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Interview with Tim Norris

Leah Sokolofski

Tim Norris

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Researcher's Name: Leah Sokolofski
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502 W. Gambier St. Mount Vernon, OH
Co-workers present: none

LS: Leah Sokolofski
TN: Tim Norris

LS: This is Leah Sokolofski talking with Tim Norris at the Farmer's Exchange in Mount Vernon. The Farmer's Exchange is located at 502 W. Gambier St. It is January 31st 2001 around 5:15 PM and the accession number for this tape is ELFS-LKS-A013101.A.

LS: So what exactly is the Farmer's Exchange?

TN: Okay, well first off, we have consolidated with Marion Landmark and we're now Central Ohio Farmers Co-op.

LS: Okay.

TN: That happened on the first of 2000. What we are, we were founded, Mount Vernon Farmer's Exchange was founded in 1919 by a group of area farmers to produce a market for their grain as well as to purchase and put supplies at a cheaper price than what they could do on their own. So that group of farmers basically started the co-op. They had stock in the cooperative and they were paid off throughout the years for that investment. And then they also wanted to get new members in, and one of the ways a cooperative can do that is as you do business with a co-op you earn patronage back or ownership in the company. So if you do enough business and the co-op is profitable enough they may issue a share of stock in the company. Umm, so that starts you out with your first share. And all these stocks or the majority of the stock that's still outstanding today is stock that is earned by our customers who are doing business here. So as a co-op makes a profit, they can turn a percentage of that back to the people who do business with them.

LS: And is it just in Knox County or do you include other counties or who's involved?

TN: Mount Vernon Farmer's Exchange is mainly in Mount Vernon and we have four locations here in Mount Vernon with our feed mill and hardware store. We have a grain elevator and there's the agronomy location. Since we've consolidated we now have locations in 8 other cities. We have one in Marion and Bennett, Mt. Gilead. We cover about four counties.

LS:…How do you become a part of the Farmers Co-op?

TN: The first step to become a member of the Farmers Co-op would be to fill out an application. Now you can buy your first share; it costs ten dollars to become a

shareholder. You purchase one share you got the right to vote on the board of directors and any by-law changes to the company. The directors, the application goes before the Board, they approve it and you're a member and you can start earning patronage back at that point.

LS: Are most of the people who are involved, well now there are a broader range of people involved, but pretty much in Ohio or are there people outside…

TN: There's a few people that have had stock or equity in the Co-op and have since quit farming and moved out of state, so we do have some owners that are, that are out-of-state. You do need to be actively involved in farming or agriculture to be a voting member.

LS: Umm, to what extent? Can I just have a small little plot of land that I farm or do I really have to be making more of a business out of it? Can it be like a side interest for me?

TN: No, if someone has like fifteen acres and they buy their inputs here, umm they could become a member.

LS: Okay. So what is it exactly that you do in conjunction with the Co-op?

TN: My position is to manage the locations here in Mount Vernon.

LS: Has that changed? How long have you been involved in the Co-op?

TN: I started, I came to work in the Farmers Co-op or Mount Vernon Farmer's Exchange in 1992. Then I left in February of '96 and came back in June of '98. And I've been here since then.

LS: Do you yourself do farming?

TN: I have a 65 acre farm. I do rent it out to my brother.

LS: What sorts of, you mentioned a little bit about grains and then the hardware, are there a wide variety of products that come through the Co-op? Or is there more soy or more corn?

TN: Corn and soybeans are the two main commodities that we handle in the grain department. We do handle wheat, but other than that we don't buy oats or barley or anything like that. But we do have a market for, a fairly strong market for corn and soybeans. Wheat, it's hard to develop a good market for wheat right now. It's not paying very well.

LS: Where is that market located, when you speak of the market? Obviously the farmers are from this area.

TN: I guess the market is kind of a figure of speech. It's what we're paying for the grain. The market price, I guess is what I was referring to.

LS: Okay. So then the grains, you buy the grains from a farmer.

TN: And then we'll turn around and ship them by railcar or semi-truck to the destination or the end-user. A lot of our grain, a lot of our soybeans, go to Central Soya or ADM in Fostoria. And they make soybean meal and like some soybean, maybe some soybean hamburgers or process things that way. The majority of it goes to soybean meal for cattle feed. And then they take the oil as well. They make soybean oil out of the bean and what you have left over is soybean meal for cattle.

LS: And then corn stays in the state?

TN: The majority of our corn goes to South Carolina, to some of the chicken and hog farms down there. That's where most of ours goes right now. We haven't had rail access for the last four years. Our rail was condemned. Hopefully here in another two weeks, we'll be ready to ship by rail again. And the market will open up at that point because we'll have a lot more opportunities to sell it to different places.

LS: How involved are you with the rail system? I assume that trucks would be easier because you can just hire them out, but then in terms of the railway? Is that something that's sort of beyond your control or is it?

TN: The rail is definitely hard to deal with. You're never exactly sure when your cars are coming in. Once the cars come in, you have to have them loaded within, usually one day or two days, so they can pull them out. Or you'll get charged with a merge fee, which is basically a penalty for letting the car sit. So it's a little harder to schedule the railcars, however, it's probably the preferred way to move grain out. Because, you can schedule the car, once the car's here you can schedule the time to load it and you can load a lot larger volume than what you can in a semi-truck.

LS: Then do you get regular, do farmers come in regularly and sell you things? I mean, you talked about the railcars, and so then you have to fill it up on a certain date. Do you know that you're going to have enough grain to do that?

TN: That's one of the hard things to figure out with rail. Because you have to send five to fifteen cars at a time. So you have to make sure you have enough grain here to load the trains. By the same token, you may know that you have two trains coming in the fall and during the month of November. And you're getting close to Fall, but you don't know exactly when those trains are coming so you can't ship a whole lot out by truck, because you have to make sure you have enough for your, to fill the trains when they come in. So that's a little bit of a, it makes it harder…But you can definitely get more money for it. The transportation cost of the train are a lot cheaper than the truck.

LS: With the farmers, are they mostly small family farmers, or mid-sized?

TN: I would say the majority of the people that we deal with and the majority of the farmers around here are still considered family farms in my opinion. Maybe several family farm family members in that farm, but they're still family farms. There are a few, what I would call corporate farms in the area, but we don't really deal with them.

LS: How do the different divisions of the Co-op work together? Like the hardware division, and the grain market, the feed division? In terms of, I guess just in general?

TN: We try to share some help, as much help as we can. Like during the winter, over the last month, we've had one of the ladies that typically does our grain buying in hardware this year. Just to try to help save labor up there. We also will send one of our agronomy people out to the feed mill to cover, for early vacations or anything like that. And then in the Spring, we'll bring a person from the feed mill up to the agronomy to help, you know, deliver the fertilizer. So we try to work, spread people around, work in all departments. The person that runs the grain elevator in the spring also sprays with one of the floaters. So there's a lot of people moving around from department to department.

LS: Okay, when you say "spray with the floaters," what does that mean?

TN: Okay. We have these high-clearance machines. Ours are called Rogaters. They look pretty similar to this unit right here (referring to catalog photo) and they have 80 foot wide booms on them. So you can go out and spray fertilizer…on the ground. The nice thing about those, you can go in with the crop standing or before it's planted. 'Cause it has the rough narrow tires and the tall stands.

LS: So, then would you hire this out? Would a farmer?

TN: Yes, farmers come in and they'll contract with us to take care of all their crop protection needs.

LS: So then that would include spraying and then it would include fertilizing?

TN: Yeah, we'll ban 28%, we'll quarter-inject 28% which would actually be putting the nitrogen in the ground so you don't lose it through the air. That's a new service we're offering this year. But we'll go, I would say, April through July, we're extremely busy. They're gonna need their spray or applying fertilizer to the fields.

LS: And then, so seasonally April through July is sort of a busy time doing that. What it's like during the other seasons? What sort of services do you offer then?

TN: October through middle of December are always busy in the grain department. We have a lot of, we're receiving a lot of grain at that time. And typically, mid-December through March is pretty slow. Usually there's not a whole lot going on and usually the weather's not conducive to being out doing any field work. So we're preparing

equipment and we take some grain in this time of the year, a fair amount. And then August and late July and first half of September, the crops are usually too big to get in and they're to the point where they don't, no longer need any attention. So we can kind of take a breather there too.

LS: There's something I wanted to ask. Agronomy: what does that word mean?

TN: Agronomy. It's basically the science of taking care of a crop. Providing a nutrient plan, crop protection, recommendation which may include pesticides or an insecticide, depending on what pests are out there. Taking that, after that application is made, going in and scouting the field. Making sure that it does not need a further application. Making sure the crop is growing and developing the way it should. I guess that's basically what our agronomy department does. We take care of the crops.

LS: So, I'm getting the sense, tell me if I'm right, that if I were a farmer, I could come into the Co-op and sort of get all these services that I need that I can't do on my own. And then also have a market for what I produce.

TN: Correct. We have three CCA certified agronomic consultants on our payroll. Basically the CCA is a national organization and certification program that makes sure that your recommendations are sound, they're environmentally sound. It's something that's fairly new, not everyone in the area have CCAs on staff. We have three, so I feel we're pretty lucky to have that.

LS: Are there other organizations similar to the Co-op that farmers would go to to provide those services?

TN: Yeah. A good example is in Danville, Ohio. Danville Feed and Supply. They're very similar to what we are. And that's owned by a family.

LS: How many, about how many farmers would service? Or I guess I'm just trying to get an idea of how big, how many outside people are involved in the Co-op?

TN: I would say, that's kind of a hard, because you have a lot of part-time. We probably in the agronomy department, we probably supply inputs, either all or some inputs to approximately 200 growers. And the grain department would probably, maybe touch 300 or so. That would be a rough, rough guess.

LS: And that's now that the expansion has taken place?

TN: No, that would be at this location.

LS: And then are all the locations pretty similar?

TN: Very similar, yes. There are some quite a bit smaller, there are some that have a lot larger grain operations and all we do, we can load 15 cars at a time on the rail and we

have two branches that can load 50 cars at a time. So between the two of them, they can put 100 unit train together and get a pretty decent market for their grain. Where we would put 15 together, we can get a better price than, even though it's not quite as lucrative as if you can put 100 cars together. But then there are some branches that can only put three and some that just have to truck everything. So, I would say we're in the middle as far as the size. We're the only one with a hardware store. Some of the others sell heating oil, propane and gasoline or diesel fuel. And we do not do that.

LS: In terms of sending out shipments, is it a goal or an expectation that in the future the different Co-ops will work together or that the different exchanges will work together to send out like a shipment?

TN: Oh, we do that already. We have a centralized grain department that buys all the grain, that sells all the grain out of Marion. And so they'll work together. They may sell 35 cars to a person that may, whom they get 15 from here and 15 from another branch and 5 from another branch. And they'll put all that together. But where you save the money is with the railroad. If you can ship 100 cars, it costs you less in shipping costs than it does if you're shipping 15. So the end, they may be able to get a better price with the end buyer by pulling us together, but we're on different rail lines and we would suffer from that. You know, the actual shipping cost is where we'd be hurting.

LS: Do you see that the market has changed over the years from being more just in Ohio, now you sell stuff down to South Carolina?

TN: I would say our market has probably changed very little as far as who we sell to. I think we're still selling to the same type of people. But I think the farmer has changed so much that the people that we buy from is definitely, there's definitely a lot of change there. When I was a kid, if you seen a semi-truck come in here, you were all excited, because you'd never seen anything like that before. And even ten years ago, probably 10% of the farmers had semi-trucks. Now I would say it's probably, if you farm 600 acres or more, the majority of the people have a semi-truck. So once you get the grain on a semi-truck, it's a lot easier to go to Columbus or to Marion or you know, farther with your grain than it is if you're only taking 300 bushels at a time. Where if you can take 900, then, they're driving farther to get to that end market themselves, than what they were before. And the farmers have also had a lot of storage at the farms. Grain bins were, twenty years ago, very few people had a lot of grain storage on the farm. And now just about everybody has grain storage on the farm. So they can harvest it, put it in their grain bins and then worry about hauling it to market at a later date. Which also allows them to go farther and take a little longer to get the grain to market. Where before they would be harvested, come in here, and they'd want to get back just as soon as they could to harvest another load. So that's a big change, farmers are more mobile. Same goes for the input products, they're willing to travel farther to get their fertilizer and chemicals, seed. Traveling isn't near as hard as it used to be.

LS: Does that make it more competitive for the Co-op?

TN: Oh definitely. Definitely.

LS: So you're saying that the farmers that you deal with now are more farmers who don't have those, all those semis or those capabilities? Or it depends?

TN: No, we still deal with a lot of people, with farmers, but we've had to take less of, work off less of a margin to keep our business because before for five cents they wouldn't drive to Marion. Where now, if they can get five cents extra per bushel, they may go ahead and drive to Marion or elsewhere. So it's harder to be competitive. And we've definitely lost a lot of the bigger people. We just can't, they have employees or several family members and they'll just drive on to a market themselves.

LS: What are the other competing markets? You mentioned Columbus, is there a big market there?

TN: Yeah, there's a couple good size rail houses in Columbus where they can ship, put 100 car trains together and ship them out. And see those terminals, used to deal with places like ourselves, and we would be the only ones really hauling into a terminal like that. Now farmers are hauling in there direct. You know we may still sell to a place like that, but now our customer's selling there too. So it's hard to compete when your customer can go there to the same place you're selling. That's why the rail is so important, so you can find other places that don't have the grain and that need it and are willing to pay more for it.

LS: Huh, that's interesting. What would you say is the relationship between the Co-op and the economy in Knox County? It's sort of a broad question. But would you say how things are going in the Co-op, that it might function as an indicator of how the farming economy is doing, or in response to the economy?

TN: I would say it's definitely an indicator of how the agricultural economy is going. I still think that the ag community is doing, you know, if it's repressed I think the rest of the economy will follow. Because we still represent a large sector in this area. So if we're not spending, it's going to hurt for the rest of the businesses as well. So, yeah, I guess you could say that it could be an indicator.

LS: What other factors contribute to how farmers are doing?… I know that gas prices have gone up and things like that. Are there any real things that just being in agriculture are really important?

TN: Natural gas prices, extremely important in agriculture. Because it effects the price of the fuel that they put in their tractors and trucks, as well as it effects the fuel that they dry the grain with. Because when you harvest the grain, corn and soybeans and wheat, it all has moisture in it and you need to dry it to take some of that moisture out. So you run it through a dryer which is the majority of the time that's gas fired, heats up the grain and then takes the moisture out of the grain. So it makes the drying cost a lot more expensive. And then the nitrogen fertilizer, 90% of the cost of the fertilizer is directly related to the

cost of natural gas, because that's what they make the fertilizer out of. Last year, nitrogen, we sold it for around $100 a ton and this year it's right around $200 a ton. So it has doubled in a year's period.

LS: The dryer, could you just explain that a little bit more?

TN: It's a big, it's like a tower that has several different columns of grain. And then there are screens. All the grain's held in there with a screen. And then there's these huge fans that have a burner right in front of the fan. And you put the natural gas in and light it and it shoots flames in there which heats up the air. And then it blows warm air through the grain and that takes the moisture out of it.

LS: Does the grain circulate?

TN: Yes, it's constantly moving. It dries as it goes down, it's called a continuous flow dryer. So it's constantly putting wet grain in on top and then when it gets down to the bottom it's dry and it comes out, put it in the grain bin.

LS: Now is that something that most farmer's would have or invest in?

TN: 20 years ago, very few farmers had dryers. Now the majority of the farmers have their own dryer.

LS: Is that something the Co-op still has and does?

TN: Yeah, we still dry a fair amount of grain.

LS: That's interesting. I'm learning all these things I never knew existed. That's great. So thinking about my project a little bit, which is local food there isn't a lot of direct food products persay that come through the exchange. Is that correct?

TN: Not really, no. We do supply a lot of feed for the animal livestock industry which there is still a fair amount of pigs in the county. There's a few beef cattle, not a whole lot anymore. And there's a fair amount of dairy still in the county. So our feed mill probably deals the most directly with food, to the animals that pass on. Now there's a local market in town called Producer's Livestock and that's where the farmers take their animals to market. So they'll go in and they'll have a set price. Or an auction basically, and there'll be buyers there that will buy the animals and then process them.

LS: Do you work at all with Producer's Livestock?

TN: We do a little. They do what they call contract feeding, where a large pharaoh operation that would have sows and they would breed, they would have the pigs, they still want ownership of those pigs, but they don't physically have the facilities to feed them out. So they'll contract with local growers in our area that have hog barns who'll supply the feed, Producer's does the marketing. They lock in the prices at the time the

animals go in. The producer knows how much he's going to be getting paid per head. The person that owns the hog knows how much they're going to make. We contract the feed costs, so everything's figured out and everyone knows pretty much what they're going to make at that point.

LS: I'm just thinking about different types of farmers. If you don't have the livestock and you don't do grains, the people who do maybe organic farming or just vegetable farming come in looking for fertilizer or those sorts of things?

TN: Well, organic farming, they would not use our fertilizer. They would use like compost, manure, some type of organic registered product. There are a few organic farmers in the area. They have their own markets. I'm not sure where all their grain goes. They typically don't tend to do any business with us. Vegetables, there's not a whole lot of vegetables in the area, we do provide product for some of those.

LS: What sorts of fertilizer and things like that? If you're doing small scale, you wouldn't need the sprays or anything like that.

TN: There's still a lot of, we don't spray any of it, but they'll buy it. Fungicide is definitely needed a lot on vegetables to try to keep you know, boles from growing. So there's a lot of fungicide sprayed on vegetables. They're intensive, require intensive management. And there's a fair amount of herbicides that need to be put down for vegetable growers too to keep the roots healthy.

LS: That reminds me of going back to the spray which, I'm really interested in that, I don't know why. Is it, how often do you do those services? Usually during a growing season where you just have to go out to a farm once, or are a lot of those services that you provide…?

TN: One of the things that we're trying to move towards, and I think industry-wide we're trying to move towards two applications. And one of my favorite programs is to go in with half a rate of a pre-emerging herbicide and follow that with a post-emerging herbicide. So you're reducing the chemical load in the soil. You're keeping the weeds out until the crop is close to shading over and then you go in and spray it with a post-herbicide that basically is not soil active. It hits the, treats the weed and kills those and then the crop shades over and it takes over from there. I think that's probably makes the most…

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TN: …full rate of a pre-emerged down, and for one reason or another, had too much rain and the herbicide was incorporated too deep. And the weeds germinated because the herbicide's, you know, maybe two inches down, instead of right in that top ¾ of an inch. So those weeds germinate and they escape, and we have to come back in with a post-emerging product anyway. Or if it doesn't rain enough, the herbicide lays on top of the ground. The weed germinates underneath and it's too thin of a layer; it can grow right

through that herbicide zone. So, in that case you put on basically twice the amount of product that you would've applied with a split, two-halves program and you just, the economics of that is not good. As well as the environmental impact is not good. But one of the things that I'm really excited about, and I think industry-wide, the whole industry is really excited about this program, is the genetically modified foods. I know there hasn't been a good press about that. But when people really stop and think about what it is we're able to do with this. The majority of the people know what Round-up is, and they use it around their home. They spray their sidewalks with it, you know, kill weeds around. I mean everyone pretty much uses Round-up.

LS: I even have… (laughs.)

TN: Yeah. (laughs.) There's no soil activity with Round-up at all. When it comes in contact with the clay that's in the soil, the soil is made of sand, silt and clay, when Round-up hits clay it turns back into an organic state. It's very safe. Very safe herbicide. When they found a plant that was resistant to Round-up, they isolated the gene and then inserted that gene into corn and soybeans, now. So now you can go in and you can spray Round-up over the top of corn and soybeans, which does not effect the corn or beans at all, but it kills the weeds around it, with no residual or soil applied herbicide. The one thing with the soil applied herbicide, some of those are persistent and can stay, you know, for six months, or even some of it for up to a year after the application. With the Round-up, you can go in and spray it and you have no residual left in the soil at all. So, umm, I'm really excited about that because we don't have to, we no longer have to treat the soil with a herbicide. And we can just hit the weeds that are growing, and nine times out of ten the ground seems…to Round-up anyway. The majority of the plants get the Round-up. And it's a product that people have used, feel comfortable with. The EPA has given it a, they've approved it several years ago and it's still it's safe. It actually takes less, quite a bit less table salt. I think I can remember this. The LD50 on table salt is somewhere around 45 pounds. And with Round-up, it's close to 2,000 pounds, that you would have to consume, or it'd be kilograms, not pounds. I think it's actually, they have the LD50 distributed in pounds. But anyway, it equaled like 2,000 pounds that you would have to consume per day. You know, which is totally impossible, you know to have any effects that would actually kill you.

LS: And LD means?

TN: Lethal dose.

LS: Lethal dose. Okay. Huh. Well, and then are farmers in the area, I guess just around in general, excited about these, the new crops too?

TN: Yes. I would say 80% of our soybeans are Round-up Ready soybeans.

LS: And Round-up does corn too?

TN: Yes. But there's very, it's a limited supply on corn. I would say less than 5% of the corn per acreage is Round-up Ready corn.

LS: Do you expect that to switch over soon?

TN: No, I don't think corn, I don't think it'll take off with the corn as well as it has the soybeans. Because, we have better herbicides for corn than what we do for beans. And we don't, we don't like to follow like a Round-up Ready corn with a Round-up Ready soybean. We don't want to get resistance built up in the weeds. Resistance management is something that we, we try to keep on eye on and not have two different, er two of the same classes of herbicides back to back. Because, if you keep spraying, like a lamb's quarter will produce like 80,000 seeds, one lamb's quarter plant. So let's say out of a hundred seeds that are out there, one seed escapes, okay. That doesn't sound like much. You killed, you know, 99% of them, but this one was resistant to the Round-up. It didn't have any effect on it. So now that one, everything else is dead. That one produces 80,000 seeds, you know. And say 10% of those germinate, so now you have, let's say 1% of them germinate, you now have 80 seeds. So, and those are all Round-up Ready, if that one plant's resistant to Round-up, it's offspring gonna be resistant to it. So you need to make sure that you rotate your herbicides, so you don't have a weed resistance problem. And there was a new class of herbicides that came out probably ten or twelve years ago, called Sulfinated Ureas and pretty much everything that was introduced was in that class of that herbicide family. And they worked tremendously, for about four years. And then it got to the point, you know, where they were failing and people started realizing that 'Hey this is, there really is something to this resistance.' And that's something that I feel our agronomy department has tried to watch, to make sure that we aren't using the same class of herbicide over and over again.

LS: Are herbicides, when you talk about the class of them, are there different levels?

TN: The class is basically, like how it works in the plant. It's the type of herbicide and how it affects the plant. So, let's say you're using a herbicide that burns all the leaf tissue, that would be one type. It just burns all the leaf tissue and kills the cells that are in there and the plant dies due to starvation. Or there's another one that stops the photosynthesis process, so it can no longer, I mean it stays green, but it can no longer produce any energy and then it ends up dying or starving itself. The ones that burn, they'll turn the plant like totally, thoroughly brown but yet the stem will be green. And then finally the stem will die. While the ones that stop the photosynthesis, the outside of the plant looks fine, but you'll pull the stem and the stems dead. And then the leaves die. Then there's some that work through the roots, and that's a soil applied. It's drawn into the plant through the roots and it disrupts cells down in there and the plant will look good, then it will finally, it'll die, because the roots have killed themselves. There's different, that's kind of the easiest way, I guess to explain classes. And you don't want to use the same one over and over and over again, because you will have, you will end up with problems with weeds that have, that are resistant.

LS: When you change it, do you change it every year, or every two years?

TN: You really should change every year. And that's one nice thing about a corn and soybean rotation, is that you can move totally away from…

LS: You mentioned before that there's a little bit of wheat, but that there are some problems with it. Is it more market problems, or do you think that if there were better genetically engineered wheat…

TN: Wheat hasn't. Wheat has not had the focus on, I guess the seed industry has not focused a whole lot on wheat. England can, they have a climate that's very conductive to growing wheat. They can grow wheat way better than, I mean they can probably have 30% better yields on average than what we can. Wheat likes a cool spring and summer. And when we have a hot June or July, that's really hard on the wheat. It's detrimental to it. And we've just not been able to get the yields consistently with the wheat. And our wheat is not the type that would be used for bread, it's more like a pastry. And there just doesn't seem to be a real market for it. The main wheat areas are Kansas and Nebraska and they have a different type of wheat than what we can grow. Because, theirs requires a different growing season. You plant theirs in the spring and it can handle the heat a little better than what we can.

LS: Then in terms of soy and corn, what are the other really major areas that you compete with?

TN: Okay. Brazil is huge and Argentina in soybeans. Brazil will always have a head, my prediction, and you don't have to post that if you don't want to, but I think in ten years we may not grow soybeans here. I think we'll have to look then for a different crop. Brazil has a vast amount of land that is not in production right now. They're cutting trees down and putting acres and acres and acres into production everyday. Their biggest holdback right now is they don't have the infrastructure to get the grain from the farm to port. However, they're installing rail right now. I think once they get a good infrastructure with good solid roads and a good rail system, we won't compete. Because it's truly a world market right now and I just don't think we're ever, I just really, really don't think we can compete with Brazil. I hate to say that, but they have very little environmental regulations. So if somebody wants to enter, let's say Dupont would want to enter a, register a new herbicide down there. They don't have to spend the millions and millions of dollars that they would have to spend here to have all the scientific research done to make sure that it's not going to harm the environment or the person that's applying that there's no residual left to know in the food. Where it has to pass all these EPA tests and even in some instances, some of them have to pass Food and Drug Administration tests, if it's something that's, that would still be there at time of consumption. They can do down there and they don't have to pay any of that. So their herbicide prices are cheaper. They can buy Round-up down there for less than $20 a gallon and we're paying like $36 a gallon here. So that kind of gives you an example of what, what things cost. Round-up Ready soybeans that I was telling you about, it costs our farmers, probably the average $8-9 an acre more in a technology fee that they need to pay Monsana to plant the soybeans. In Brazil, they don't have to pay that technology fee.

They're supposed to, and they're really not supposed to be any Round-up beans in Brazil. But, because of that, they've got some in on the black market and there's no one to really enforce it. And so they're keeping their seed and planting it and not paying the technology fee and still having the benefits of using Round-up, which is definitely an economic benefit. But they don't have to, they're not regulated. So, there's a lot less expenses there. And their ground cost. I've heard stories where it's about a tenth, around a tenth of what our ground costs are. It's just all their costs are a lot less. Labor. The majority of their combines don't have cabs because they can find somebody to sit out there for $2/hour and run the combine and breathe the dust…Whereas our country is developed beyond that point. We want to make sure that we can still breathe when we're seventy years old, you know.

LS: In terms of regulations within the U.S., do states differ a lot…?

TN: Um, states differ a fair amount. If you'll read a product label, one application may be fine in Indiana and you can't use that product in Ohio. So they do differ. Or you can use it with a different rate in Ohio than you can in other states. You read through the label and you have to figure out what zone you're in and make sure that you can use those certain products.

LS: But that doesn't give you the kind of economic benefits or restrictions that you see on the global market?

TN: No, they're fairly, if you can't use that one in Ohio, they'll have something very similar that you can use, or there'll be other options that you can use that are the same price usually.

LS: Well, I think that's about it for me. I've learned a lot. I came in here knowing next to nothing about farming and the market.

TN: Well, I don't know if you've learned a whole lot about your topic.

LS: Well, no, all these things relate. So, thank you so much for your time and if I have any other questions, listening to the tape again, may I contact you?

TN: Yes, that's fine.

LS: Okay.

TN: Here's a copy of a no-till corn budget and a conventional tillage corn budget from Ohio State. I can print you off a soybean if you would like.

LS: Cool. Yeah, that'd be interesting to look at. Especially since we talked about it so much. Okay.

END TAPE 1, SIDE 2.