

REGENERATING AGRICULTURE

A Keystone Bio-Ag Newsletter

Volume: 3 / June 2020



SEASONAL CALENDAR

CONFERENCE CALL RECORDINGS

Dial 712-432-8774.

Access code: 53978663#.
Sharing ID 202006 (June)
Plant Nutrient Management

Sharing ID 202005 (May)
Producing high fat crops

Sharing ID 202004 (April)
Healthy crops, why and how

JULY

- 7th Vegetable Field Day.
- 8th Dairy Field Day.
- 21st Conference Call @ 8:00am ET. Topic announced on Hotline. Dial 712-432-8773. Access code 53978663#.

AUGUST

- 18th Conference Call @ 8:00am ET. Topic announced on Hotline. Dial 712-432-8773. Access code 53978663#.

CONSULTANT OFFICE HOURS:

Mon: 7:30 am to 5:00 pm
Tues: 10:00 am to 5:00 pm
Wed: 7:30 am to 5:00 pm
Thurs: 7:30 am to 5:00 pm
Fri: 7:30 am to 5:00 pm

TIPS TO DOUBLE YOUR PASTURE PRODUCTION WITH MANAGEMENT

Welcome. I have been grazing and grass finishing beef for almost 20 years and sheep about 10 years. I've had a lot of different experiences over the years with varying grass growth. Some years we had plenty, and others not near as much. But usually in the wet years there was plenty.

So how can we manage grazing to conserve moisture? Because adequate moisture 24/7 is the #1 driving factor for rapid regrowth.

What I learned from Allen Savory's work is that grazing management must be different in low rainfall areas: 10-15 inches per year, versus 40 inches plus. The difference has to do with days to plant maturity and in low rainfall areas, plants that haven't been grazed for 100 days and are brown still have a lot higher feed value than plants not grazed for 100 days in high rainfall areas, like most of PA.

So here are the three key management tools you can use to double pasture production in 18 months if you so choose, if you live in a high rainfall area.

1. First understand plant maturity and rest periods.
2. Next learn how to graze half and trample half.
3. Stop over grazing while being understocked.

Over grazing and under stocking the same paddock at the same time happens to 95% or more of grazers – it is why pastures fade out every four years. Today we are planning to manage differently so this no longer happens for us.

Matching paddock size with amount of animals according to grass size in 24 hours or less per paddock, never leave animals on a paddock for longer than 24 hours is all it takes really.

So pasture maturity: when the heads start to show or alfalfa starts to bloom is the right timing to aim for. So you will need to plan for 32-38 days REST PERIOD per paddock between grazing. It is okay to do the first round of grazing at half maturity 10 inches, if you manage so they graze only the top half of plants, because that will stagger the paddock's maturity. Now second time around plants are mature. Experiment with paddock size on the first couple days, make them smaller than you think is right and watch closely. When the time you planned to leave them on is up 12 hrs or 24, they need to have eaten half and the other half MUST be flat on the

GROWING TIPS



ROW CROPS

We highly recommend sap tests to monitor nutrient levels. Foliar spraying according to sap tests will help control root worms and corn borer.



DAIRY

Still shooting for the 10 ton hay per acre goal? Take sap tests and foliar spray accordingly. Apply a dry blend according to soil test. Leafhoppers? Get nitrates levels down in plant sap.



PRODUCE

Monitor calcium and potassium levels during fruit fill. Have your fall crop plan ready? Order your dry blend for your fall crops and strawberries.



ORCHARD

Biannual bearing can be prevented now for next year by monitoring nutrient and energy levels.
Use Accelerate now to increase fruit set next year.



GREENHOUSE

Start your plants with Keystone Greenhouse Media for a robust start. Monitor for aphids and other insects and manage them before transplanting.



GARDENERS

A good goal for the garden is to grow food so healthy that it serves as "Food as medicine." Humans do much better at absorbing proteins and immune compounds from plants than producing all those themselves.

ground. Everything. Use a lot of portable fencing or you will get stuck with paddock size, then it won't work. Also, if we get a drought mid summer it is okay to make the paddocks smaller and graze more of the grass IF there is enough litter on the ground and there is no exposed soil – just never come back in before 32-38 days rest period.

Starting out, try this on part of your pasture land and you will be amazed. This will stop moisture evaporation and run off because the soil is covered with litter. And plant growth will explode.

If you plan to do this with dairy cows keep their ration balanced in the barn according to what they are not getting on pasture. Plan with your nutritionist.

Remember, this is not about a total mixed ration; it is about increasing pasture production. Over time maybe so – once you get really good at it and depending on your animals.

For more info or demonstrations, see us at our field day in July.

Samuel L. Zook

KBA FIELD DAYS

July 7: Vegetable Field Day (9am - 3pm)

July 8: Dairy Field Day (9:30am - 2:30pm)

Location: 430 Voganville Rd, New Holland, PA (Both Days)

Join fellow farmers, John Kempf, and the Keystone Bio-Ag team for a forenoon crop tour and afternoon crop seminar. Lunch will be served. Bring a friend. Bring a question; take home an answer.

Vegetable / Fruit Field Day Agenda: Beginning at 9:00

- Crop tour at Samuel Zook (onions, tomatoes, and squash).
- Patterns of the most successful growers.
- How to design effective foliar sprays by adjusting water pH, EC, structure, point of deliquescence, and synergistic product stacks.
- How constant soil moisture can suppress disease.
- How high soil temperatures can increase disease.
- How to address trace mineral deficiencies.
- Which nutrients are important at each CPI.

Dairy / Cash Crop Field Day Agenda: Beginning at 9:30

- Crop tour at Samuel Zook (corn, hay, and pasture).
- Grazing Management Demonstration.
- Fan cured hay using Hay Drying Setup.
- Growing high quality, high fat forage and corn.
- Solutions for managing liquid manure pits.

MONITORING CROPS: VISUAL VERSUS TESTING

One of the important ingredients of running a successful farming operation is observation. Most successful farmers will walk their fields on a regular basis, vegetable farmers often daily. While providing a time for reflection, it also gives ample opportunity for observation and then being proactive, rather than reactive, to problems as they start to show up.

True observation is the act of **seeing what you look at**. One example of this is accurately identifying nutrient deficiencies that have already occurred within the plant. If the new growth in a plant is yellow, it is not uncommon to contend that the plant is nitrogen deficient. But that is not necessarily the case.

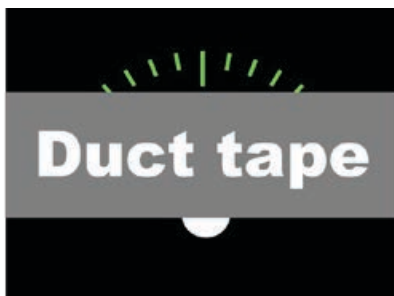
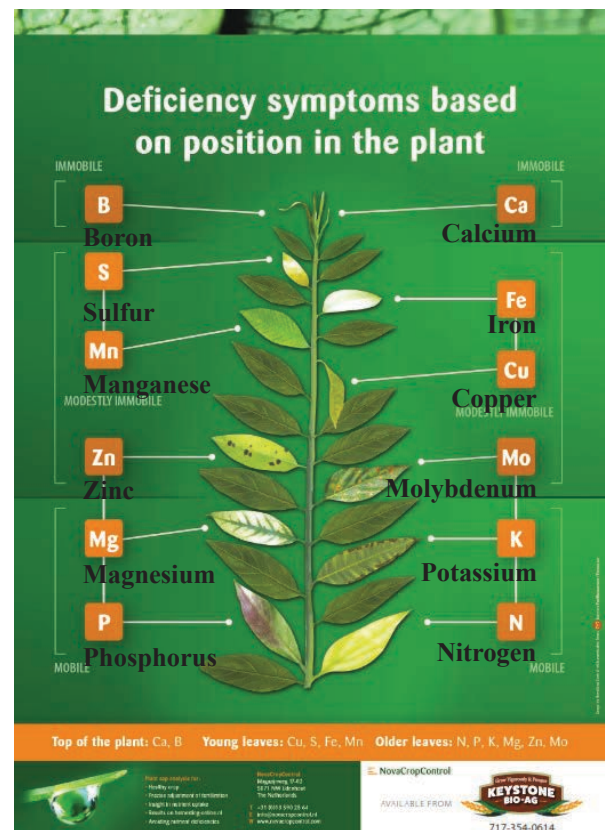
The first question we need to ask when we have a nutrient deficiency showing up is “Is the deficiency showing up in the old leaves (bottom of the plant) or the new leaves (top of the plant)?” If the answer is that the deficiency is showing up just in the new leaves, then the answer is much more likely to be an application of chelated iron, not nitrogen. Study the illustration at the right.

To get you started, the following four deficiencies usually show up in the old leaves first: nitrogen, magnesium, phosphorus, and potassium. Nitrogen as overall pale green / yellow leaves, potassium as brown leaf margins, phosphorus as purple leaves, and magnesium similar to nitrogen deficiency but the veins are still green, as shown.

Understanding how nutrients move around inside plants can also give some valuable insights into addressing nutrient deficiencies before the plant actually shows the visual deficiency. This is what sap analysis, when used correctly, is so good at doing. When a sap test comes back with the potassium in the new leaves at optimal levels, but the potassium in the old leaves is lower than the new leaves, this gives you the clue that these plants have a decent supply of potassium now, but if nothing is changed, the plant will become potassium deficient in a few weeks. By comparison, in a tissue test the deficiency won't show up until it is deficient in the tissue, which is about the same time as it starts to show up visually. Sap tests give you a few weeks advantage.

With that in mind, and because of the high degree of accuracy, we are big advocates of using plant sap analysis. If you want to be successful in growing plants that are healthy and resistant to diseases and insects, you need to test –

not guess. You have to earn the right to do without biocontrols, fungicides, and pesticides. For example, if you want to have plants resistant to aphids, the trick is to have all the nitrate converted to protein. To achieve that, you need good photosynthesis, then adequate levels of these four minerals: magnesium, sulfur, molybdenum, and boron. Although PhotoMag does include these four minerals, it does not necessarily mean that using PhotoMag will give you complete control over aphids. If only one of those minerals is still low, it may not work 100%. So you test, not guess. Not testing is like putting duct tape over the fuel gauge – you don't know what's going on.



While using sap tests regularly works best (lets you watch trends), there are situations where that amount of sap tests doesn't make sense. In those cases, the minimum that should be considered would be one sap test per year. This allows you to gauge if your program is working. Some people also use brix meters, which is better than doing nothing, but the challenge is that when the brix levels are low, it gives you absolutely no information what to do to change it. That's why we strongly recommend sap analysis if you are serious about growing healthy plants. Until next time,

- Melvin Fisher

ARTICLES INSIDE:

Tips to Double your Pasture Production with Management Page 1 & 2

Monitoring Crops: Visual versus Testing Page 3

Our mission is to educate, encourage, and empower farmers to produce healthy crops by supporting them with the products and information needed to make regenerative agriculture successful.



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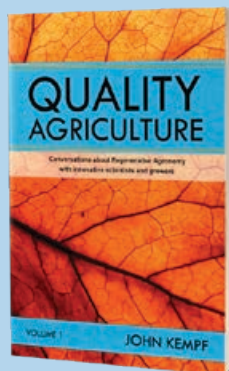
Get your weekly inspiration on influencing plant health and seasonal crop challenges by dialing 712-432-8774 weekly.
Code 43017557#.

Press 0# for most recent recording.
New recording every Monday Morning at 7:00.

Sharing IDs and Topics of Recent Recordings:

- 20200608 Why Diseases Proliferate after Fruit Set
- 20200601 Impacting Cell Expansion / Fruit fill / Fruit sizing.
- 20200525 Impacting Cell Division and Fruit Quality / Storability.
- 20200518 Impacting Blossoming & Pollination. Fireblight Control.
- 20200511 Aphid control. Calculating Rates per 1000 square feet. Impacting bud initiation on reproductive crops.
- 20200504 How water hardness effects fertilizer effectiveness.
- Listen to more - use Sharing IDs: "year, month, day" of when the hotline was recorded.
Example for May 4: 20200504

Join us for the 2020
Field Days
See page 2
for details.



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