

PUBLIC AFFAIRS REPORT
for
KFPX-TV
Newton, Iowa
for
FIRST QUARTER,
Ending: March 31, 2016

In accordance with Section 73.3526(e)(11)(i) of the Federal Communications Commission's rules, the following, in the opinion of KFPX-TV, are the problems and needs of the community for the period noted above. They are not necessarily listed in order of importance. Each is identified by significant public affairs and/or public service programming in response to these needs.

Issues:

1. Agriculture
2. Economics
3. Interest rates and rebate programs
4. Herbicides
5. Fertility/Nutrients
6. Disease
7. Organic Matter
8. Weed Control
9. Ethanol
10. Spray Nozzles

A detailed summary of each program's content, including guests, affiliations and date of broadcast is included in this report.

Ag PhD is a local Midwest agricultural farming show, featuring Darren Hefty and Brian Hefty, "the Hefty Brothers". They give weekly farming tips, discuss soil issues, and identify a Weed of the Week and what product to use to control it.

Ag PhD Rebroadcast airs Tuesdays 5:00 & 5:30am

Ag PhD airs a new show every Thursday from 5:30 – 6:00am

Ag PhD Rebroadcast airs the following Thursday from 5:00 - 5:30am

KFPX-TV, NEWTON, IOWA
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Program: AgPhD (Rebroadcast) Episode # 923
Air Date: Tuesday, January 5, 2016 5:00am
Topic/Title: The Three Pre Strategy
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

The Three Pre Strategy for great weed control in soybeans is first the DNAs of Teflan, Sonalan, and Prowl. Second is The PPO's of Authority and Sharpen. Third is Metribuzin which are Glory and Tricor. If planting conventional, the three pre-emerge strategy is a must. Nematodes can't be seen and are only detectable when the loss of bushels occur. The use of a nematocide is necessary. Use Counter for corn. For soybeans, use nematode resistant beans. There is also Votiro that repels nematodes and Clareeva which eats nematodes. When raising conventional corn verses Roundup Ready, it is imperative for full rate pre-emerge grass herbicides to be used. Post-emerge controls broadleaf. Accent is a good rescue up to two inches of grass.

Weed of the Week is Carpetweed. Tall weeds usually choke it out. It is seen in bare areas. Edition BroadSpec is the favorite for killing it.

Program: AgPhD (Rebroadcast) Episode # 924
Air Date: Tuesday, January 5, 2016 5:30am
Topic/Title: Working with your Banker
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

We are seeing more and more resistant weeds, be it resistant to RoundUp or other chemistries. Looking for different solutions for problems that have been there for years. It's been quite a year for insects and diseases that we've had to deal with. We have lower commodity prices now, so our big focus this year is how to keep our prices down and our yield up. Metrobuzine is an inexpensive product and can help with the weed control. This is just one of many products that can be used for very little money and can be effective. You don't have to use the full rate with many products, depending on your situation. It's important to keep in touch with your banker. You need to have access to your capital and cash, as well as to be able to borrow, for the high costs of farming. Farms are a huge business. Shop for your banker like you do for everything else. There are substantial rebate programs going on now. Learn about the different options available out there for you to use. And be sure that you are actually going to use the product.

Weed of the Week: Cocklebur. It is a large seeded broadleaf, and it can come up from six inches below the ground. Some pre-emerge products to use on corn are Verdict, Sure-Start, Triple Flex, Balance Flexx. For post-emerge products use Status, Armezon, Impact and Callisto are all good as well. Use with Atrozone to step up the control.

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Program: AgPhD (Rebroadcast) Episode # 924
Air Date: Thursday, January 7, 2016 5:00am
Topic/Title: Working with your Banker
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD Episode # 925
Air Date: Thursday, January 7, 2016 5:30am
Topic/Title: Sudden Death Syndrome
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

There is no sudden death syndrome resistant variety of soybeans to plant. Seed treatments of Mertic or Ileva need to be done as well as a fungicide like Fortex used. Rotating crops and good drainage are also recommended. Planting late sacrifices yield. Plant fields that have no sudden death syndrome problems and stagger planting based on past issues, saving worst field for last. Prepaying can delay tax bill, but the spending of money stimulates economy. For farmers, operating on a cash accounting system works. For example, deciding to harvest grain and sell it is income and can increase tax, so use the income to prepay seed or other product reducing tax. Also, deciding to hold grain to sell next calendar year for guaranteed income is beneficial if that year turns out to be a bad year is a way to delay tax. Silage is always the worst corn kept and fed to livestock. It is important though to grow good silage to grow good livestock. RyzUp Smart Grass helps with growth. Nutrients in corn go into livestock. Feed your field and it feeds your crop which feeds your livestock.

Weed of the Week is Marshelder. It is a member of the sunflower family and grows in damp areas. It is a cross between ragweed and sunflower. It is toxic to cows and can cause abortions. Surestart, Tatus, Impact, Callisto is good for killing it in corn. Roundup and Authority are good for soybeans fields. Sharpen and Huskie are good for wheat.

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Program: AgPhD (Rebroadcast) Episode # 924
Air Date: Tuesday, January 12, 2016 5:00am
Topic/Title: Working with your Banker
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD (Rebroadcast) Episode # 925
Air Date: Tuesday, January 12, 2016 5:30am
Topic/Title: Sudden Death Syndrome
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD (Rebroadcast) Episode # 925
Air Date: Thursday, January 14, 2016 5:00am
Topic/Title: Sudden Death Syndrome
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD Episode # 926
Air Date: Thursday, January 14, 2016 5:30am
Topic/Title: Spray Adjuvants
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Spray adjuvants for herbicides, insecticides, and fungicides are chemicals that aren't added to and sold as extras because they don't mix well and separate. Plus, it is cheaper to ship the main chemicals and add the cheaper ones locally. There are three adjuvant categories. One is surfactant which helps with spread and stick. Second is penetration with either oil or water base. Third is sequestering which ties up hard water to move herbicide quicker into plant. Good soil produces higher yields. It is important to build good organic matter over the long term. Organic matter increases soil moisture by 16%-18% and boosts yields. There are five ways to get good organic matter. One is through tillage. The roots are important, not the ground matter. Second, plant crops with lots of roots. Third, spread manure and compost. Fourth, is to plant cover crops. Fifth is to add biologicals. Dows Enlist Trait is new 2-4-D weed control. It eliminates vapor problem and reduces drift problem. Dow is offering it out to all genetic partners. In 2016, Enlist Soybeans have roundup resistance, Liberty resistance and 2-4-D resistance.

Weed of the Week is Field Pennygrass. It comes up in the Fall and smells bad. It is recommended to do a Spring burndown to eliminate it. Roundup with Sharpen will do the job.

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Program: AgPhD (Rebroadcast) Episode # 925
Air Date: Tuesday, January 19, 2016 5:00am
Topic/Title: Sudden Death Syndrome
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD (Rebroadcast) Episode # 926
Air Date: Tuesday, January 19, 2016 5:30am
Topic/Title: Spray Adjuvants
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD (Rebroadcast) Episode # 926
Air Date: Thursday, January 21, 2016 5:00am
Topic/Title: Spray Adjuvants
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Spray adjuvants for herbicides, insecticides, and fungicides are chemicals that aren't added to and sold as extras because they don't mix well and separate. Plus, it is cheaper to ship the main chemicals and add the cheaper ones locally. There are three adjuvant categories. One is surfactant which helps with spread and stick. Second is penetration with either oil or water base. Third is sequestering which ties up hard water to move herbicide quicker into plant. Good soil produces higher yields. It important to build good organic matter over the long term. Organic matter increases soil moisture by 16%-18% and boosts yields. There are five ways to get good organic matter. One is through tillage. The roots are important, not the ground matter. Second, plant crops with lots of roots. Third, spread manure and compost. Fourth, is to plant cover crops. Fifth is to add biologicals. Dows Enlist Trait is new 2-4-D weed control. It eliminates vapor problem and reduces drift problem. Dow is offering it out to all genetic partners. In 2016, Enlist Soybeans have roundup resistance, Liberty resistance and 2-4-D resistance.

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Program: AgPhD Episode # 927
Air Date: Thursday, January 21, 2016 5:30am
Topic/Title: Ethanol
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Ethanol production is controversial, yet the majority of oil comes from overseas. Food verses fuel is a myth. Corn grown for ethanol is a simple process of pulling the starch out of corn. Throws bails of stock in with the distiller's grain and it replenishes the starch. Ethanol is renewable. More corn is not grown. It is what is already being grown. Ethanol plants pop up in rural communities near the corn fields creating 20-40 jobs. It is great for the environment. It is a natural product. There's cancer causing additives in gasoline—benzene and xylene. It is important to use triple and even five-way spray nozzles. Three purposes for the nozzles are weed control, prevent drift and volatility. Tips for spraying are to spray weediest fields on calm days with flat fan nozzles and to spray cleaner fields on the windier days with drift reduction nozzles. Some herbicides coming out will say what spray nozzle to use. Status is the best post-emerge corn herbicide to use and it has gone down in price.

Weed of the Week is Jointed Goatgrass. It is extremely difficult to deal with. It is best killed with Osprey, Clearfield or Beyond.

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Program: AgPhD (Rebroadcast) Episode # 926
Air Date: Tuesday, January 26, 2016 5:00am
Topic/Title: Spray Adjuvants
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Air Date: Tuesday, January 26, 2016 5:30am
Topic/Title: Ethanol
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Ethanol production is controversial, yet the majority of oil comes from overseas. Food verses fuel is a myth. Corn grown for ethanol is a simple process of pulling the starch out of corn. Throws bails of stock in with the distiller's grain and it replenishes the starch. Ethanol is renewable. More corn is not grown. It is what is already being grown. Ethanol plants pop up in rural communities near the corn fields creating 20-40 jobs. It is great for the environment. It is a natural product. There's cancer causing additives in gasoline—benzene and xylene. It is important to use triple and even five-way spray nozzles. Three purposes for the nozzles are weed control, prevent drift and volatility. Tips for spraying are to spray weediest fields on calm days with flat fan nozzles and to spray cleaner fields on the windier days with drift reduction nozzles. Some herbicides coming out will say what spray nozzle to use. Status is the best post-emerge corn herbicide to use and it has gone down in price.

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Program: AgPhD (Rebroadcast) Episode # 927
Air Date: Thursday, January 28, 2016 5:00am
Topic/Title: Ethanol
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Weed of the Week is Jointed Goatgrass. It is extremely difficult to deal with. It is best killed with Osprey, Clearfield or Beyond.

Program: AgPhD Episode # 928
Air Date: Thursday, January 28, 2016 5:30am
Topic/Title: Molybdenum
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Molybdenum is a fertility micronutrient that is often overlooked. Legume crops like soybeans need molybdenum. It doesn't take much and soil testing can be expensive so conducting trials on crops is best. It is important to keep up a pH of 6.5. Rainfall can reduce molybdenum. Weed control in wheat is 2-4-D and it doesn't cost much initially, but weeds get tolerant and 2-4-D rate has to be bumped up. Watch for bushels lost. Stinger, Widematch, and Huskie can be used as contact killers. Spray with flat fan nozzles in best weather conditions at active growing time. Resistant Super Weeds is a myth. There is no weed that cannot be stopped. All weeds can be controlled. Best crops will choke out weeds. Herbicides that kill broadleaves are good in grass crops.

Weed of the Week is Eastern Black Nightshade. Use Pursuit as a pre-emerge. In wheat use Huskie and in corn use Corvus.

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Program: AgPhD (Rebroadcast) Episode # 927
Air Date: Tuesday, February 2, 2016 5:00am
Topic/Title: Ethanol
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Weed of the Week is Jointed Goatgrass. It is extremely difficult to deal with. It is best killed with Osprey, Clearfield or Beyond.

Program: AgPhD (Rebroadcast) Episode # 928
Air Date: Tuesday, February 2, 2016 5:30am
Topic/Title: Molybdenum
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD (Rebroadcast) Episode # 928
Air Date: Thursday, February 4, 2016 5:00am
Topic/Title: Molybdenum
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD Episode # 929
Air Date: Thursday, February 4, 2016 5:30am
Topic/Title: Soil Clinics
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

AgPhD soil clinics teach what on and where farmers need to spend money and how to cut costs. Soil tests are vital for fertility. Instruction is given as to what information is needed on the soil test and how it correlates to gain higher yields. How to cut costs is decided based on where fertility dollars are best spent. Roundup Resistant options in soybeans are the use of pre-emerge herbicides, sometimes three times, plus one post-emerge. Post-emerge alone will not work. Roundup Resistance or Liberty soybeans have to be planted. Post-emerge herbicides for Palmer Pigweed are Flexstar or Cobra; First Rate or Cobra for Giant Ragweed, Flexstar for Marehail, Cobra for Kochia, Harass for Lambquarters, and Pursuit for Wild Buckwheat. Goss's Wilt is the biggest challenge in corn. It is a bacterial disease rather than fungal. Fungicides don't work and timing is hard to gauge. Tillage is an option but rotating crops is best. Plus, pick a hybrid with Goss's Wilt tolerance.

Weed of the Week is Henbit. It has to be actively growing. Sharpen and Huskie are good for wheat. Soybeans tillage and Authority MTZ works without causing injury. For corn, Tripleflex and Surestart will kill Henbit.

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PUBLIC AFFAIRS REPORT
FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 928
Air Date: Tuesday, February 9, 2016 5:00am
Topic/Title: Molybdenum
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Molybdenum is a fertility micronutrient that is often overlooked. Legume crops like soybeans need molybdenum. It doesn't take much and soil testing can be expensive so conducting trials on crops is best. It is important to keep up a pH of 6.5. Rainfall can reduce molybdenum. Weed control in wheat is 2-4-D and it doesn't cost much initially, but weeds get tolerant and 2-4-D rate has to be bumped up. Watch for bushels lost. Stinger, Widematch, and Huskie can be used as contact killers. Spray with flat fan nozzles in best weather conditions at active growing time. Resistant Super Weeds is a myth. There is no weed that cannot be stopped. All weeds can be controlled. Best crops will choke out weeds. Herbicides that kill broadleaves are good in grass crops.

Weed of the Week is Eastern Black Nightshade. Use Pursuit as a pre-emerge. In wheat use Huskie and in corn use Corvus.

Program: AgPhD (Rebroadcast) Episode # 929
Air Date: Tuesday, February 9, 2016 5:30am
Topic/Title: Soil Clinics
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

AgPhD soil clinics teach what on and where farmers need to spend money and how to cut costs. Soil tests are vital for fertility. Instruction is given as to what information is needed on the soil test and how it correlates to gain higher yields. How to cut costs is decided based on where fertility dollars are best spent. Roundup Resistant options in soybeans are the use of pre-emerge herbicides, sometimes three times, plus one post-emerge. Post-emerge alone will not work. Roundup Resistance or Liberty soybeans have to be planted. Post-emerge herbicides for Palmer Pigweed are Flexstar or Cobra; First Rate or Cobra for Giant Ragweed, Flexstar for Marehail, Cobra for Kochia, Harass for Lambquarters, and Pursuit for Wild Buckwheat. Goss's Wilt is the biggest challenge in corn. It is a bacterial disease rather than fungal. Fungicides don't work and timing is hard to gauge. Tillage is an option but rotating crops is best. Plus, pick a hybrid with Goss's Wilt tolerance.

Weed of the Week is Henbit. It has to be actively growing. Sharpen and Huskie are good for wheat. Soybeans tillage and Authority MTZ works without causing injury. For corn, Tripleflex and Surestart will kill Henbit.

KFPX-TV, NEWTON, IOWA
PUBLIC AFFAIRS REPORT
FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 929
Air Date: Thursday, February 11, 2016 5:00am
Topic/Title: Soil Clinics
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Weed of the Week is Henbit. It has to be actively growing. Sharpen and Huskie are good for wheat. Soybeans tillage and Authority MTZ works without causing injury. For corn, Tripleflex and Surestart will kill Henbit.

Program: AgPhD Episode # 930
Air Date: Thursday, February 11, 2016 5:30am
Topic/Title: Freeze Thaw Effect
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Freeze Thaw Effect has a two-fold impact. Driving over soil causes compaction and thaw will break it up. Freezing is beneficial because the deeper the freeze the more insects are eliminated and diseases are killed. Everyone farms differently, however there is a trending of higher populations in corn by utilizing variable rate planting and cross varieties. Disaster can occur if fertility is not there to support the higher populations. Soybeans can handle higher populations. Cutting back populations can allow more weeds which can reduce yield. Multiple Mode of Action is switching herbicide groups. Using the same herbicide over and over can cause resistance buildup.

Weed of Week is Maretail. It has to be sprayed for in the Fall when temperatures are 70+ degrees for two days—the day of spraying and the day after. For corn, Dicamba has to be applied at a massive rate. It is expensive to do—\$15 per acre, but effective. For soybeans, 2-4-D is good but can burn. Gromozone as pre-emerge and then Flexstar for post-emerge may be a better way to go. Tillage also works. Maretail is not really an issue for wheat.

KFPX-TV, NEWTON, IOWA
PUBLIC AFFAIRS REPORT
FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 929
Air Date: Tuesday, February 16, 2016 5:00am
Topic/Title: Soil Clinics
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Weed of the Week is Henbit. It has to be actively growing. Sharpen and Huskie are good for wheat. Soybeans tillage and Authority MTZ works without causing injury. For corn, Tripleflex and Surestart will kill Henbit.

Program: AgPhD (Rebroadcast) Episode # 930
Air Date: Tuesday, February 16, 2016 5:30am
Topic/Title: Freeze Thaw Effect
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Freeze Thaw Effect has a two-fold impact. Driving over soil causes compaction and thaw will break it up. Freezing is beneficial because the deeper the freeze the more insects are eliminated and diseases are killed. Everyone farms differently, however there is a trending of higher populations in corn by utilizing variable rate planting and cross varieties. Disaster can occur if fertility is not there to support the higher populations. Soybeans can handle higher populations. Cutting back populations can allow more weeds which can reduce yield. Multiple Mode of Action is switching herbicide groups. Using the same herbicide over and over can cause resistance buildup.

Weed of Week is Marestalk. It has to be sprayed for in the Fall when temperatures are 70+ degrees for two days—the day of spraying and the day after. For corn, Dicamba has to be applied at a massive rate. It is expensive to do—\$15 per acre, but effective. For soybeans, 2-4-D is good but can burn. Gromozone as pre-emerge and then Flexstar for post-emerge may be a better way to go. Tillage also works. Marestalk is not really an issue for wheat.

KFPX-TV, NEWTON, IOWA
PUBLIC AFFAIRS REPORT
FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 930
Air Date: Thursday, February 18, 2016 5:00am
Topic/Title: Freeze Thaw Effect
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD Episode # 931
Air Date: Thursday, February 18, 2016 5:30am
Topic/Title: Genetically Manufactured Organisms
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Corn planting depth for optimum yield is one and a half to two inches deep to protect nodal roots that grow above the seed. To plant deeper may give up yield. Transitioning CRP (or coming out of pasture) is to take out of the ground and make a great crop. This is done by using insecticide and full tillage the first year. Also, soil testing is needed because nitrogen is probably low. Genetically Manufactured Organisms (GMO) are in everything. Non-GMO is not necessarily organic. In corn for example, historically it was a natural protein in European corn that was resistant to bore worm. It is a protein that humans and livestock can easily digest. So now, instead of it being sprayed on corn to prevent bore worm—it is in corn which makes it a GMO. It is important to remember that spraying insecticides not only kill the bad bugs, but the good bugs too. Plus, non-GMO is not necessarily organic. Finally, there are agencies like the FDA, USDA and EPA that offer oversight to protect us.

Weed of the Week is Barnyardgrass. It is getting resistant to Roundup, but there are plenty of pre-emerge and post-emerge herbicides will kill it.

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FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 930
Air Date: Tuesday, February 23, 2016 5:00am
Topic/Title: Freeze Thaw Effect
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Freeze Thaw Effect has a two-fold impact. Driving over soil causes compaction and thaw will break it up. Freezing is beneficial because the deeper the freeze the more insects are eliminated and diseases are killed. Everyone farms differently, however there is a trending of higher populations in corn by utilizing variable rate planting and cross varieties. Disaster can occur if fertility is not there to support the higher populations. Soybeans can handle higher populations. Cutting back populations can allow more weeds which can reduce yield. Multiple Mode of Action is switching herbicide groups. Using the same herbicide over and over can cause resistance buildup.

Weed of Week is Marestalk. It has to be sprayed for in the Fall when temperatures are 70+ degrees for two days—the day of spraying and the day after. For corn, Dicamba has to be applied at a massive rate. It is expensive to do—\$15 per acre, but effective. For soybeans, 2-4-D is good but can burn. Gromoxone as pre-emerge and then Flexstar for post-emerge may be a better way to go. Tillage also works. Marestalk is not really an issue for wheat.

Program: AgPhD (Rebroadcast) Episode # 931
Air Date: Tuesday, February 23, 2016 5:30am
Topic/Title: Genetically Manufactured Organisms
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Corn planting depth for optimum yield is one and a half to two inches deep to protect nodal roots that grow above the seed. To plant deeper may give up yield. Transitioning CRP (or coming out of pasture) is to take out of the ground and make a great crop. This is done by using insecticide and full tillage the first year. Also, soil testing is needed because nitrogen is probably low. Genetically Manufactured Organisms (GMO) are in everything. Non-GMO is not necessarily organic. In corn for example, historically it was a natural protein in European corn that was resistant to bore worm. It is a protein that humans and livestock can easily digest. So now, instead of it being sprayed on corn to prevent bore worm—it is in corn which makes it a GMO. It is important to remember that spraying insecticides not only kill the bad bugs, but the good bugs too. Plus, non-GMO is not necessarily organic. Finally, there are agencies like the FDA, USDA and EPA that offer oversight to protect us.

Weed of the Week is Barnyardgrass. It is getting resistant to Roundup, but there are plenty of pre-emerge and post-emerge herbicides will kill it.

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FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 931
Air Date: Thursday, February 25, 2016 5:00am
Topic/Title: Genetically Manufactured Organisms
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD Episode # 932
Air Date: Thursday, February 25, 2016 5:30am
Topic/Title: Soil Testing
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Boron is good for yields. It leaches into soil and has to be applied every year, but only a tenth of a pound is needed. Soil testing for micronutrients is crucial for corn pollination and for soybeans fertility there must be calcium for boron. Farmers use seed treatments which consists of usually three items in coating—a fungicide, insecticide and family of neonicotinoid. Treatments can be liquid or dry coating on seed. Coating protects seed and seedling. There can also be polymers and colors. Plus, many natural products have live bacteria, inoculates that produce own nitrogen. For example, Clariva stops nematodes. Wheat traps a lot of moisture early in growth which means more diseases and insects. Treating early produces higher yields. There is not enough disease tolerance in seeds, so it is recommended to use seed treatments. Spray with fungicide. If there's bugs, throw in some insecticide.

Weed of the Week is Dog Fennel. For wheat, use Sharpen and Huskie as a pre-emerge. For corn, use Surestart as a pre-emerge and Status as a post-emerge. For soybeans, use Authority as a pre-emerge and RoundUp as a post-emerge.

KFPX-TV, NEWTON, IOWA
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FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 931
Air Date: Tuesday, March 1, 2016 5:00am
Topic/Title: Genetically Manufactured Organisms
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD (Rebroadcast) Episode # 932
Air Date: Tuesday, March 1, 2016 5:30am
Topic/Title: Soil Testing
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Boron is good for yields. It leaches into soil and has to be applied every year, but only a tenth of a pound is needed. Soil testing for micronutrients is crucial for corn pollination and for soybeans fertility there must be calcium for boron. Farmers use seed treatments which consists of usually three items in coating-a fungicide, insecticide and family of neonicotinoid. Treatments can be liquid or dry coating on seed. Coating protects seed and seedling. There can also be polymers and colors. Plus, many natural products have live bacteria, inoculates that produce own nitrogen. For example, Clariva stops nematodes. Wheat traps a lot of moisture early in growth which means more diseases and insects. Treating early produces higher yields. There is not enough disease tolerance in seeds, so it is recommended to use seed treatments. Spray with fungicide. If there's bugs, throw in some insecticide.

Weed of the Week is Dog Fennel. For wheat, use Sharpen and Huskie as a pre-emerge. For corn, use Surestart as a pre-emerge and Status as a post-emerge. For soybeans, use Authority as a pre-emerge and RoundUp as a post-emerge.

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PUBLIC AFFAIRS REPORT
FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 932
Air Date: Thursday, March 3, 2016 5:00am
Topic/Title: Soil Testing
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Boron is good for yields. It leaches into soil and has to be applied every year, but only a tenth of a pound is needed. Soil testing for micronutrients is crucial for corn pollination and for soybeans fertility there must be calcium for boron. Farmers use seed treatments which consists of usually three items in coating-a fungicide, insecticide and family of neonicotinoid. Treatments can be liquid or dry coating on seed. Coating protects seed and seedling. There can also be polymers and colors. Plus, many natural products have live bacteria, inoculates that produce own nitrogen. For example, Clariva stops nematodes. Wheat traps a lot of moisture early in growth which means more diseases and insects. Treating early produces higher yields. There is not enough disease tolerance in seeds, so it is recommended to use seed treatments. Spray with fungicide. If there's bugs, throw in some insecticide.

Weed of the Week is Dog Fennel. For wheat, use Sharpen and Huskie as a pre-emerge. For corn, use Surestart as a pre-emerge and Status as a post-emerge. For soybeans, use Authority as a pre-emerge and RoundUp as a post-emerge.

Program: AgPhD Episode # 933
Air Date: Thursday, March 3, 2016 5:30am
Topic/Title: Soil Management
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

An issue for soil is high magnesium. Reducing it can make better crops and produce higher yields. Base saturation levels should be 12%-18% in magnesium. In heavy soil, add more calcium to loosen soil and lessen magnesium. In sandy soil, higher magnesium tightens soil to hold moisture. Tiling for proper drainage is important. It can take 10-15 years to establish good magnesium and calcium levels in the soil. Good soil test weight depends on nutrients and keeping soil healthier produces higher yields and higher test weights. Cold verses warm germination test is done to determine what temperatures are best to plant seeds. Multiple tests are best. For example, first year soybean is 90% warm germination which is ideal conditions. It is 80% cold germination in less than ideal conditions. There is a sharp distinction if soybeans are held in elevator until second year. During second year the soybean is 80% warm germination and only 20-30% cold germination.

Weed of the Week is Bromegrass. Tillage or RoundUp as a burndown will take care of it.

KFPX-TV, NEWTON, IOWA
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Program: AgPhD (Rebroadcast) Episode # 932
Air Date: Tuesday, March 8, 2016 5:00am
Topic/Title: Soil Testing
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Boron is good for yields. It leaches into soil and has to be applied every year, but only a tenth of a pound is needed. Soil testing for micronutrients is crucial for corn pollination and for soybeans fertility there must be calcium for boron. Farmers use seed treatments which consists of usually three items in coating-a fungicide, insecticide and family of neonicotinoid. Treatments can be liquid or dry coating on seed. Coating protects seed and seedling. There can also be polymers and colors. Plus, many natural products have live bacteria, inoculates that produce own nitrogen. For example, Clariva stops nematodes. Wheat traps a lot of moisture early in growth which means more diseases and insects. Treating early produces higher yields. There is not enough disease tolerance in seeds, so it is recommended to use seed treatments. Spray with fungicide. If there's bugs, throw in some insecticide.

Weed of the Week is Dog Fennel. For wheat, use Sharpen and Huskie as a pre-emerge. For corn, use Surestart as a pre-emerge and Status as a post-emerge. For soybeans, use Authority as a pre-emerge and RoundUp as a post-emerge.

Program: AgPhD (Rebroadcast) Episode # 933
Air Date: Tuesday, March 8, 2016 5:30am
Topic/Title: Soil Management
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

An issue for soil is high magnesium. Reducing it can make better crops and produce higher yields. Base saturation levels should be 12%-18% in magnesium. In heavy soil, add more calcium to loosen soil and lessen magnesium. In sandy soil, higher magnesium tightens soil to hold moisture. Tiling for proper drainage is important. It can take 10-15 years to establish good magnesium and calcium levels in the soil. Good soil test weight depends on nutrients and keeping soil healthier produces higher yields and higher test weights. Cold verses warm germination test is done to determine what temperatures are best to plant seeds. Multiple tests are best. For example, first year soybean is 90% warm germination which is ideal conditions. It is 80% cold germination in less than ideal conditions. There is a sharp distinction if soybeans are held in elevator until second year. During second year the soybean is 80% warm germination and only 20-30% cold germination.

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KFPX-TV, NEWTON, IOWA
PUBLIC AFFAIRS REPORT
FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 933
Air Date: Thursday, March 10, 2016 5:00am
Topic/Title: Soil Management
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

An issue for soil is high magnesium. Reducing it can make better crops and produce higher yields. Base saturation levels should be 12%-18% in magnesium. In heavy soil, add more calcium to loosen soil and lessen magnesium. In sandy soil, higher magnesium tightens soil to hold moisture. Tiling for proper drainage is important. It can take 10-15 years to establish good magnesium and calcium levels in the soil. Good soil test weight depends on nutrients and keeping soil healthier produces higher yields and higher test weights. Cold verses warm germination test is done to determine what temperatures are best to plant seeds. Multiple tests are best. For example, first year soybean is 90% warm germination which is ideal conditions. It is 80% cold germination in less than ideal conditions. There is a sharp distinction if soybeans are held in elevator until second year. During second year the soybean is 80% warm germination and only 20-30% cold germination.

Weed of the Week is Bromegrass. Tillage or RoundUp as a burndown will take care of it.

Program: AgPhD Episode # 934
Air Date: Thursday, March 10, 2016 5:30am
Topic/Title: Pesticide Safety
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/Alex George
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

There are two things to know about pesticide safety. One is LD50 which is the lethal dose to kill 50% of test subjects. The second is dose makes the poison. No American farmer is poisoning soil or water. There's more natural safe pesticides derived from plants and trees than ever before. Personal protective equipment is used when applying pesticides. Milo production weed control has pre and post emerge options. Recommended is full rate of grass control pre-emerge. Facet is the only post-emerge and is more expensive. Spray two to four weeks before planting. Cutting seed traits is not recommended. Keep traits and negotiate prices. If unable to negotiate, the number one issue is grass control in conventional corn. RoundUp cannot be used post-emerge. Use full rate grass killer and insecticide for corn-corn crops and reduce insecticide to half rate for corn-soybean rotation.

Weed of the Week is Cattails. Drainage is important with proper tiling. Add calcium to loosen heavy soil. Cattails don't absorb herbicide well, so get it with a burndown.

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PUBLIC AFFAIRS REPORT
FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 933
Air Date: Tuesday, March 15, 2016 5:00am
Topic/Title: Soil Management
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/R. Rasmussen
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

An issue for soil is high magnesium. Reducing it can make better crops and produce higher yields. Base saturation levels should be 12%-18% in magnesium. In heavy soil, add more calcium to loosen soil and lessen magnesium. In sandy soil, higher magnesium tightens soil to hold moisture. Tiling for proper drainage is important. It can take 10-15 years to establish good magnesium and calcium levels in the soil. Good soil test weight depends on nutrients and keeping soil healthier produces higher yields and higher test weights. Cold versus warm germination test is done to determine what temperatures are best to plant seeds. Multiple tests are best. For example, first year soybean is 90% warm germination which is ideal conditions. It is 80% cold germination in less than ideal conditions. There is a sharp distinction if soybeans are held in elevator until second year. During second year the soybean is 80% warm germination and only 20-30% cold germination.

Weed of the Week is Bromegrass. Tillage or RoundUp as a burndown will take care of it.

Program: AgPhD (Rebroadcast) Episode # 934
Air Date: Tuesday, March 15, 2016 5:30am
Topic/Title: Pesticide Safety
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/Alex George
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Weed of the Week is Cattails. Drainage is important with proper tiling. Add calcium to loosen heavy soil. Cattails don't absorb herbicide well, so get it with a burndown.

KFPX-TV, NEWTON, IOWA
PUBLIC AFFAIRS REPORT
FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 934
Air Date: Thursday, March 17, 2016 5:00am
Topic/Title: Pesticide Safety
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/Alex George
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

There are two things to know about pesticide safety. One is LD50 which is the lethal dose to kill 50% of test subjects. The second is dose makes the poison. No American farmer is poisoning soil or water. There's more natural safe pesticides derived from plants and trees than ever before. Personal protective equipment is used when applying pesticides. Milo production weed control has pre and post emerge options. Recommended is full rate of grass control pre-emerge. Facet is the only post-emerge and is more expensive. Spray two to four weeks before planting. Cutting seed traits is not recommended. Keep traits and negotiate prices. If unable to negotiate, the number one issue is grass control in conventional corn. RoundUp cannot be used post-emerge. Use full rate grass killer and insecticide for corn-corn crops and reduce insecticide to half rate for corn-soybean rotation.

Weed of the Week is Cattails. Drainage is important with proper tiling. Add calcium to loosen heavy soil. Cattails don't absorb herbicide well, so get it with a burndown.

Program: AgPhD Episode # 935
Air Date: Thursday, March 17, 2016 5:30am
Topic/Title: Weed Control
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/Alex George
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Controlling weeds in conventional soybeans verses RoudUp Ready or LibertyLink soybeans has to be done with three pre-emerge program combination of Treflan, Sonalan or Prowl (no till), plus Authority or Valor, plus Metribuzin. Adjust rates based on sandy soil and high pH. Hybrid verses inbred corn offers varieties of corn. Inbred corn is pollen from same variety of corn fertilizing same corn. Hybrid is pollen from one corn variety fertilizing a different corn variety. Male and female rows of the hybrid corn have to be managed with care. Also, weed control requires special attention in hybrid corn. Sunflower production needs good soil test that shows good nutrients. Fertility programs are crucial. They must have potassium, manganese and copper. One or two fungicide applications for white mold and mildew prevention. Farmer must scout weekly with a net for insect control. Pre-emerge with Yellow and Spartan are needed for weeds. Post-emerge for grass control.

Weed of the Week is Palmer Pigweed. It is one of the worst weeds in that it is on more acres in the USA. The three pre-emerge program combination applies to it as well.

KFPX-TV, NEWTON, IOWA
PUBLIC AFFAIRS REPORT
FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 934
Air Date: Tuesday, March 22, 2016 5:00am
Topic/Title: Pesticide Safety
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/Alex George
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Weed of the Week is Cattails. Drainage is important with proper tiling. Add calcium to loosen heavy soil. Cattails don't absorb herbicide well, so get it with a burndown.

Program: AgPhD (Rebroadcast) Episode # 935
Air Date: Tuesday, March 22, 2016 5:30am
Topic/Title: Weed Control
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/Alex George
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Weed of the Week is Palmer Pigweed. It is one of the worst weeds in that it is on more acres in the USA. The three pre-emerge program combination applies to it as well.

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Program: AgPhD (Rebroadcast) Episode # 935
Air Date: Thursday, March 24, 2016 5:00am
Topic/Title: Weed Control
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/Alex George
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD Episode # 936
Air Date: Thursday, March 24, 2016 5:30am
Topic/Title: Soil pH Levels
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/Alex George
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Applying Lime in low soil pH due to excess hydrogen is in essence applying an antacid. Calcium carbonate is used to increase soil pH. It builds calcium and improves drainage to remove hydrogen. Magnesium can also increase pH. Ideal lime has fine particles. Alfalfa production has fertility requirements. Soil must be above 6.5. Potassium and phosphorus has to be replaced and it does not move down through soil. It is important use less fertilizer and to move the nutrients down in the soil. Often alfalfa fields are near hog farms for the manure. Boron has to be watched because it can be toxic. It should be applied in low doses only. Build up soil pre-plant rather than spoon feed as you go. Do weed control before stand. Rarely is there weeds to deal with due to coverage. To get green leaves all the way down stem, use a fungicide. Spray insecticide if seeing bugs. Seed treatment for corn is Quickroots which is a biological of bacteria and fungi for more root growth and hairs. Increased yields by 8 bushels on trial. It is recommended to run trials. Mark planter splitters to compare and compare results on different soil types.

Weed of the Week is Puncturevine. It is burrs that stick on animals and can puncture tires. For pre-emerge in wheat and corn, use Sharpen. For post-emerge in wheat and corn, use Status or Roundup. In soybeans, use Valor or Teflan pre-emerge and Roundup for post-emerge.

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FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 935
Air Date: Tuesday, March 29, 2016 5:00am
Topic/Title: Weed Control
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/Alex George
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/Alex George
Issues Addressed: Agriculture/Economics
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PUBLIC AFFAIRS REPORT
FIRST QUARTER, 2016

Program: AgPhD (Rebroadcast) Episode # 936
Air Date: Thursday, March 31, 2016 5:00am
Topic/Title: Soil pH Levels
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/Alex George
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

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Program: AgPhD Episode # 937
Air Date: Thursday, March 31, 2016 5:30am
Topic/Title: Micronutrients
Duration: 29:00 minutes
Style/Type: Magazine format
Source: AgPhD Productions/Alex George
Issues Addressed: Agriculture/Economics
Hosts: Darren and Brian Hefty

Micronutrients are called Micro because they are used in small quantities, not because they are unimportant to plants. The most important nutrients are Zinc, Iron, Manganese, Copper and Baran. Get the soil ready first, then the micronutrients are so important to the plants. It is key to have overall balance of nutrients in your soil. You can download apps that help you figure out how much to use. You also have to soil test to find out if you have micronutrients in your manure. Test your soil, and test your manure. Spring soil sampling is a must. Variable planting costs are due to current equipment becoming standardized, and set up for variable population planting. Analyze cost and potential return on investment.

Join us for AgPhD Field Day, coming up on July 28th.

Weed of the Week is Wild Oats. Today there are so many options for Wild Oats. One Wild Oat plant equals 10 Foxtail plants in terms of yield loss. For Wild Oats in corn, apply a pre-emerge herbicide and Roundup post-emerge. For soybeans, use Treflan, Sonalan or Prowl. Wild Oats in wheat is a struggle, so use a Pre-Pare Herbicide and there will be less to kill post-emerge.