The Huma Gro® Farmer, Episode 1: Strawberries Part 1

Larry: Hello everyone! Welcome to the Huma Gro® Farmer podcast with your host, Larry Cooper. Today we've pulled together our strawberry brain trust to discuss all things strawberry. With us in the studio are Doug Greer, our senior director of U.S. domestic sales, and Barrett Smith, Eastern U.S. sales manager and agronomist. On the phone we have Jason Garcia, Florida regional agronomist, and Silvano De Luna, certified crop advisor and pest control advisor for WRT Ag in California. We're also pleased to have a special guest on the phone today, Dustin Grooms of that great strawberry-growing dynasty, Fancy Farms of Plant City, Florida. Before we get started, I direct our listeners to go to www.humagro.com and, on the homepage, click on the slider image that says "Huma Gro®, Practically Perfect in Every Way for Strawberries." That will take you to a strawberry blog post that has links to product documents, field studies, and other background information that we will be discussing during this podcast. So, with all that out of the way, Doug why don't you start us off.

Doug: Well, thank you Larry, what we're going to do today is walk through the strawberry growth cycle and talk about each stage, plant needs, and recommended Huma Gro® products. I've asked Jason Garcia to walk us through the stages and Barrett Smith to take the lead on product discussion for each stage. Everyone else can jump in with whatever comments or questions they may have. Jason, please start us off by telling us about strawberry preplant soil preparation.

Jason: Well, I'm glad to hear everybody here. Preplant starts with disking in or cutting any cover crops that we might have put out. More importantly is our fumigation process that we do before we lay plastic. The fumigants that are available to us now a days are not good in all aspects. They're either good at controlling nematodes, or good at controlling weeds, or good at controlling soil bacteria. And that's a huge start from the get-go with us, as we're getting ready for the season. That's kind of where I see our Promax® coming into play, because it's good, or actually in my opinion great, on controlling nematodes and soil bacteria

Barrett: Yeah and on top of that, I mean just going backwards a little bit, I completely agree with you Jason but looking at our products in general, I mean everything coupled with our Micro Carbon Technology® really, really makes a difference, really shines, especially with application methods. We can go in through the drip irrigation, we can go on top foliar. We'll talk about some products, particularly Promax® and Zap®, that can go in through the drip. They help clean out the emitters; they're nice and clean, so it works out there. And that Micro Carbon Technology® really helps pull all the deposits, all the precipitates out, just to keep it at a really good application method there. One thing that we like to do with the soil is to see how much time we can get into the soil. If we're talking about where the soil is at, we need to look

at what crop was there previously and where the soil needs to get at to then have a great start off for strawberries as they come in for transplant. So Promax® is going to be our organic, nematicide and fungicide. So like Jason said, it is great on those controls. We don't touch the weeds; we don't touch the roots of the plants. We don't hurt anything as far as a higher life form. On the microbial level, its going to knock everything out, the good and the bad. So we have to be aware what Promax® does. Zap®, on the other hand, is going to restore the microbial life. We're going to get everything back up and running. We're going to take a dead soil and turn it into an alive soil. Zap® doesn't have any biological inoculants, there's nothing living in it. It's going to take what's there natively in the soil and bring it back to life and bring it up and running. Even at the rates we are talking about, ½ gallon per acre sometimes up to a gallon an acre. These products work very well and very quickly, which is very fascinating to see with our Micro Carbon Technology®. With the amount of control that they both have, Promax is going to come in and actually going to be a killer, a contact killer. So, it will take out all the nematodes, take out all the diseases. Zap® will get into contact with the soil, bring it back to life, and get it up and running. If we want more of a control aspect, we'll stick more with Promax®. If we want to do more of a holistic approach and kind of keep what we've been doing and not change much in the soil microbial community and enhance it, get it stronger, we will stick with Zap®. A lot of the programs we've developed with strawberries recently have been with Promax® and then Zap®. Every two weeks—Promax®, Zap®, Promax®, Zap®, Promax®, Zap®—all throughout the growing season. Because a lot of times we will have nematodes come up, they typically come up monthly. We'll have diseases creep up during the growing season, depending on the weather, depending on the temperature. We just don't know exactly what is going on in the soil unless we are in the soil measuring all that. So, Promax® and Zap® at those 2 combinations back and forth of killing, bringing back to life for a good, healthy environment, killing it, bringing it back to life. It actually works very, very well. We'll show some data of the results that we've had with that. In some other crops we might do 1 or 2 other application of each and we always follow up Promax® with an application of Zap®. Just because we want that soil to be living again, we don't want that dead sterile soil. There're surfactants in Promax® and Zap® that help get the product where it needs to go. Well talk more about Promax® and Zap® on top of fumigation, but for the most part we recommend doing Promax® and Zap® instead of fumigation. There's a lot of cost savings we can do with that at the ½ gallon rate every 2 weeks with Promax® and Zap®: you're looking at one application of each of those a month. And that cost might be somewhere around $70–$75 a month; so, for a 7-month crop of strawberries that might be $490 an acre, roughly. That should be under the fumigation costs of some of these growers in Florida, as well as the majority if not 100% of them in California because they have different costs associated.

Larry: Let me ask about that for a minute. Dustin in Florida, what are we talking about in terms of fumigation costs per acre for strawberries and what kind of time commitment are we talking about?

Dustin: Yeah, so fumigation is a big thing right here, especially right now as we're under water, trying to get everything dried out. It's very challenging to get a fumigant out that actually works. In Florida everything bad grows: soil-borne diseases, pests. I mean if it's going to happen it's going to happen here in Florida. You're looking at spending $1,000 an acre easily on some type of fumigant, and right now we're forced to use a fumigant that my grandpa used back in the '60s. So it's weird how things kind of come full circle. There's not a lot of options out there. I'm glad that I ran into Huma Gro® and was able to team up with Barrett there. Me and him worked out a program last year, and it worked fairly well for us. As a matter of fact, we didn't have any trouble. The cost and the savings alone were worth it. It is like jumping in the deep end not knowing if you can swim, but we were able to swim and keep our head above water all year.

Larry: Silvano, let me ask you as well: I know that California has its own unique circumstances when it comes to dealing with pests in the soil. What are we talking about for the fumigation costs out in California?

Silvano: Yeah, the fumigation costs in California can range anywhere from $800 to $4,000 an acre. With regard to savings, yeah, I've used Promax® kind of like what Barrett said. I come in there with Promax®, and I follow it up with Zap®. The costs here in California are not getting any cheaper. Aside from that, the efficacy of the fumigants aren't really doing it. We've noticed that about 6 months after fumigation there's a drop off of efficacy. You can counteract that with proper timing of Promax®. I have a field that's a third-year strawberry plant, and there's no die out on that field. Traditionally people in California don't take it to the second year because of soil-borne diseases. That's a big issue out here in California.

Doug: Thanks, Silvano. I was glad you were able to share the different perspective from California, because it is a little different animal out there than in Florida; every area is a little bit different. We have some information on the blog post that I hope whoever is listening will be able to look at at some point, and we'll go over some of these field trials later on in this podcast. There've been some really good ones that we've done that show the efficacy of Promax® and Zap®. Whether it's on top of fumigation—because there is that drop off, you know a few months into it—or Promax® and Zap by themselves without fumigation. We'll share more of those details a little bit later in this podcast.

Jason: Doug, I'd like to throw something in there to kind of backup what Barrett mentioned earlier. One of the things with the Zap®—and to me this is the importance of utilizing Zap®—is that the soil microbials, as we grow that population, secrete citric acid, depending upon your soil type. For example, in Florida, our phosphorous—which they say we have an abundance of—is often tied up with calcium. The more that we can grow that microbial population and have them secreting that citric acid, the more it separates those two phosphorus and calcium molecules and makes them soluble to the plant at that time. So that is kind of a bonus, if you will, as far as using Zap®.

Barrett: That's right. Zap® will not only help the soil structure, the soil biology, and the nutrient availability, but Zap® also helps fight diseases. I've seen fusarium completely wiped away with Zap® by itself. If there's a lighter infestation, Zap® by itself might be a cheaper route to go versus the Promax® as well as the Zap®. There's a lot of times—especially in row crops—that I'm using a lot of Zap® just by itself because it's able to fight off the diseases and get everything in a good working order. It's a lot of fun to see both of those working in tandem, especially in strawberries, because a lot of time it's back-to-back strawberries or it's a monoculture at that point. It needs something a little heavier, so its kind of fun to see the Promax® and Zap® work there.

Doug: Barrett or Jason, anything else to add on preplant soil preparation? If not, we will move forward to transplant at this time or anybody else.

Barrett: One thing I like to do, there's obviously different application timings with our products, with the Promax® and Zap®. First, I like to have a good application of Promax® maybe 2 or 3 weeks before transplant, just like with fumigation.

Larry: And you're talking about applying it through the irrigation system?

Barrett: Through the irrigation system, yeah. Your soil has got to be taken care of, it can't be a dry block, they've got to be able to get inside the soil and get it working there prior planting. That way we can come in at planting or at transplant with an application of Zap®. I really like the Zap® in the in furrow—in the first irrigation after planting or right before planting—as that's a great root stimulant and it works very very well there. But even if we skip that, if we missed that first Promax® application, we can do Promax® right at planting or right after planting. Either way, there's really not too many issues with that. I personally like having the soil prepped and ready to go with Promaz® and then have Zap® applied at transplant.

Jason: Barrett, one of the things that we left out of this discussion, and to me this is key when we talk about preplant, conventionally—and Dustin I'd love for you to jump in on this—at preplant we are either putting plastic out or we are putting our fumigant out at the same time. Or some guys will run a different fumigant through the drip, it just depends on the grower. But, one of the things we have to keep in mind when it comes to the Huma Gro® products with Promax® is that there's no post-interval. It's zero, zero, all the way around. Where with every other product available to a grower, you've got to let that plastic lay and sit there for a defined period before you can go ahead and punch holes in your plastic and put your plants in the ground. I mean Promax® can be used throughout the season without any harm to the crop, without any environmental concerns, or anything of that nature. That's a huge deal.

Barrett: Then on top of that we are also organically certified.

Dustin: Just to chime in on that, you know those fumigation products you put out require 21–30 days before you can get back into the field, depending on environmental conditions. And you know, its huge to be able to put something out and turn around the next day and then be able

to set. We deal with a lot of hurricanes here in Florida. Typically, we lay plastic right through the middle of them or right after them and it really messes stuff up. You know being able to rebuild a bed and shoot this through the drip and then going in there and setting a couple days later, it's a game changer. And as far as throughout the seasons is concerned you know, normally once you have a problem with strawberries, there's nothing you can do. Its pretty much over and its going to be infected. But with this product here, you're able to put it out when you can see a problem, so you're going to get the control when you need it. You're going to be able to harvest that fruit.

Silvano: Yeah, I know. I agree with that, too. Whenever I go out into the field and see something weird without a lab analysis of some pathogen, I usually go out there with Promax® and it kind of just takes care of anything that's kind of weird looking. And the nice thing is that with no preharvest interval you can apply it and you know you're going to be able to harvest or at the least, work the ground. With no re-entry interval as well, it's very convenient to have that.

Doug: Thank you everyone, we could probably spend another 30 minutes on Promax® and Zap® certainly with all the stories as well, so I appreciate everybody's input. Let's go ahead and move onto transplant and we can always go back to more Promax® and Zap® later on. Plus, as we move along in this life cycle, we are certainly continuing to apply Promax® and Zap® throughout the season, so we can still talk about that. Jason, if you don't mind sharing just a little bit here about transplant lifecycle period.

Jason: Transplant is pretty simplistic—we have what we call bare root plants and plug plants. We typically put together what we consider a root dip if you will. It's just basically a solution of water and different products that we hope will take care of some of these concerns that came from the nursery. Does it always work? No, it does not. My thought on transplant is, I would love to see a mixture of Promax® and Breakout® and Vitol® as a dip for the transplant because we already have the Promax® in the bed. We've gone through that and we can root dip then we're getting that plant off to a good start. The other thing to is with some of these products—some of these conventional products without the Micro Carbon Technology®—they have a shelf life if you will when they're mixed into the water; so we might mix up 100 gallons of a solution that we dip plants into and we think it's working all day. But after 3 hours with some of these conventional products, they're no longer effective. So, we are thinking we're doing the right thing; however, we are not getting the effectiveness and efficiency of what we thought we were getting.

Barrett: Yeah, I remember going to the Florida strawberry show and one of the University of Florida PhD's was talking about how much disease there is in the nurseries as they're selling them to the growers and the growers are having to put in these disease-filled plants. We can do a solution that includes Promax® and clean all that off before we even plant. That's just a great option to make sure that the plants we're putting out there in the soil are ideal and ready to go, and you're not putting in something that's going to be dead in just a couple weeks. So that's kind of exciting.

Jason: I will add this and Dustin, I want you to chime in on this. Our entire life is dependent upon what kind of product that we actually received from the nursery and there could be one year where the nursery shines and their plants look great, no issues. We don't put all of our eggs in one basket. We don't order from just one nursery. So, when it's all said and done, that nursery that shined one year might provide the worst plants you get the next year. Unfortunately, I thought I saw that with Fancy Farms this past season on one of the fields. It was a reputable nursery and you know we had some issues, but it happens. It doesn't matter where it comes from. If we can transplant and try to salvage some of those issues that we we're having by utilizing Promax®, that would be a great thing.

Dustin: Yeah, that's typically what happens every year. One of the nurseries is going to have a hiccup, so to speak. It's not a matter of if, it's a matter of when. We are at the mercy of the nursery and you know a lot of the plants do come with disease that they can't see it up there because they're in a different growing region. Again, you come down here in Florida and those plants are hot and under stress, you're using a lot of water. So, it creates a lot of these problems, and anything that you can do that's going to benefit that plant at transplanting is just phenomenal, it's going to help it.

Barrett: That's right, yeah, that's why I think Promax® in some kind of tray dip, would really shine. Going back to transplant, we really like putting a number of our products out in the drip or in the transplant water. This could be a solution of Breakout®, Calcium, and Super Phos® for energy, even Max Pak® depending on what the plant needs. We're getting these plants from a couple of states away, and then they're coming down to Florida, and then they've been sitting in a cooler. That cooling system may have gone out or there'll jostled around there going through a lot of shock at that point before they even get out to the field. So again, whatever we can do to really get them up and running as quickly as we can and transplanted very efficiently and very healthily, that's the key. So, with our products like Promax® and Zap®, and then on top of that Breakout® as a good root stimulant, and Super Phos® for the phosphorus as well as the ATP, the energy. Other micronutrients might be applied, Calcium, or whatever the plant needs at that point. We'll give it a good dose to get it up and running and get it into a good healthy environment ready to get rocking and rolling.

Larry: Silvano, what's going on out in California? Are you getting perfect plants out of the nurseries there or are there some issues you need to deal with?

Silvano: Yeah, similar to Florida, there're issues from the transplants for sure. This last year there were quite a few issues with strawberries; as they're coming in, of course the nurseries are going to claim that all the issues are happening out on the field and they don't want to take responsibility. So, no, absolutely there're issues out here out in the field and, like I mentioned before when things look weird you know out the gate, if something is looking weird, the plants don't seem like they want to take off. Typically, I recommend Promax® and then follow up with some sort of inoculum with Zap®, and that seems to be able to mitigate a lot of the problems

that we've been having out here, at least for the people that I work with. So, we have problems like any other region.

Jason: One of the things we have to keep in mind,whether you're in Florida or you're in California, or wherever you're growing berries. We are at the mercy of what the nursery stock is, and generally, and I think we'll get into this a little bit more later. But as when we receive those plants, we have missed the window to push the potential of that that particular crop. We've already missed bud initiation, so if we can get Promax®, Vitol®, Breakout®, and Super Phos®, and get them running then we're going to have a better chance to make that plant reach its potential. Dustin, you can chime in on this, but I think at 2 o clock on one afternoon when we were setting plants, the soil temperature was 112 degrees.

Dustin: Yeah, absolutely, as soon as they dig that plant in the nursery it's pretty much dying and then we're taking it down on the road, through different cooling systems, and then we bring it out here to the field. We're setting it; it's hot so, yeah it's stressed, and it needs something, it really does.

Doug: So, at this point, I appreciate everybody's comments, on the Huma Gro® products. Thank you, everyone, for sharing what we can do at transplant, to make that transition a little bit better. Let's move into post-transplant and what else we can do to help those transplants continue moving forward through this lifecycle. Jason, share with us the common practices and Dustin, certainly chime in on that as well, for post-transplant.

Jason: Once we have the plant then we'll typically start running our typical conventional liquid fertilizer program. One of the things that we have to understand is, whatever crop it is, it is never in a complete vegetative nor a complete reproductive stage; it's not even a 50/50 deal, so we need to make sure that we're applying certain products, at the right time. As I just mentioned, we've already missed bud initiation by the time that we receive our plants and put them in the ground. So we can play that catch up game, and with the Micro Carbon Technology® we can play that catch up game. But, at that point we're doing liquid fertilizer through the drip and we try to get that plant and push vegetative and that's one of the mindsets that we need to change. There is truly not a vegetative nor a reproductive stage that are separated. It is all together, and Barrett I'll let you elaborate on that.

Barrett: I think you just nailed it, Jason. One thing that we like to do is keep the Promax® and the Zap® going, as we've already established. Again, we're doing every two weeks on strawberries, Promax® and Zap®, Promax® and Zap®. If we're on an organic field, we might switch that up a little bit or do more Promax® and no Zap, because obviously Zap®'s not organic. We have a Fertilgold® soil product that would be a replacement for Zap, so we can swap that out. One thing we really like to do early for a little bit more of a kick for vegetation is foliarly apply our Vitol. If we're coming out weekly, we might do a pint an acre, or if we're coming out once every two weeks, do a quart per acre or something along those lines. Really kick the plant into gear, get the vigor up and running, get the plant's health going. Get it

growing better, and just really give it the nutrients that it needs at that point if we haven't done any other nutrients. Again, like Jason said, it's not just a nitrogen thing to get the plant up, there're a lot more nutrients out there that the plant needs. If we just feed it with nitrogen, nitrogen, and more nitrogen, we are going to have a lot of disease pressure that comes in. This includes disease, insects, and a lot of things like that. So we've got to make sure we treat the whole plant. We've got to ask the plant what it needs and then go from there.

Jason: And that's kind of a catch-22. When you look at strawberries in particular, they put out hands of fruit. Of course, they're always in vegetative-reproduction stages, so you have to support that auxin stage, and you have to support the cytokinin stage, to make sure that we're covering all bases. We're helping that plant create the hormones that it needs for all stages involved, because we're constantly shooting blooms throughout the season. So we have to cover all of those stages.

Larry: That concludes part one of our two-part podcast on strawberries. Thank you everyone, and special thanks to Dustin Grooms of Fancy Farms for spending time with us today. I'll take a moment here to remind everyone to go to www.humagro.com and on the home page, click on the slider image that says "Huma Gro® Practically Perfect in Every Way for Strawberries." That will take you to a strawberry blog post that has links to product documents, field studies, and other background information that was discussed today. Be sure to listen to part two of this podcast to hear the discussion on strawberry flowering, berry sizing, and pre harvest strawberry care. Keep following the Huma Gro® Farmer podcast for the latest information on enhancing your crops using Huma Gro® products. Grow healthy!

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