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Resilient ranching workshop: field session 2, Woodlot

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BEGIN TRANSCRIPTION

00:00:00:02 - 00:00:33:01

Speaker 1

Interesting. Okay. This is two acres and it was open. Everybody. But I brought my back over here. Just kidding. Over. We got the roots off, cut up the pinyon into firewood chunks, and then we chipped all the limbs. Got a chip spread bread, chips out overall. And then in the winter, early spring, I brought my here and my calves over here and we said, hey, here.

00:00:33:03 - 00:00:58:12

Speaker 1

And I did one year. I did two years ago. Three years ago, I planted the. What crop cover crop. How long ago was the deforestation? The first piece here was five years ago. And this is for you.

00:00:58:15 - 00:01:24:00

Speaker 1

Have got it right. The first strip I gave you right up here. And I've got a picture back there at the shop. Shows, and I just spread some grass. You know, I think I spread my own thing. So the reason I did this was, you know, walking around on that place. Where's all the bare ground? Well, it's underneath those stupid pinyon trees in here.

00:01:24:07 - 00:01:54:24

Speaker 1

If you think that litter is litter is key to this country and being able to capture water, I mean, it's all about capturing water, in my opinion. So, you know, this is my. Stuff here. That's where you get last night's much rain. And how much did you get to the rain? On to go, go, go over there. Go over into the vineyard.

00:01:54:27 - 00:01:55:22

Speaker 1

Oh yeah.

00:01:55:25 - 00:02:03:10

Speaker 2

So after we came here, after it had rained and this and a half, like, maybe half an hour later, and it's dry.

00:02:03:13 - 00:02:07:24

Speaker 1

Okay. We hit. We hit a real dry, gravelly layer. That deep.

00:02:07:26 - 00:02:16:08

Speaker 3

Go. That'll be enough. I know you're really enjoying digging, though, but let's say you get those muscles, you go in there.

00:02:16:10 - 00:02:17:24

Speaker 1

Yeah, I'm all muscle, so not bad.

00:02:17:24 - 00:02:22:12

Speaker 3

No, I knew that muscles. Yeah, I could tell. Yeah.

00:02:22:15 - 00:02:30:14

Speaker 2

So this is called the Tickly patch for those of you who want to look at the data from the past.

00:02:30:17 - 00:02:44:26

Speaker 3

So there's an interesting dynamic in the community that we're seeing in here. So we've got like this. So patches we've got kosher. We've got Russian thistle. We've got what else we got.

00:02:44:28 - 00:02:47:04

Speaker 1

From smooth roasted.

00:02:47:06 - 00:02:50:22

Speaker 3

And pigweed. Right where. Sunflower and some food.

00:02:50:23 - 00:02:52:11

Speaker 1

Oh yeah.

00:02:52:14 - 00:03:17:06

Speaker 3

And melon. Now what's interesting with pigweed? Kosher. You have red root pigweed and the end of the emirate. This family. So your lamb's quarters, they're non mycorrhizal, right? They don't have that biological relationship. And the reason they don't have it is they don't need it. We've got a whole lot of nutrient loading. Right. So you'll see them around your yards.

00:03:17:08 - 00:03:40:01

Speaker 3

Right. Well there's a whole lot of manure. You'll see it around, areas that are piling up manure. Well, you've got background because what happens with background is there's a couple of different things. But if we've had dry conditions and then we get some moisture, what happens in those dry conditions is the nitrates keep building up, you get a bit of moisture.

00:03:40:01 - 00:03:59:20

Speaker 3

And suddenly we see a whole lot of these nitrate loving weeds, of which kosher is, kosher. One thistles are one. All right. So they're either indicating there's a load of nutrient here. So here's a whole lot of potassium. There's a lot of carbon. Those types of materials. It could be out in your fields. You've got nitrates building up from last year's dry.

00:03:59:26 - 00:04:16:07

Speaker 3

You get a bit of moisture. And people are like oh that's a good thistle season. Now you've got a whole lot of nitrates that suddenly these plants are adapted to deal with, and they're doing a good job and it's a good job. But what we're going to see is this plant succession away from these, more primitive species as such.

00:04:16:07 - 00:04:38:15

Speaker 3

So there's a lot that the above ground to communities trying to tell us. And it's fine. It's just a story. Right? This is what this landscape's doing. And you can speed that up. Right. We can speed that up through our grazing management. We can speed that up by trampling. The pinyon has a lot of volatile organic compounds, right?

00:04:38:18 - 00:05:01:03

Speaker 3

Like it's got tannins. It's got materials that are designed to suppress the growth of other things. So chipping this on has done a great job in adding a whole lot of organic material. And these cells would have been high in organic litter underneath that pinyon anyway that wasn't breaking down. So if you look on that test, you'll see the organic matter in here is like 9.7.

00:05:01:03 - 00:05:23:06

Speaker 3

So it's the third row and the sixth column is your organic matter. So 9.7 which is really, really high. But it's not necessarily been converted into humus. Right. So our job is to convert that to humus. So if this was my place and I'd done this because this is cool and I would do this, I would spray this with fish hydrolyzed.

00:05:23:08 - 00:05:45:15

Speaker 3

Right. So the fish is going to provide some phosphorus and it's going to stimulate that biology to break that pinion down as fast as possible and convert that into humus. Right. So we want to see if we wanted humus. How

do we know what what is humus look like. Where do we where do we see that. Do we have a biology test here.

00:05:45:15 - 00:06:17:15

Speaker 3

Yes. This one was super fungal. Yeah. So it's the Kelly patch. The last one. So you see, there's an awful lot of fungi in here. These are what we call fungal dominated. And we actually do have the beneficial amoeba that we need. But we don't have the nematodes. Right. We're missing the nematodes out of this. So to look visually for humans, it will be a lovely dark, dark, dark brown color, and it will be sticky and it'll have that crumb structure.

00:06:17:17 - 00:06:38:12

Speaker 3

So what I want you to see is the soils are still quite pale. There's some compaction zones in here. And these roots still don't have a riser sheet. Okay. So a lot of the fungi that we're measuring in here are all separate, so you don't need the big word, but they are the fungus that break organic material down.

00:06:38:12 - 00:06:57:22

Speaker 3

So that's who's in here, which is awesome. And we want to keep stimulating that and get that to convert. So we're seeing some lovely dark color in here. These soils are still not bad. Like, yeah, I should just come live here. I've been hanging out with horrible soils and I want to be there anymore. All right.

00:06:57:22 - 00:07:08:17

Speaker 3

So what does it smell like? Not much.

00:07:08:19 - 00:07:22:02

Speaker 3

Hey, we're not getting. We haven't got much of a smell, which is better than smells of poop. Anything like that. These. These is it. What's that?

00:07:22:04 - 00:07:23:22

Speaker 1

Good. Smells pretty good.

00:07:23:24 - 00:07:26:04

Speaker 3

Anyway. What is this? Grass?

00:07:26:10 - 00:07:27:14

Speaker 1

Yeah, I like that.

00:07:27:18 - 00:07:28:20

Speaker 3

Who's good at grasses?

00:07:28:23 - 00:07:31:18

Speaker 1
Bro bro bro.

00:07:31:21 - 00:07:46:14

Speaker 3
Smooth brome is really good at forming rhizome sheaths. And there's not really much of a riser sheets in there. Right. Okay. Again, these roots are really just sitting in the top.

00:07:46:17 - 00:07:51:13

Speaker 1
Just because it it spreads rice ominously, doesn't it? Smooth, bro.

00:07:51:15 - 00:08:05:28

Speaker 3
Yeah. That. Yeah. Oh, wow. You look dangerous. What's that? Been a.

00:08:06:00 - 00:08:06:16

Speaker 1
Stinkbug.

00:08:06:21 - 00:08:08:00

Speaker 3
Oh, I don't go near that one, too.

00:08:08:06 - 00:08:15:05

Speaker 1
The difference in the smell and this and the other was a little bit of a difference. And it was more brittle. Maybe. I mean, no, bitter.

00:08:15:08 - 00:08:15:28

Speaker 3
Bitter.

00:08:16:01 - 00:08:18:15

Speaker 1
The pungent, pungent.

00:08:18:18 - 00:08:23:08

Speaker 3
More pungent. So you smelling the the tannins, do you think you smelling the pinyon.

00:08:23:11 - 00:08:26:11

Speaker 1
Maybe. That's probably right.

00:08:26:14 - 00:08:49:10

Speaker 3
Okay. So this there's a lot of material in here. One other thing I add to this test is your carbon to nitrogen ratio and have a look. This feels a little like it's stalled. Like we just want to get it converting. And we can do that with animals. Maybe. But if it's if it's not breaking down

really fast, then that's where fish or a prebiotic or probiotic to help break it down.

00:08:49:10 - 00:09:01:08

Speaker 3

So we use that raw humor as a probiotic to help speed that animals get right down. So if you've got animals out here that are trampling their organic material, the manure breaks down really fast.

00:09:01:11 - 00:09:05:04

Speaker 2

So did I miss this spot? Where do you get that?

00:09:05:07 - 00:09:06:16

Speaker 3

It's all over the country.

00:09:06:18 - 00:09:09:04

Speaker 2

Just like, go.

00:09:09:06 - 00:09:26:15

Speaker 3

Well, I was in Reno, and we. The guy sent the guy to go find some, and he found it at his local supply store in Reno. So, it's in New Mexico. There's the there's mines, and then there's all through the Dakotas anyway, that there's coal being mined, there probably is soft coal around.

00:09:26:17 - 00:09:30:00

Speaker 1

Not a real nice litter of, I mean, a layer of.

00:09:30:02 - 00:09:49:24

Speaker 3

It is, but it's not very much. It's too much. So what I find is we get really obsessed with litter and then we go too far. And then people are mulching their properties. And then, you know, what happens with mulch is we suppress growth. So yeah, we've had, Americans come to New Zealand and talk about litter and then actually have a reduction in grass production because of litter.

00:09:50:01 - 00:09:51:00

Speaker 1

Is that moss?

00:09:51:02 - 00:09:53:19

Speaker 3

No, that's organic matter. That's not breaking down.

00:09:53:20 - 00:09:54:15

Speaker 1

It's just it's just.

00:09:54:19 - 00:09:55:23

Speaker 3
Might be poop.

00:09:55:25 - 00:09:56:21

Speaker 1
I see.

00:09:56:23 - 00:10:18:15

Speaker 3
Could be we love the, so yes, we want woodchips. But I would be like when we do what we do, like maybe ten cubic, four cubic yards an acre. So it's like a dot there and a dot there, an adult there. It's not fully mulching the place. So in a situation like this, I want it to break down as fast as possible and convert into stable humus.

00:10:18:17 - 00:10:18:25

Speaker 3
But when.

00:10:18:25 - 00:10:20:00

Speaker 2
You apply it.

00:10:20:02 - 00:10:22:14

Speaker 1
You're not.

00:10:22:17 - 00:10:40:02

Speaker 3
On to the the fish. Yeah, yeah, I'm going to spray it on the ground. But if I had piles of wood chips, I'm going to spray it on the woodchips. Okay. And then and then spread it out. Okay. Okay. So I mean this is a resource that's not being capitalized. All right. Now is my feeling about it.

00:10:40:09 - 00:10:47:16

Speaker 1
So are you if you prefer to pile the woodchips then put the fish on it and then spread it and.

00:10:47:16 - 00:11:07:21

Speaker 3
Then spread it. Yeah, yeah. There's another product called M which stands for Effective Microorganisms. And we're doing this on like chicken litter or actually in the chicken, houses spraying the chicken, spraying the walls with this. It's awesome. And then stockpiling that manure before we then sprayed it. So if you've got a big manure piles, you can spray it in the yard.

00:11:07:21 - 00:11:33:24

Speaker 3
So you've got livestock. Then when you peel it off it starts that decomposition process. Now what's cool with that M is these organisms

will eat cook cityosis they'll eat litter. That what have we asked? We don't. We've done some work on it and they will eat all of these really nasty, infectious diseases. So people that, have calving barns or you've got areas where you've got young animals or you've got intensification of animals.

00:11:33:26 - 00:11:50:17

Speaker 3

We used it in a dairy barn and within 40, like, you know, those dairy barns with the ammonia are so bad, you can come in and 40 minutes after you spray and all the ammonia smells gone, it's just incredible. And we can make that product ourselves. So we make it from milk and the recipes on my website.

00:11:50:19 - 00:11:59:07

Speaker 3

But it's a, it's a, it's a biological. I really like when we're looking at breaking stuff down. And we can also put it in the troughs. So it's a probiotic for livestock.

00:11:59:11 - 00:12:09:01

Speaker 1

So then would that work? You mentioned the calving areas that people that cabinet centralized area and have problem with Clostridium.

00:12:09:06 - 00:12:11:22

Speaker 3

Yes, that's the word I think a lot of it is Clostridium.

00:12:11:22 - 00:12:14:05

Speaker 1

And so you just put the apply that in that with him.

00:12:14:09 - 00:12:14:19

Speaker 2

Yeah.

00:12:14:25 - 00:12:18:25

Speaker 1

You have to be done when it's not freezing the soil temperature.

00:12:18:25 - 00:12:37:04

Speaker 3

I mean yeah, I would do it in for I would do it in for. But if you've got an outbreak and you're on frozen ground, I'd spray it on the animals and on the ground. Yeah. I'm one of the ranches I work with in Wyoming. They're making it themselves now as a as a product because they're doing, custom calving.

00:12:37:06 - 00:12:51:29

Speaker 3

And they I mean, they lost 30 calves in one I can like just in a few weeks. And then they spray it on the walls and everything during calving.

And they're calving pretty early. And now they've had no deaths. And for years since I've done it. So. Yeah.

00:12:52:01 - 00:12:53:09

Speaker 1

And you got their recipe.

00:12:53:12 - 00:13:19:03

Speaker 3

Yeah. It's it's on my website. It's the lactobacillus. So it's a the commercial products got a little bit more microbes in it. But I like making stuff for myself. But that's something that you consider putting in an area like this where you've got a lot of buildup of organic matter is let's get that broken down and converted, and then we're going to get more grass coming in here, and we're going to get higher quality of the grass as well.

00:13:19:06 - 00:13:28:29

Speaker 3

It would be interesting. We've broken all of our set prices now. So. Anyway, does anyone else got an observation or anything? I want to ask Steve about this.

00:13:29:00 - 00:13:50:17

Speaker 1

What was the cost per acre to DeForest? I don't want to know. Yeah, just to make money selling the wood. Well, I'll take care of it. Just as you know, cheaper not, 16. And that was beautiful. Isn't it beautiful?

00:13:50:20 - 00:13:54:28

Speaker 2

Yeah. Well, not right. The ones that touched us.

00:13:55:06 - 00:14:02:11

Speaker 1

Were 11 and 16. Yeah. And then this, the other one that came over this took it after the ditch.

00:14:02:13 - 00:14:05:20

Speaker 2

So, Nicole, a lot of what happens to the cream.

00:14:05:22 - 00:14:06:27

Speaker 1

Or.

00:14:07:00 - 00:14:16:13

Speaker 2

At least and down lower is the oak brush. Yeah. Very, very good. Yeah. So that question that Reeves asked about. Yeah.

00:14:16:15 - 00:14:21:21

Unknown

Treating that. Oh is a really good question.

00:14:21:23 - 00:14:22:29

Speaker 3

Yeah.

00:14:23:02 - 00:14:27:21

Speaker 1

All I can say is, could go to bring in \$3 a pound.

00:14:27:23 - 00:14:32:08

Speaker 3

Yeah, yeah. Okay.

00:14:32:11 - 00:14:42:08

Speaker 1

I, I've been there and done that, and I tuned management. I got, I got Steve to do that. I was one of the guys and the almost just.

00:14:42:11 - 00:14:44:09

Speaker 2

We're still friends right now.

00:14:44:11 - 00:14:45:07

Speaker 1

With that.

00:14:45:10 - 00:15:02:25

Speaker 2

Because it's we did have him for years trying to, manage the scrub oak is our goal. I think it's a great. Yeah. Up till the first fire. Fire. And then they were up there.

00:15:02:28 - 00:15:07:28

Speaker 2

Like the teenage kids. And I know when only good guard dog and, like, five guard dogs.

00:15:08:00 - 00:15:24:24

Speaker 1

You know, bring him \$3.50. I figured \$3 a pound, \$3 a pound. I figured it would be like \$4,500 per animal instead of what we get for cats, you know, 800. Yeah, \$700. If \$4,300.

00:15:24:27 - 00:15:26:10

Speaker 2

I can get it.

00:15:26:13 - 00:15:37:07

Speaker 1

And all you gotta do is just, you know, take your pants out of your boots, you know, because you don't want to be a cowboy around to go.

00:15:37:09 - 00:15:58:03

Speaker 3

See? Right. You got a massive seed bank in here. What is the the trigger for different things to germinate. So for some species, it might be a microbial imbalance, right. For some species it might be a mineral imbalance. Okay. Some might be responding to low organic matter or via soil. Some might be responding to toxins. All right.

00:15:58:03 - 00:16:20:17

Speaker 3

So we figure out what is it that's causing this species to germinate. So after a fire, it really changes mineral dynamics. It really changes microbial dynamics. And so we see a shift to whatever that might be. So up here it's okay out in some areas it's cheatgrass. And so it depends where we are is in terms of what's the mineral and what's causing that response.

00:16:20:17 - 00:16:43:14

Speaker 3

So we start to figure out what's been the dynamic. Then how do I get it to reboot and get back into a grassland ecosystem as fast as possible, if that's what you want. Or you might want it to go back into trees as fast as possible or whatever. So we're making up microbial and mineral sprays that we apply after a fire with a little bit of calcium in it, because what we find is some of the fires can create, water repellency.

00:16:43:17 - 00:17:01:18

Speaker 3

So there's a range of different things that we have as a fire recovery. And I think I've probably got like two webinars that you can watch online that are just on fire recovery that we've done just thinking about kickstarting stuff. And also there's a lot of toxins or the volatile organic compounds that can reduce, or suppress the growth.

00:17:01:18 - 00:17:23:25

Speaker 3

And then in California, you've got everyone's houses and cars and plastic and this crap that, that they actually scraped of that soil away and dumped it in landfills after the fires. So there's these processes called mica remediation. So things that we can do. But for a lot of these fires, I mean, these are landscapes that typically would have had fire through them.

00:17:23:25 - 00:17:32:23

Speaker 3

So how do we manage for them so that we can kind of replicate nature better instead of these fuel loadings?

00:17:32:25 - 00:17:41:12

Speaker 2

Have you, have you worked at all in Nevada with the cheatgrass? Yes. Yeah, yeah. And what's the thought?

00:17:41:15 - 00:18:05:29

Speaker 3

What would what are we doing? Because it's such extensive land, is we, building in really large firebreaks biologically. So cheatgrass hates phosphorus. It just hates it. So we put in, those fish hydrology dates with humic acid. So an organic, concentrated, organic and just doing large spray strips so the spray strips could be as wide as.

00:18:06:01 - 00:18:19:02

Speaker 3

You know, 1000ft. And then they become our firebreaks because that property I said that was 370,000 acres. I think 80% of the property had burned at least once in the last ten years. And all of that.

00:18:19:04 - 00:18:21:05

Speaker 2

Fire interval has really gotten.

00:18:21:07 - 00:18:25:24

Speaker 3

There. Yeah, most of it had burned 2 or 3 times, and the cheatgrass was just feeling it.

00:18:25:24 - 00:18:41:05

Speaker 2

So which does a bit of a concern coming from Nevada here. Yes. Seeing that cheatgrass is actually we've got you know, we have a lot of cheatgrass this year. Yeah. More than I've seen. Yeah. Yeah. And it can really change the fire.

00:18:41:08 - 00:18:44:03

Speaker 1

Yes I know it might could be like fall moisture.

00:18:44:10 - 00:19:03:24

Speaker 3

It could be gets like kind of thing. It's trying to do a job. So we're going to say I can see what you're trying to do. Let me do it for you. And then it doesn't like it. So so if it's copper, which I suspect it is, it's not going to like we're talking about tiny amounts. So that recipe I give you will have some filled up that small amounts of copper in it.

00:19:03:25 - 00:19:06:01

Speaker 1

Okay. One quick place to fill it.

00:19:06:04 - 00:19:07:11

Speaker 3

Yes.

00:19:07:13 - 00:19:11:28

Speaker 1

That we need to change courses because we've tried to tackle about three, 400 acres. Okay.

00:19:12:00 - 00:19:12:21

Speaker 3
Yeah.

00:19:12:23 - 00:19:20:03

Speaker 1

We've got it mulched down and we've just planted on using chemicals. But this sounds like a better approach.

00:19:20:03 - 00:19:22:21

Speaker 3

Yes, I think so. And the chemicals are just.

00:19:22:24 - 00:19:23:16

Speaker 1

Yeah.

00:19:23:18 - 00:19:27:24

Speaker 3

You know, what other issues do they cause.

00:19:27:27 - 00:19:28:16

Speaker 1

If you get enough.

00:19:28:23 - 00:19:30:11

Speaker 2

Yeah.

00:19:30:14 - 00:19:44:03

Speaker 3

Broke myself in the process but. Oh it's it's pretty healthy. It's 11 the problem really. Yeah. So I mean it tastes sweet though. It, it tasted I mean they certainly. Yeah.

00:19:44:06 - 00:19:45:22

Speaker 1

The kind of gravel.

END TRANSCRIPTION