrient mix is sprayed

Film of nutrient solution coats leaf with Soysoap so nutrients feed the plant.

Trace element analysis of winter wheat shows how Soysoap mobilizes foliar-applied micronutrients

Dr. Dan Skow of International Ag Labs, Fairmont, MN says that foliar feeding crops is the next major opportunity for raising crop yields, quality and profit.

Skow adds that foliars are the most efficient way to correct trace element deficiencies, which are showing up with increasing frequency on soils with a long history of glyphosate application.

Glyphosate, a strong chelating agent, ties up important elements like manganese, copper and zinc.

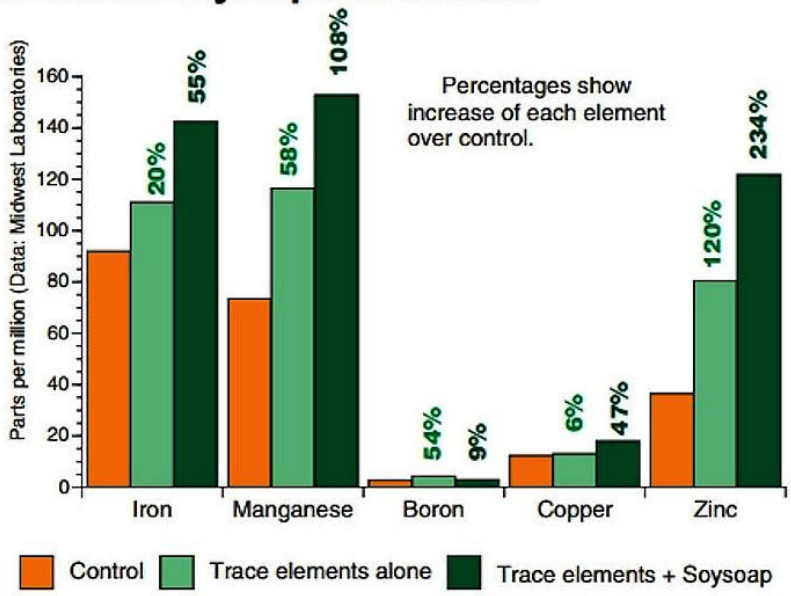
Field research shows that Soysoap a "picotech" translocator helps carry foliar applied elements *into* crops and *through* crop circulation systems. Wheat tissue tests at right are one example. This data is the average of four random rep samples on wheat for each treatment:

1. Trace elements applied alone
2. Trace elements with Soysoap
3. Untreated control

Analysis of trace element product in test (% by weight)

Boron (B)	0.30%
Copper (Cu)	0.25%
Cobalt (Co)	0.0005%
Iron (Fe)	1.00%
Manganese (Mn)	3.00%
Molybdenum (Mo)	0.0005%
Zinc (Zn)	3.00%

Trace element content of new winter wheat growth 11 days after foliar spray with trace elements, with and without Soysoap translocation

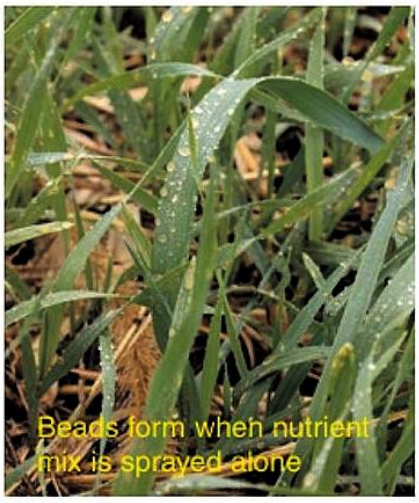


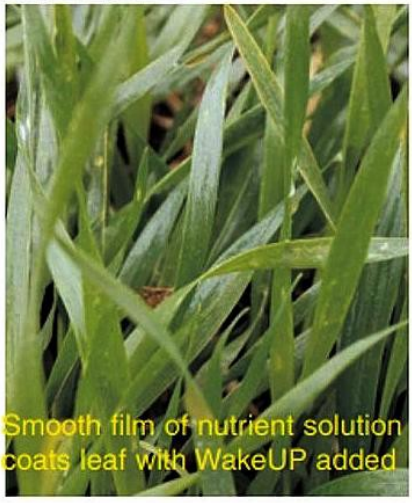
Applied alone, the trace mix improved levels of beneficial elements (chart above). Tank-mixed with Soysoap, absorption and translocation of most elements rose substantially. One reason: Soysoap greatly reduces surface tension of water, which improves leaf contact (photos below and enhances internal translocation of nutrients through crop xylem and phloem systems. Soysoap is also a solvent that softens the waxy cuticle on leaves so nutrient can easily enter plant circulation pathways.

All ingredients in Soysoap are derived from plants, so crops readily absorb and metabolize it.

Very small amounts of Soysoap are needed to "amplify" foliar sprays — just four or five ounces per acre.

Some growers tell us they add three to eight ounces per acre with every spraying trip, from burndown herbicides in early spring to foliar nutrients and fungicides through the summer.


Beads form when nutrient mix is sprayed alone


Smooth film of nutrient solution coats leaf with WakeUP added

Soysoap applied by itself at the two-leaf stage enhances root growth and drought resistance. And when applied in combination with other products such as foliar nutrients, Soysoap has shown increased absorption and translocation of those nutrients. That makes your foliar fertilizer investment more cost-effective.

Trace element content of alfalfa multiplied with single foliar application of micronutrients plus Soysoap

We sprayed two 12 ft. x 12 ft. plots of alfalfa with a trace element blend in a tank mix of 5oz Soysoap to a gallon of water. 25 Acre a gallon.

This was intended not as a statistical test, only a screening for effect. The alfalfa was about eight inches high, recovering from a third cutting, and growing vigorously.

In the next 10 days, 2.08 in. of rain fell in three storms, so the alfalfa was thoroughly washed down and most external residual would have been removed.

On Sept. 27, we snipped leaf and stem samples of new top growth from the two treated plots and two untreated controls adjacent to the treated plots on comparable soil.

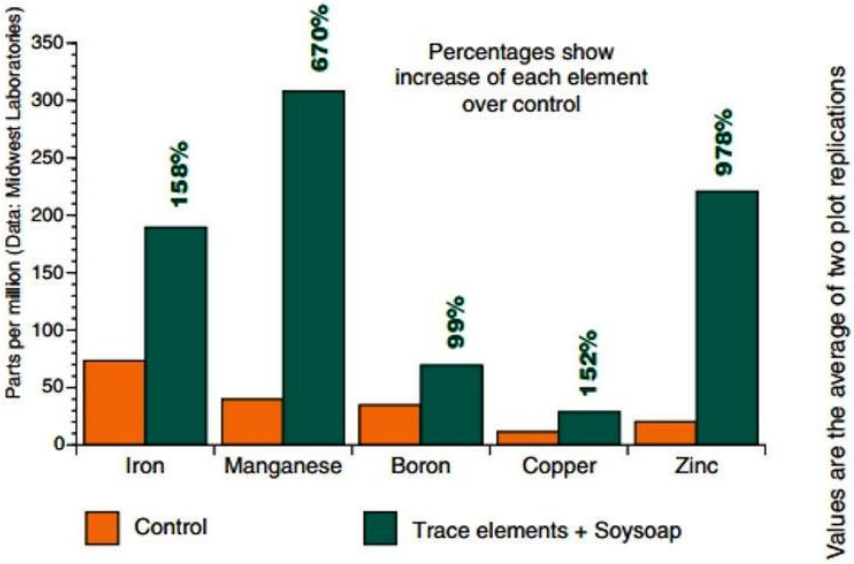
Samples were sent to Midwest Laboratories, and the averages are shown at right. We can fax the original lab reports to anyone interested.

In this trial, we didn't apply the trace element pack alone. We've seen previous trials where Soysoap amplifies the trace-element analysis , and simply wanted to check out alfalfa 's response to Soysoap togeth er with traces.

We've learned with repeated field trials this summer and fall that

Alfalfa after an application of trace elements tank mixed with Soysoap

Trace element content of new alfalfa growth 11 days after foliar spray with Soysoap translocation



We think this tissue analysis fairly represents what's "in" the leaves and stems, rather than measuring exterior residue. We clipped new growth, and the plots had over two inches of rain between spraying and sampling.

Soysoap enhances absorption and translocation of foliar applied trace elements . This could make foliar application an even more effective management tool for balancing micronutrients in growing crops.

Our next phases of research will focus on optimum levels of traces for cost-effective improvement in test weight, crop health and yield.

In spring 2011 we intend to begin testing several formulations of micronutrients, including those chelated with humic acid and not EDTA or phosphites.

If glyphosate resistant alfalfa is approved for general use, monitoring of micronutrients will become more essential because glyphosate chelates or ties up micronutrients.

Previous tests of Soysoap on alfalfa in Montana have shown an increase in alfalfa tonnage & RFV. Also, we had an experiment with with unintended consequences in 2010.

We rented a small test area on a local farmer's new seeding of oats and alfalfa. We sprayed Soysoap by itself on the oats and alfalfa , and saw an 100% yield increase in the oats to 125 bu acre

Then this spring, we noticed a taller, thicker regrowth of alfalfa where we had sprayed those test strips Apparently the alfalfa seeded with the oats had responded to Soysoap by developing deeper roots, which reflect-ed in faster emergence and regrowth this spring. Alfalfa on treated strips bloomed earlier . The test strips had to be cut and baled separately from the rest of the field . The farmer put up with that , because he had more yield!

PicoAg 25B, How It Increases Leaf Chlorophyll

Chlorophyll is the molecule that absorbs sunlight and uses its energy to synthesize carbohydrates from CO2 and water. This process is known as photosynthesis and is the basis for sustaining the life processes of all plants. Since animals and humans obtain their food supply by eating plants, photosynthesis can be said to be the source of our life.

Photosynthesis

"Nature has put itself the problem of how to catch in flight light streaming to the Earth and to store the most elusive of all powers in rigid form. The plants take in one form of power, light; and produce another power, chemical difference." The actual chemical equation which takes place is the reaction between carbon dioxide and water, catalyzed by sunlight, to produce glucose and a waste product, oxygen. The glucose sugar is either directly used as an energy source by the plant for metabolism or growth,or is polymerised to form starch, so it can be stored until needed. The waste oxygen is excreted into the atmosphere, where it is made use of by plants and animals for respiration.

Including PicoAg 25B in foliar nutrient sprays on drought-stressed soybeans dramatically upsets an old paradigm: That foliar feeding is futile on crops under stress. Instead, this demonstration indicates that PicoAg 25B is indeed the "missing link" in helping crops absorb and metabolize essential nutrients which they're not able to extract from the soil.

On Sept. 1, we sampled multiple leaf chlorophyll readings on the soybean strips where we foliar-fed stressed soybeans with nutrients mobilized with PicoAg 25B, and also where we had left untreated controls.

Taking several 10-location readings with the Minolta chlorophyll meter:
Treated soybean leaves averaged a reading of 51.9.
Untreated leaves averaged a relative chlorophyll reading of 33.2.
Picked 70 pods from the center of each strip (treated / control) along 200 feet of row.
The 70 pods from the treated rows weighed 95 grams.
The 70 pods from the untreated rows weighed a total of 69 grams.

The strips which we have foliar-fed three and four times are remaining a rich green and they are filling pods. What this indicates to us is that soybeans can be “nursed” with highly mobilized nutrients despite a lack of rain. This field has had a half-inch of rain in July and another half-inch in August. A highly respected handbook on foliar feeding, published by Midwest Laboratories, says "Crops under heat or moisture stress show less response to foliar applications due to lower leaf and stem absorption rates and/or poor vigor."

Including PicoAg 25B in the tank mix helps overcome poor absorption and translocation.

Thus, you can provide nutrients effectively when crops are suffering, by mobilizing the foliar blend with PicoAg 25B.

Our foliar-fed soybean rows are thus unusually dark green for this point in the season. Most other soybeans all around us are rapidly yellowing because of the drought, as of Sept. 1.

Not far from us on an experimental farm, a data logging weather station recorded 2.05 inch of rain in June, 0.85 inch of rain in July and 0.8 in August.

The first photo shows typical chlorophyll reading on the treated soybeans, which are hip-high and full of pods. A reading around 50 indicates good leaf nitrogen and an abundance of chlorophyll, which are the plant's sugar-making engines. The meter is more objective and discerning than a visual look at the crop.

The second photo shows a reading from a green leaf typical of the untreated rows. In the

untreated beans, we did not take readings from yellowed leaves — just those with typical green.

In another comparison, we compared sugar levels in treated and untreated pods. Since the pods were so dry, we couldn't squeeze plant sap directly from the pods, so we added a cup of water to each sample of 70 pods, whizzed up the water and pod mixture in our "NutriBullet" blender, and checked the brix level of the dilution. The diluted control pod solution read a brix level of 3.6 and the PicoAg 25B / nutrient treated beans read a brix level of 6. The dilution was about 3 parts water by weight, one part pods. We used an equal weight of pods in both samples.

The leaves in untreated strips were yellowing from drought and nutrient deficiency as of Sept. 1, which is early for beans to be “turning” with normal maturity. If you were to read any of the yellowing leaves, the meter reading would drop to nearly zero. This meter’s relative scale reads from a negative 10 to positive 200. A cornfield with dark green color would read between 40 and 50. (We’re sprouting some new corn in greenhouse tests; the bright green leaves show readings around 47.)

We’ve used PicoAg 25B to mobilize several forms of nutrients on these test strips, simply to see what can be done. The nutrients include Kugler’s 20-0-7.5, Dramm fish emulsion, liquid humates, sugar, International Ag Labs Way Ahead 7X, and a specially formulated trace element blend from DiHoMa Chemical in Mullins, SC. Also,a little urea was blended into the tank mix. And we had some micronized rock powder. We’ve taken to call such an array of nutrient blends as the “Schlapkohl treatment” after Keith Schlapkohl, who often uses a wide array of products in his foliar blends, including PicoAg 25B. And also like Keith, our tank mix water is structured by a Pursanova system. Unlike Keith, it’s not reverse osmosis, however. We do ozonate our water, though.

Total materials cost of all these treatments would be about $35, including $15 for PicoAg 25B at retail prices. We used PicoAg 25B at 4 to 5 ounces per acre. Today, that late-season expense amounts to a couple of bushels of beans. Hiring the spraying would be about $15 more.

If we get another shower in the next few days, we may hit two or three of the strips again, just to go for more pod fill. The weigh wagon will eventually write the final chapter, along with test weight and moisture readings. We should probably take some brix readings of the beans and a few tissue tests too. Earlier, leaves in this field showed a severe potassium deficiency.

These nutrient sources tank-mixed easily when the water was made a stronger solvent with PicoAg 25B. Of course, PicoAg 25B’s surfactant power helped every spray flow smoothly onto the leaf, without droplets

PicoAg 25B When can you apply and for what reasons?

1) The Use Of The PicoAg 25B is all about one thing timing! If The timing is off you will have less production, The product can be used from 1 to 7 times. BURN DOWN, PLANTING, HERBICIDES PASS, 20 DAY PUSH, OPTIONAL 30 DAY PUSH and FROST protection. It really depends on what works best for you. 97% of the farmers only use the product for Planting and Herbicide Passes, But these are our recommendations and why! In the future we believe as the farmers get a better understanding they will adopt it for BURN DOWN as well.

2)COVER CROPS: If you want to have a better cover crop we recommend using PicoAg 25B

3) BURN DOWN: PicoAg 25B can be used for no till farmers at BURN DOWN Herbicide pass and we highly recommend you add AMS to help with Weed Kill. Weeds are becoming harder to kill and the really dont like herbicides but farmers say they are seeing 2 days weed kill. The weeds seem to love the PicoAg 25B and AMS anyways and dont stop growing while waiting for the herbicide to dissipate! The other benefits you get at BURN DOWN usage is Spray Rig Cleaning and EC Soil Remediation. This product will mobilize the tied up nutrients from chelation, and this was best explained by our "The Missing Link" for fertilizer article link above.

4) * PLANTING: PicoAg 25B can be used with a liquid at 3 oz per acre with 10 gallons of water at seed planting in seed furrow or 2x2. If you dont have a liquid planter than you will have to wait until the plant is at the 3 leaf stage and you will be broadcasting your spray and use 5 oz per acre with 10 gallons per acre.
5) * HERBICIDE PASS: PicoAg 25B can be used with your Herbicide pass and we highly recommend you add AMS to help with Weed Kill. Weeds are becoming harder to kill and the really dont like herbicides but farmers say they are seeing 2 days weed kill. The weeds seem to love the PicoAg 25B and AMS anyways and dont stop growing while waiting for the herbicide to dissipate!

6) 20 DAY PUSH: PicoAg 25B can be used last time 20 days passed Herbicide Pass to push the crops.

7) ANOTHER 30 DAY PUSH, PicoAg 25B has been used for extending the time a plant can grow. Simply put a 100 day crop can extended grow for 130 Days.

8) FROST PROTECTION, PicoAg 25B has been used for Frost protection on Corn, Soybeans, Tobacco and Tomato.

PicoAG 25B used after the normal growing period to make the crop

30 day more. This was the 3rd week after application.

Soysoap Can Add or Subtract Crop Growing Days!

It all started by accident in 2004 when we had a farmer accidentally spray Soysoap on some star fruit trees for root stock to be the base of 4000 new mangoe trees. If we would of realized how important this was we would have been. We would taken a lot of video and pictures at better angles. Well the mistake yielded us some interesting information and that we could grow trees that normally go into dormancy throughout the winter disrupting their usual winter resting period. You can see in the back ground a lot of very tall fully leaved out 8 to 9 feet trees. While there sister tree were only 2 feet and maybe a single leave. After we realized our good fortune discovery we started applying this to late planting major crops to increase the Soybeans longer that had podded but never filled them with beans. These plants without a push would of made nothing!

This is a soybean field that was sprayed very late after podding and filling started. Well this farmer had the idea why not push the crops and get some more test weight. So he loaded up and gave the field a good strip spray. Well that happened was amazing to him and sort of what we expected. The strip stayed fully leaved and very green while the rest of the field untreated late was ready to harvest. Well the farmer had to wait another 30 days before the field was ready to harvest by that time it was late December but the farmer got more yield and test weight. Now if the farmer would of needed frost protection we could of used the same product for that as well. When I say it the strip was very visiable but I got back about 2 weeks later and we happy to see this. The very green at the botom of the hill is just bushes!

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Lets get serious about farming, Do not plant seeds until you understand this! The Foundation of good crop production and life cycle cost management is high Brix Levels, Increasing CO2 Consumption and higher Microsiemens in soils and liquids.

PicoAg 25B Increases ERGs, CO2 Consumption, and Soil Energy!

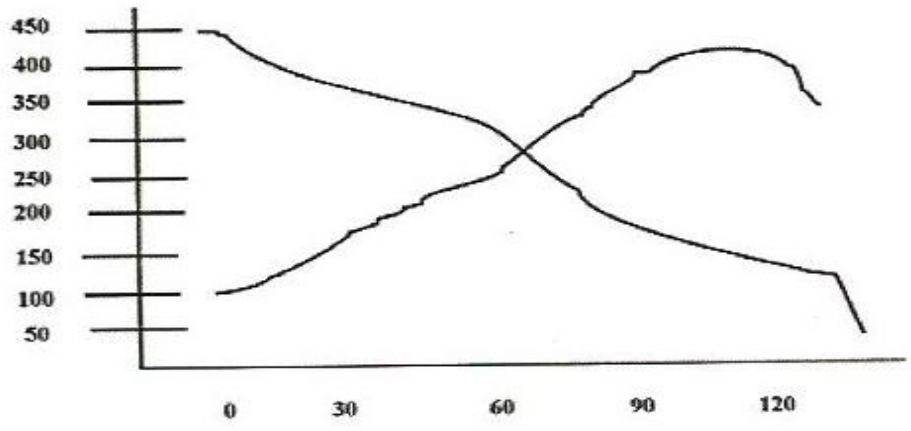
You should know how your going to increase (Microsiemens) in Soils, Chemicals, Fertilizers and Plants. Your consultant needs to be an expert in "Increasing Carbon Dioxide Consumption", Plant Pathology, Entomology, Microsiemens) and Soil Energy!

When your consultant comes to your farm I would start by asking him! "How are you going to increase my (Microsiemens), Plant Brix, Carbon Dioxide Consumption and ERGs! And than, Ask his help with immobilized nutrient availability for translocation to seed and when do you add Carbon, Yes Carbon and does he sell it.

Note: Applications of synthetic chemical products will lower brix levels and "Carbon Dioxide Consumption" and cost you crop production money.

ERGS

The measure of available plant nutrients per gram of soil per second.
Ground with manure and acid fertilizer
Lower organic matter the faster the crop burns out
Objective is to lengthen out one energy field from 45-60 to 80-120 days



Lower carbon content the more they will fexuate carbon key to stability
Crust over soil will lower reading
The lower O.M. the higher the energy levels needed to be early on
When we mix fert blend it starts at 450 ergs but by the time its at fill we run out
to keep ergs up you need organics, keep out acid type ferts.
Best time to check for low of the year is 2nd week of August.

In the soil, the current soil energy level in the field or in the lab can be measured by an electrical conductivity meter.

Electrical conductivity is a direct measure of the energy flow in the soil. Energy, measured in ERGS (energy released per gram per second) is a function of the soil's ion concentration, clay type, moisture content, porosity, salinity and temperature

The energy reading of a soil can also indirectly measure crop productivity, as it is an indication of the quantity of ions surrounding a soil colloid. Albert Einstein taught us that an objects mass is a function of energy. If you apply this concept to crop production, crops (mass) are simply an expression of energy. In order to produce mass (yield) an initial energy requirement must be met. This energy requirement comes largely from the electrical current in the soil. The energy needed to produce mass (yield) in the form of plant growth varies between 200-600 ERGS. When energy levels fall below or above these values, the plant can no longer produce mass or grow.

Fluctuations in electrical conductivity can occur. In the soil, the conductor of electrical current is water. As soil moisture changes due to dry periods or rainfall, the electrical conductivity will also change.

If your goal is to produce high-quality, nutrient-dense plants, your energy source must come from "good" sources, such as organic matter, biological amendments, cover-cropping, low salt fertilisers and looking after your soil. All of which indirectly restores your soils fertility and sustains it for future generations. The added carbon in PicoAg 25B 90% is a good way to add energy, and organic nitrogen for your plants without losing it leaching or burning up your soil carbon.

My Farmers Experience: Its explains what I am seeing in tomato plants when I spray them 2-3 times a week at 1:1000. Also notice some of the leaves on the treated cabbage and potato plants are turning completely over - dam interesting why they are doing this [they are healthy]

I got a 1 ltr of water distilled and ERGs tested it and it was 80 which is low and expected. Then I added 2 mls PicoAg 25B [500:1] and then retested it and it was 1800 which is high meaning there is a lot more energy in nutrient flow into the plants, its very good because then [theoretically] u don't have to put much mineral in it to get a good foliar feed. ERGs- is energy release per gram / ml. ERGs is a measure of how many electrons are floating around!