0:00:00.620,0:00:05.150

[Music]

0:00:01.950,0:00:05.150

[Applause]

0:00:09.040,0:00:13.040

Hello and welcome.

0:00:10.639,0:00:13.840

You're listening to episode 40 of Ear to

0:00:13.040,0:00:16.160

the Ground,

0:00:13.840,0:00:17.600

a podcast brought to you by Farming

0:00:16.160,0:00:19.520

Connect.

0:00:17.600,0:00:21.520

Coming up in this episode is a

0:00:19.520,0:00:24.240

discussion over a new approach

0:00:21.520,0:00:25.039

to applying fertiliser on farms.

0:00:24.240,0:00:27.680

Traditionally,

0:00:25.039,0:00:28.880

the majority of nitrogen fertilisers are

0:00:27.680,0:00:31.920

applied to grassland

0:00:28.880,0:00:34.480

in a solid or prill form with a spreader,

0:00:31.920,0:00:36.640

however, there is another, quicker method

0:00:34.480,0:00:37.280

of getting nitrogen directly into the

0:00:36.640,0:00:39.120

grass

0:00:37.280,0:00:40.559

which is through the leaves of the plant.

0:00:39.120,0:00:42.840

It's a system called

0:00:40.559,0:00:45.280

foliar feeding, most commonly used in

0:00:42.840,0:00:46.559

horticulture, but may also be suitable

0:00:45.280,0:00:48.719

for grassland.

0:00:46.559,0:00:49.600

We'll be hearing from the consultant who

0:00:48.719,0:00:52.640

led a research

0:00:49.600,0:00:55.360

project supported by EIP Wales,

0:00:52.640,0:00:56.640

the European Innovation Partnership, to

0:00:55.360,0:00:58.399

see what are the benefits

0:00:56.640,0:00:59.760

of foliar feeding compared to the

0:00:58.399,0:01:01.600

conventional method

0:00:59.760,0:01:03.039

and finding out what one of the farmers

0:01:01.600,0:01:13.280

who took part in the trial

0:01:03.039,0:01:15.759

thought of the system.

0:01:13.280,0:01:16.799

My name is Nigel Howells and I run my

0:01:15.759,0:01:19.040

own

0:01:16.799,0:01:20.479

consultancy business basically

0:01:19.040,0:01:22.880

looking at

0:01:20.479,0:01:24.400

grass and soil management and working

0:01:22.880,0:01:26.159

with various,

0:01:24.400,0:01:27.840

mainly dairy farmers but a few beef and

0:01:26.159,0:01:30.880

sheep farmers also and

0:01:27.840,0:01:31.600

focusing on soil health

0:01:30.880,0:01:34.560

and

0:01:31.600,0:01:36.079

grass management. That's come

0:01:34.560,0:01:39.600

on the back of

0:01:36.079,0:01:42.799

25 years of grass management

0:01:39.600,0:01:43.680

experience with dairy herds.

0:01:42.799,0:01:46.000

I'm

0:01:43.680,0:01:47.920

Mike Smith. I'm a dairy farmer from

0:01:46.000,0:01:51.360

Pembrokeshire from just outside of

0:01:47.920,0:01:53.280

Haverfordwest. We milk in the region of

0:01:51.360,0:01:57.439

about 450 cows,

0:01:53.280,0:02:01.200

farming about 700 acres.

0:01:57.439,0:02:03.520

I'm also a director of

0:02:01.200,0:02:04.799

First Milk and so I’ve

0:02:03.520,0:02:09.039

interest in the

0:02:04.799,0:02:11.840

wider dairy industry, and I've

0:02:09.039,0:02:12.400

always had an interest in soil

0:02:11.840,0:02:14.800

health,

0:02:12.400,0:02:16.560

probably stemming from my degree

0:02:14.800,0:02:19.040

where we did a bit of soil science.

0:02:16.560,0:02:22.319

Obviously with all the challenges

0:02:19.040,0:02:24.000

of the environment and

0:02:22.319,0:02:25.680

all the legislation that's coming, it's

0:02:24.000,0:02:27.040

becoming more key.

0:02:25.680,0:02:29.520

We’ve always been open to looking at

0:02:27.040,0:02:32.000

new ideas.

0:02:29.520,0:02:33.200

Thank you Mike

0:02:32.000,0:02:34.239

for that introduction, and also thank you

0:02:33.200,0:02:36.480

Nigel

0:02:34.239,0:02:37.920

for yours as well. Interesting to hear

0:02:36.480,0:02:39.440

a little bit about your backgrounds. No

0:02:37.920,0:02:41.360

doubt we'll be exploring

0:02:39.440,0:02:42.640

more about your thoughts as to the

0:02:41.360,0:02:44.400

future.

0:02:42.640,0:02:46.400

In particular, we want to pick up on a

0:02:44.400,0:02:48.000

very interesting European Innovation

0:02:46.400,0:02:48.879

Partnership project that, Nigel, you've

0:02:48.000,0:02:51.120

been leading on.

0:02:48.879,0:02:53.519

It's looking into a whole new

0:02:51.120,0:02:54.400

approach to applying fertiliser on farms.

0:02:53.519,0:02:57.040

It's called

0:02:54.400,0:02:58.480

foliar feeding and I must admit I know

0:02:57.040,0:03:00.319

very little about the system.

0:02:58.480,0:03:02.720

But perhaps Nigel, you can explain some

0:03:00.319,0:03:05.280

more about what exactly is it and what's

0:03:02.720,0:03:07.040

the purpose of the project?

0:03:05.280,0:03:08.879

Basically the

0:03:07.040,0:03:11.920

foliar feeding is putting on

0:03:08.879,0:03:14.640

fertiliser

0:03:11.920,0:03:16.000

with the sprayer. The grass plant

0:03:14.640,0:03:18.720

takes it in

0:03:16.000,0:03:20.879

through the leaf instead of putting

0:03:18.720,0:03:22.319

fertiliser on the ground conventionally

0:03:20.879,0:03:24.799

and the grass plant taking it through

0:03:22.319,0:03:28.400

the roots.

0:03:24.799,0:03:31.440

The idea was to look at

0:03:28.400,0:03:32.319

the efficiencies we could obtain

0:03:31.440,0:03:34.879

by

0:03:32.319,0:03:35.840

doing the foliar feeding on

0:03:34.879,0:03:37.760

pasture.

0:03:35.840,0:03:39.519

The technology has been

0:03:37.760,0:03:42.879

around for years, especially with

0:03:39.519,0:03:43.760

the arable sector and certainly on

0:03:42.879,0:03:46.400

maize.

0:03:43.760,0:03:48.000

A lot of the maize growing farmers use

0:03:46.400,0:03:51.280

foliar feed

0:03:48.000,0:03:52.799

on maize crops. It’s

0:03:51.280,0:03:53.519

taking that technology and trying to

0:03:52.799,0:03:57.360

apply to

0:03:53.519,0:03:59.360

pasture farms,

0:03:57.360,0:04:00.239

grass based farms and to

0:03:59.360,0:04:03.439

0:04:00.239,0:04:04.159

see the consequences of trying to

0:04:03.439,0:04:06.480

compare

0:04:04.159,0:04:07.519

conventional application compared to

0:04:06.480,0:04:10.799

the foliar feed

0:04:07.519,0:04:15.120

as far as efficiencies, dry matter grown

0:04:10.799,0:04:17.600

and the

0:04:15.120,0:04:20.000

comparative compared to a

0:04:17.600,0:04:21.840

non-fertilised product as well.

0:04:20.000,0:04:23.520

What we've set up on four

0:04:21.840,0:04:26.000

different sites,

0:04:23.520,0:04:28.560

Michael’s being one of them, we've got

0:04:26.000,0:04:30.240

one big field split into three paddocks

0:04:28.560,0:04:31.840

and then we've got a conventionally

0:04:30.240,0:04:35.040

fertilised paddock,

0:04:31.840,0:04:37.440

a non-fertilised paddock

0:04:35.040,0:04:38.880

and then the foliar fed paddock.

0:04:37.440,0:04:40.080

The non-fertilised paddock is the

0:04:38.880,0:04:42.080

control to

0:04:40.080,0:04:44.240

compare with the other two. Therefore, we have

0:04:42.080,0:04:47.600

a base figure to start with

0:04:44.240,0:04:50.960

and then we compare the two.

0:04:47.600,0:04:53.120

The project has received

0:04:50.960,0:04:55.120

funding through EIP Wales and it's

0:04:53.120,0:04:57.040

been delivered by Menter a Busnes

0:04:55.120,0:04:58.960

after we approached them with the idea,

0:04:57.040,0:05:00.080

speaking to Mike and the other three

0:04:58.960,0:05:03.280

farmers

0:05:00.080,0:05:06.000

who were interested in

0:05:03.280,0:05:07.120

looking to applying fertiliser more

0:05:06.000,0:05:09.520

efficiently.

0:05:07.120,0:05:11.120

And obviously with legislation coming

0:05:09.520,0:05:14.160

forward this year,

0:05:11.120,0:05:16.080

with the whole of Wales

0:05:14.160,0:05:17.520

possibly going into NVZ’s, I think it's

0:05:16.080,0:05:20.800

even more

0:05:17.520,0:05:23.440

apt that this work

0:05:20.800,0:05:24.800

is in place and to show what can be

0:05:23.440,0:05:27.840

done.

0:05:24.800,0:05:30.960

0:05:27.840,0:05:32.320

0:05:30.960,0:05:34.000

0:05:32.320,0:05:35.919

0:05:34.000,0:05:37.280

We set it up with these three paddocks.

0:05:35.919,0:05:39.039

0:05:37.280,0:05:41.039

With one of the other farms we've

0:05:39.039,0:05:43.520

got this applied

0:05:41.039,0:05:45.680

to a silage field as well.

0:05:43.520,0:05:47.440

The three paddocks are mainly in a grazing area

0:05:45.680,0:05:51.199

where the cows are grazed.

0:05:47.440,0:05:52.960

The nutrients are applied

0:05:51.199,0:05:55.039

after grazing, so every three to four

0:05:52.960,0:05:56.560

weeks, and then we just monitor

0:05:55.039,0:05:59.360

the dry matter yield.

0:05:56.560,0:06:01.360

We monitor these of natural level in

0:05:59.360,0:06:04.160

grass which is quite interesting as

0:06:01.360,0:06:05.440

we found levels of nitrogen in the

0:06:04.160,0:06:08.479

conventional

0:06:05.440,0:06:11.280

plots two to three times higher

0:06:08.479,0:06:13.440

post application compared to foliar feed.

0:06:11.280,0:06:15.919

This is quite significant as far as

0:06:13.440,0:06:17.440

 showing that obviously the

0:06:15.919,0:06:19.919

challenge that presents to

0:06:17.440,0:06:21.120

any livestock grazing it will be more on

0:06:19.919,0:06:23.360

conventional

0:06:21.120,0:06:25.440

paddock compared to the foliar feed

0:06:23.360,0:06:27.680

paddock.

0:06:25.440,0:06:29.120

Again, there's some things that's just come

0:06:27.680,0:06:31.520

from

0:06:29.120,0:06:33.440

the development of the project.

0:06:31.520,0:06:36.880

0:06:33.440,0:06:38.240

This is

0:06:36.880,0:06:40.720

the third year now of

0:06:38.240,0:06:42.319

a three year project so we'll be

0:06:40.720,0:06:44.400

collecting data until the end of

0:06:42.319,0:06:47.199

September and then obviously we'll be

0:06:44.400,0:06:48.160

putting together the final reports.

0:06:47.199,0:06:50.560

0:06:48.160,0:06:51.680

Looking at it

0:06:50.560,0:06:55.120

0:06:51.680,0:06:55.599

on a basic format, we expected

0:06:55.120,0:06:58.000

the

0:06:55.599,0:06:58.800

conventional fertiliser paddocks to

0:06:58.000,0:07:01.440

grow

0:06:58.800,0:07:02.960

the most, the foliar feed the second

0:07:01.440,0:07:06.000

second most and then the

0:07:02.960,0:07:07.759

non-fertilised paddocks the least.

0:07:06.000,0:07:10.080

That is the trend which certainly

0:07:07.759,0:07:11.199

in the first year that was replicated in

0:07:10.080,0:07:14.240

all four farms

0:07:11.199,0:07:16.960

and that was very consistent. But,

0:07:14.240,0:07:18.319

certainly the second year, last year,

0:07:16.960,0:07:19.840

with the

0:07:18.319,0:07:21.840

weather conditions, we had a very dry

0:07:19.840,0:07:23.599

spell that

0:07:21.840,0:07:24.880

sort of threw in a bit of a spanner in the

0:07:23.599,0:07:26.880

works, but

0:07:24.880,0:07:28.319

it's good for the project to show how

0:07:26.880,0:07:31.520

things react

0:07:28.319,0:07:33.440

in different situations, but certainly

0:07:31.520,0:07:34.800

last year, the second year, we actually

0:07:33.440,0:07:38.319

had two

0:07:34.800,0:07:41.599

of the four farms where the foliar fed

0:07:38.319,0:07:42.080

plots grew a total dry matter

0:07:41.599,0:07:44.560

yield

0:07:42.080,0:07:46.800

more than the conventional. Obviously

0:07:44.560,0:07:49.840

they were challenging conditions, but

0:07:46.800,0:07:50.479

as with the dry conditions

0:07:49.840,0:07:54.319

would

0:07:50.479,0:07:57.520

slow down and reduce the

0:07:54.319,0:08:00.800

efficiency use of conventional

0:07:57.520,0:08:02.400

fertiliser, being foliar fed obviously it gets

0:08:00.800,0:08:05.520

direct into the plant

0:08:02.400,0:08:07.199

the grass is able to

0:08:05.520,0:08:09.680

use it more

0:08:07.199,0:08:11.919

efficiently.

0:08:09.680,0:08:12.879

Comparing, obviously you

0:08:11.919,0:08:14.639

can speak to

0:08:12.879,0:08:16.400

many different people and they will

0:08:14.639,0:08:20.080

probably tell you different figures, but

0:08:16.400,0:08:22.479

on the whole, the foliar feed

0:08:20.080,0:08:23.280

application tends to be between 80 and

0:08:22.479,0:08:26.479

85 per cent

0:08:23.280,0:08:29.680

efficient whereas

0:08:26.479,0:08:30.479

conventionally applied fertiliser can be

0:08:29.680,0:08:33.279

between

0:08:30.479,0:08:34.399

50 to 65 percent

0:08:33.279,0:08:36.800

efficient.

0:08:34.399,0:08:38.080

It depends on the site.

0:08:36.800,0:08:41.279

0:08:38.080,0:08:43.839

0:08:41.279,0:08:44.959

The four farmers

0:08:43.839,0:08:46.399

we're dealing with

0:08:44.959,0:08:48.320

with Mike, we came

0:08:46.399,0:08:51.839

together. We just discussed this project,

0:08:48.320,0:08:55.279

this idea and we went to

0:08:51.839,0:08:58.080

Menter a Busnes with it.

0:08:55.279,0:08:58.640

Like I said, it's certainly

0:08:58.080,0:09:00.560

thrown up

0:08:58.640,0:09:02.720

quite a few

0:09:00.560,0:09:04.160

interesting results to date.

0:09:02.720,0:09:06.320

0:09:04.160,0:09:08.240

Mike, how have you

0:09:06.320,0:09:10.399

seen the project develop and

0:09:08.240,0:09:11.680

what's your take on

0:09:10.399,0:09:14.880

how the project has worked?

0:09:11.680,0:09:16.399

I’ve been involved

0:09:14.880,0:09:19.440

from the start in terms of

0:09:16.399,0:09:22.880

some of the discussions. We use

0:09:19.440,0:09:25.120

John Williams as a soil

0:09:22.880,0:09:27.040

expert and certainly we've been doing a

0:09:25.120,0:09:27.600

lot of detailed soil analysis and looking

0:09:27.040,0:09:29.120

at

0:09:27.600,0:09:31.760

some of the practices that we

0:09:29.120,0:09:34.800

carry out within fertiliser.

0:09:31.760,0:09:36.560

For me, some of the best practices

0:09:34.800,0:09:37.839

or some of the best gains you can make

0:09:36.560,0:09:39.920

is not doing things

0:09:37.839,0:09:41.200

because that's a hundred percent

0:09:39.920,0:09:43.519

saving.

0:09:41.200,0:09:45.279

We'd been looking at

0:09:43.519,0:09:47.920

similar

0:09:45.279,0:09:49.120

ideas before the project came along.

0:09:47.920,0:09:50.480

I think then

0:09:49.120,0:09:52.000

obviously with Nigel and the other four

0:09:50.480,0:09:53.440

farms came the opportunity to access a

0:09:52.000,0:09:54.640

little bit of funding and actually test

0:09:53.440,0:09:57.279

some of the

0:09:54.640,0:09:59.279

actual science. We

0:09:57.279,0:10:02.240

use foliar feeds

0:09:59.279,0:10:04.720

on crops of wheat and

0:10:02.240,0:10:06.640

foliar feeds on maize crops as well.

0:10:04.720,0:10:08.160

When you read up on that,

0:10:06.640,0:10:09.519

they're claiming anything up to 10 times

0:10:08.160,0:10:12.240

as efficient an uptake

0:10:09.519,0:10:13.920

through the leaf as it was

0:10:12.240,0:10:16.079

through applying through

0:10:13.920,0:10:18.160

granular fertiliser to the soil where

0:10:16.079,0:10:20.160

it has to go through a process before

0:10:18.160,0:10:21.760

that nitrogen can actually be

0:10:20.160,0:10:24.079

taken up by the plant.

0:10:21.760,0:10:24.959

Certainly from the first year's

0:10:24.079,0:10:26.480

results, it

0:10:24.959,0:10:28.480

didn't surprise me of the results

0:10:26.480,0:10:30.640

that we had. In the conventional plot, it did

0:10:28.480,0:10:34.000

what you expected, it grew more than

0:10:30.640,0:10:35.519

the control, which didn't

0:10:34.000,0:10:37.440

have any fertiliser

0:10:35.519,0:10:39.200

and obviously the foliar feed, which we'd

0:10:37.440,0:10:39.760

gone on about a tenth of the

0:10:39.200,0:10:42.240

rate

0:10:39.760,0:10:44.399

that we used on the

0:10:42.240,0:10:45.839

conventional plot in terms of nitrogen.

0:10:44.399,0:10:47.839

It proved straight away that was

0:10:45.839,0:10:51.040

a potentially very efficient

0:10:47.839,0:10:52.800

use of nitrogen. If you take

0:10:51.040,0:10:55.120

the control,

0:10:52.800,0:10:55.839

say growing 60% of the grass that you

0:10:55.120,0:10:57.839

would with

0:10:55.839,0:10:59.120

using fertiliser, without using any

0:10:57.839,0:11:00.800

fertiliser,

0:10:59.120,0:11:02.720

certainly the foliar feed per unit of

0:11:00.800,0:11:04.640

nitrogen applied

0:11:02.720,0:11:06.320

was very efficient at growing dry

0:11:04.640,0:11:08.320

matter of grass.

0:11:06.320,0:11:10.560

My issue that I keep coming back to, and

0:11:08.320,0:11:12.560

challenging Nigel with is,

0:11:10.560,0:11:13.680

we still need to grow enough grass for

0:11:12.560,0:11:15.760

our cows’

0:11:13.680,0:11:17.440

demand otherwise we'll go bust quite

0:11:15.760,0:11:19.040

quickly.

0:11:17.440,0:11:21.360

As the project evolved

0:11:19.040,0:11:24.959

certainly this year now,

0:11:21.360,0:11:26.880

rather than looking at

0:11:24.959,0:11:28.160

pure efficiency of how that

0:11:26.880,0:11:30.240

foliar feed would work,

0:11:28.160,0:11:31.920

we're now looking at what level of foliar

0:11:30.240,0:11:34.079

feed do we need to apply

0:11:31.920,0:11:35.040

to actually achieve the same output of

0:11:34.079,0:11:36.800

dry matter

0:11:35.040,0:11:38.560

that a conventional fertiliser was

0:11:36.800,0:11:40.880

achieving.

0:11:38.560,0:11:43.040

The first two years we've

0:11:40.880,0:11:43.839

gone on with 20 kilograms per

0:11:43.040,0:11:47.120

hectare of

0:11:43.839,0:11:48.480

product. That was

0:11:47.120,0:11:49.200

a starting point but it's quite good

0:11:48.480,0:11:51.279

with the project

0:11:49.200,0:11:52.480

as farmers, you

0:11:51.279,0:11:54.480

guys have

0:11:52.480,0:11:55.600

looked at it and say

0:11:54.480,0:11:57.360

0:11:55.600,0:11:59.440

how can we sort of tweak it a bit.

0:11:57.360,0:12:02.639

This year we've gone on with

0:11:59.440,0:12:06.000

40 kilograms per hectare product

0:12:02.639,0:12:06.720

on the foliar feed plots.

0:12:06.000,0:12:09.839

0:12:06.720,0:12:13.440

As a total, for example,

0:12:09.839,0:12:16.480

last year the conventional plots

0:12:13.440,0:12:18.240

would have received between two to

0:12:16.480,0:12:19.200

two hundred and fifty kilograms of N per

0:12:18.240,0:12:21.519

hectare

0:12:19.200,0:12:24.000

and the foliar feed plots received

0:12:21.519,0:12:26.880

between 40 and 70 kilograms per hectare

0:12:24.000,0:12:28.720

of N. We

0:12:26.880,0:12:29.279

started off a low point but certainly

0:12:28.720,0:12:31.920

0:12:29.279,0:12:33.040

we've doubled up the

0:12:31.920,0:12:36.320

0:12:33.040,0:12:37.920

amount per application on the

0:12:36.320,0:12:40.399

foliar feed plots to see what

0:12:37.920,0:12:41.279

that is going to do on it. The same

0:12:40.399,0:12:43.680

with the

0:12:41.279,0:12:45.120

silage fields we have up on one

0:12:43.680,0:12:47.600

the other farms.

0:12:45.120,0:12:48.399

Last year we were using 60

0:12:47.600,0:12:51.760

kilograms

0:12:48.399,0:12:54.880

of N per hectare per cut

0:12:51.760,0:12:56.480

and this year we're trying

0:12:54.880,0:12:59.600

a hundred kilograms of N per

0:12:56.480,0:13:01.360

hectare to see

0:12:59.600,0:13:05.120

the effects. Last year,

0:13:01.360,0:13:08.959

with these silage fields, there was a

0:13:05.120,0:13:10.639

tonne and a half dry matter per hectare

0:13:08.959,0:13:12.800

difference,

0:13:10.639,0:13:13.760

which isn't a huge amount

0:13:12.800,0:13:15.839

relatively

0:13:13.760,0:13:17.040

to the fact that the conventional

0:13:15.839,0:13:20.320

silage field

0:13:17.040,0:13:22.079

had to proceed I think it's 350

0:13:20.320,0:13:23.839

kilograms of N per hectare

0:13:22.079,0:13:25.519

compared to the foliar feed which is

0:13:23.839,0:13:29.040

received 180 kilograms

0:13:25.519,0:13:31.839

of N per hectare. That

0:13:29.040,0:13:32.560

foliar feed silage field had received half

0:13:31.839,0:13:35.360

the amount

0:13:32.560,0:13:36.880

of the conventional and was only a

0:13:35.360,0:13:40.079

tonne and a half dry matter

0:13:36.880,0:13:42.320

away from growing the same.

0:13:40.079,0:13:43.279

That puts a few figures

0:13:42.320,0:13:45.120

behind it then so

0:13:43.279,0:13:46.560

that people understand the levels

0:13:45.120,0:13:49.680

we're talking about.

0:13:46.560,0:13:52.240

Relatively, they’re still low levels realtively

0:13:49.680,0:13:54.320

to conventionally applied

0:13:52.240,0:13:56.000

fertiliser, would you agree Mike?

0:13:54.320,0:13:57.920

Yes, they're certainly a lot lower

0:13:56.000,0:13:58.320

still now this year. The other bit

0:13:57.920,0:14:00.320

that

0:13:58.320,0:14:02.000

Nigel hasn't mentioned

0:14:00.320,0:14:04.959

with the foliar feed, we do

0:14:02.000,0:14:06.000

apply some Humic acid. Humic acid is

0:14:04.959,0:14:08.160

a source of carbon

0:14:06.000,0:14:09.199

and if you look into your

0:14:08.160,0:14:11.199

soil science,

0:14:09.199,0:14:13.120

when you apply conventional

0:14:11.199,0:14:15.360

fertiliser basically

0:14:13.120,0:14:16.720

through the root that the microbes

0:14:15.360,0:14:19.360

sort of break that down to be able to

0:14:16.720,0:14:22.480

feed it to the plant, they will use

0:14:19.360,0:14:23.920

carbon from your soil as an energy

0:14:22.480,0:14:26.560

source to help them

0:14:23.920,0:14:27.040

 sort of break that nitrogen down.

0:14:26.560,0:14:29.040

By

0:14:27.040,0:14:30.959

actually

0:14:29.040,0:14:32.000

applying that carbon source with the

0:14:30.959,0:14:33.680

fertiliser

0:14:32.000,0:14:36.000

that then becomes freely available for

0:14:33.680,0:14:38.480

the microbes to utilise.

0:14:36.000,0:14:40.240

You're not using a carbon

0:14:38.480,0:14:41.760

source that's already in your soil.

0:14:40.240,0:14:43.600

You're basically giving

0:14:41.760,0:14:47.279

them everything that they need to be

0:14:43.600,0:14:49.600

able to uptake really quickly.

0:14:47.279,0:14:50.720

A lot of it showed up,

0:14:49.600,0:14:53.920

particularly last year,

0:14:50.720,0:14:54.880

in our own farm the

0:14:53.920,0:14:57.120

foliar fed

0:14:54.880,0:14:58.000

grew as much as the conventional because

0:14:57.120,0:15:00.639

we went very

0:14:58.000,0:15:03.040

dry very early and the conventional

0:15:00.639,0:15:05.680

fertiliser root

0:15:03.040,0:15:06.639

just simply didn't work so it became

0:15:05.680,0:15:09.920

very inefficient,

0:15:06.639,0:15:12.320

 whereas this combination of the Humic

0:15:09.920,0:15:13.760

acid along with the fertiliser

0:15:12.320,0:15:15.760

through the foliar

0:15:13.760,0:15:17.760

application seem to

0:15:15.760,0:15:18.880

still work even in the dry

0:15:17.760,0:15:20.639

conditions.

0:15:18.880,0:15:22.560

With the

0:15:20.639,0:15:24.560

Humic acid,

0:15:22.560,0:15:26.399

it is a

0:15:24.560,0:15:27.199

carbon source but it does

0:15:26.399,0:15:30.240

help

0:15:27.199,0:15:30.880

because you dilute the urea and

0:15:30.240,0:15:34.399

water,

0:15:30.880,0:15:36.560

it helps to stabilise it

0:15:34.399,0:15:37.839

as it carries it through

0:15:36.560,0:15:40.399

into the grass plant.

0:15:37.839,0:15:41.680

That helps as a carrier

0:15:40.399,0:15:43.759

for the fertiliser

0:15:41.680,0:15:45.680

into the grass plant as well as acting

0:15:43.759,0:15:47.440

as a carbon source.

0:15:45.680,0:15:49.040

It's got two jobs to do.

0:15:47.440,0:15:52.000

0:15:49.040,0:15:54.160

It's surprising the effects

0:15:52.000,0:15:56.240

especially with that dry weather of how

0:15:54.160,0:15:59.120

well it worked.

0:15:56.240,0:15:59.839

0:15:59.120,0:16:01.519

0:15:59.839,0:16:04.000

Looking at the efficiencies

0:16:01.519,0:16:06.880

per kilogram of N applied,

0:16:04.000,0:16:09.279

I would say last year the

0:16:06.880,0:16:12.560

foliar feed plots

0:16:09.279,0:16:16.399

went from growing 24

0:16:12.560,0:16:19.839

0:16:16.399,0:16:23.920

kilograms of dry matter

0:16:19.839,0:16:26.959

per kilogram N up to 72 kilograms

0:16:23.920,0:16:29.519

of dry matter grass per kilogram of N

0:16:26.959,0:16:31.519

which is roughly

0:16:29.519,0:16:33.600

well over double

0:16:31.519,0:16:34.880

what the conventional plots are doing.

0:16:33.600,0:16:37.440

0:16:34.880,0:16:37.920

The whole idea behind the

0:16:37.440,0:16:39.839

project

0:16:37.920,0:16:41.120

is to show the efficiencies that

0:16:39.839,0:16:42.639

can be obtained.

0:16:41.120,0:16:43.920

Now we've done that for two years

0:16:42.639,0:16:44.639

but now we're trying

0:16:43.920,0:16:46.800

to

0:16:44.639,0:16:48.000

push the envelope a bit and to see

0:16:46.800,0:16:49.839

what we can do

0:16:48.000,0:16:52.000

if we still tweak it a bit.

0:16:49.839,0:16:54.160

Last year,

0:16:52.000,0:16:55.279

although the conditions and the

0:16:54.160,0:16:58.320

total dry matter

0:16:55.279,0:17:01.120

of the plots were lower

0:16:58.320,0:17:02.720

in places, it certainly showed up the

0:17:01.120,0:17:04.480

positive aspects of

0:17:02.720,0:17:06.240

the foliar feed with the Humic acid.

0:17:04.480,0:17:07.039

As you've mentioned there

0:17:06.240,0:17:08.640

the challenge

0:17:07.039,0:17:10.160

this year is to try and get the foliar

0:17:08.640,0:17:11.919

feed plots to match

0:17:10.160,0:17:14.319

the yield and the dry matter

0:17:11.919,0:17:15.120

generated by the conventional, but as

0:17:14.319,0:17:17.280

you mentioned

0:17:15.120,0:17:19.679

the efficiency of the foliar feeding is

0:17:17.280,0:17:21.839

far greater than the conventional.

0:17:19.679,0:17:23.439

Have you identified any other

0:17:21.839,0:17:24.319

variables which are important to

0:17:23.439,0:17:26.720

consider if,

0:17:24.319,0:17:27.839

for example, would you apply the foliar

0:17:26.720,0:17:29.679

feed liquid form

0:17:27.839,0:17:31.039

on a more regular basis? Does that make

0:17:29.679,0:17:33.760

it more effective?

0:17:31.039,0:17:36.160

You're using a lot less nitrogen than

0:17:33.760,0:17:38.640

what you would do conventionally but

0:17:36.160,0:17:41.440

are those areas where you can

0:17:38.640,0:17:43.760

identify potential, even further gains?

0:17:41.440,0:17:44.799

0:17:43.760,0:17:47.760

0:17:44.799,0:17:49.120

It's quite a simple project. We try to

0:17:47.760,0:17:52.960

set it up quite simply,

0:17:49.120,0:17:56.400

based on a rotational grazing

0:17:52.960,0:17:59.840

pasture system, roughly 21 days

0:17:56.400,0:18:03.679

rotation. We were looking at

0:17:59.840,0:18:06.480

applying nutrient every 21 days-ish

0:18:03.679,0:18:07.840

0:18:06.480,0:18:10.880

comparing to conventional

0:18:07.840,0:18:13.760

applied fertiliser systems.

0:18:10.880,0:18:15.280

I

0:18:13.760,0:18:15.600

suppose you're trying to balance this

0:18:15.280,0:18:19.039

0:18:15.600,0:18:21.280

with the best and most efficient

0:18:19.039,0:18:22.960

ways and tweaking it but also

0:18:21.280,0:18:24.880

you have to balance the

0:18:22.960,0:18:27.200

practicalities of it as well.

0:18:24.880,0:18:28.000

We

0:18:27.200,0:18:32.559

worked on

0:18:28.000,0:18:35.440

every three to four weeks

0:18:32.559,0:18:36.080

of application of the foliar feed.

0:18:35.440,0:18:37.840

You can

0:18:36.080,0:18:39.360

do it every two weeks.

0:18:37.840,0:18:40.880

There's no issue because the levels are

0:18:39.360,0:18:43.440

so low

0:18:40.880,0:18:44.640

of the fertiliser we are applying.

0:18:43.440,0:18:47.280

Every two weeks wouldn't be

0:18:44.640,0:18:48.400

an issue for the plant but

0:18:47.280,0:18:50.160

obviously

0:18:48.400,0:18:51.440

it comes down to the practicality

0:18:50.160,0:18:53.200

of what can be

0:18:51.440,0:18:55.120

and can't be done. Obviously,

0:18:53.200,0:18:57.360

if the farm has its own sprayer

0:18:55.120,0:18:58.799

and the staff to do it, it’s

0:18:57.360,0:19:01.039

not an issue but it is

0:18:58.799,0:19:01.840

if you have to get a contractor

0:19:01.039,0:19:04.480

in.

0:19:01.840,0:19:05.360

Normally, when you want to apply

0:19:04.480,0:19:07.600

foliar feed,

0:19:05.360,0:19:09.520

it tends to be in the summer

0:19:07.600,0:19:11.520

when the guys are very busy.

0:19:09.520,0:19:13.760

I

0:19:11.520,0:19:14.320

should point out as well, with the foliar

0:19:13.760,0:19:18.320

feed

0:19:14.320,0:19:20.480

applications, as it says on the tin,

0:19:18.320,0:19:22.160

you need grass there. You need the

0:19:20.480,0:19:23.200

foliar leaf there to be able to take

0:19:22.160,0:19:25.360

the product in.

0:19:23.200,0:19:26.799

When I say you graze the

0:19:25.360,0:19:28.799

paddock today and

0:19:26.799,0:19:31.039

applying the fertiliser

0:19:28.799,0:19:34.240

tomorrow with a conventional

0:19:31.039,0:19:37.120

situation, we have to wait

0:19:34.240,0:19:38.000

a week to 10 days for the grass

0:19:37.120,0:19:41.120

plant to

0:19:38.000,0:19:43.679

come back to about average cover of

0:19:41.120,0:19:44.320

2,100-2,200 or whether that'd be

0:19:43.679,0:19:46.400

three

0:19:44.320,0:19:48.080

to four inches height.

0:19:46.400,0:19:49.840

There's got to be a leaf there to be able to

0:19:48.080,0:19:52.080

take the foliar feed in

0:19:49.840,0:19:53.440

and also, with the foliar feed, this

0:19:52.080,0:19:57.120

is like any

0:19:53.440,0:20:00.640

spraying process on farms.

0:19:57.120,0:20:03.919

Ideally, you would either do it either

0:20:00.640,0:20:04.400

early in the morning or, the best

0:20:03.919,0:20:06.400

0:20:04.400,0:20:08.640

way to do it is, in the

0:20:06.400,0:20:11.600

afternoon or late early evening

0:20:08.640,0:20:13.600

because as well as keeping away from

0:20:11.600,0:20:15.840

the midday sun. It's also when the grass

0:20:13.600,0:20:18.159

plants tend to

0:20:15.840,0:20:18.960

open up the back of the

0:20:18.159,0:20:21.039

grass plant.

0:20:18.960,0:20:22.240

The stomata, when it takes in the foliar

0:20:21.039,0:20:25.360

feed will be

0:20:22.240,0:20:27.679

more open to taking the product.

0:20:25.360,0:20:29.679

Ideally, foliar feed

0:20:27.679,0:20:31.520

should be done sort of

0:20:29.679,0:20:31.919

late afternoon or early evening to get some

0:20:31.520,0:20:33.919

of the

0:20:31.919,0:20:36.080

best results.

0:20:33.919,0:20:37.840

That's the only sort of limiting

0:20:36.080,0:20:39.440

factor with it, which is the

0:20:37.840,0:20:41.600

application of the product

0:20:39.440,0:20:43.200

compared to conventional. Again,

0:20:41.600,0:20:45.360

0:20:43.200,0:20:46.480

we do get the efficiencies

0:20:45.360,0:20:48.080

and

0:20:46.480,0:20:49.840

this year, we'll see whether we can

0:20:48.080,0:20:50.480

hit the same levels as conventional

0:20:49.840,0:20:53.039

but

0:20:50.480,0:20:53.520

like with

0:20:53.039,0:20:54.960

0:20:53.520,0:20:57.520

doing anything worthwhile, obviously

0:20:54.960,0:21:00.240

there are a few differences of

0:20:57.520,0:21:01.600

protocols to follow to achieve results.

0:21:00.240,0:21:02.799

0:21:01.600,0:21:06.400

Mike, what's your view on the

0:21:02.799,0:21:08.720

practicalities of foliar feeding?

0:21:06.400,0:21:10.400

I think it's probably more

0:21:08.720,0:21:11.520

of a challenge when we're just doing one

0:21:10.400,0:21:13.840

singular plot.

0:21:11.520,0:21:15.039

We've got a 17 acre field split

0:21:13.840,0:21:17.679

to three .

0:21:15.039,0:21:19.120

It's only a very small

0:21:17.679,0:21:20.480

area that you've got to go to the effort

0:21:19.120,0:21:22.320

of putting a sprayer on to do

0:21:20.480,0:21:23.919

and then you've got the timing issue

0:21:22.320,0:21:24.960

around trying to catch it

0:21:23.919,0:21:26.559

0:21:24.960,0:21:28.640

two or three days or four days after the

0:21:26.559,0:21:30.880

grazing to have enough

0:21:28.640,0:21:32.720

leaf area. At the moment, it is a

0:21:30.880,0:21:34.400

separate job that we're doing because of

0:21:32.720,0:21:36.559

the project.

0:21:34.400,0:21:38.400

If you want to

0:21:36.559,0:21:38.960

apply this more widely across the whole

0:21:38.400,0:21:40.000

farm

0:21:38.960,0:21:41.520

perhaps it would actually become a

0:21:40.000,0:21:43.039

little bit easier because you'd be able

0:21:41.520,0:21:45.520

to mix more of the product

0:21:43.039,0:21:46.240

in a batch and have it

0:21:45.520,0:21:48.880

available

0:21:46.240,0:21:49.840

and possibly leave the sprayer on

0:21:48.880,0:21:52.480

a tractor so that

0:21:49.840,0:21:52.880

you're ready to use it.

0:21:52.480,0:21:55.520

Therefore,

0:21:52.880,0:21:57.200

yes, you can see why

0:21:55.520,0:21:59.440

potentially there are

0:21:57.200,0:22:00.799

issues that you'd have to get

0:21:59.440,0:22:03.600

over in terms of

0:22:00.799,0:22:05.039

carrying the amount of water

0:22:03.600,0:22:05.360

to cover the sort of areas that you

0:22:05.039,0:22:07.200

would

0:22:05.360,0:22:08.559

comparing to conventional

0:22:07.200,0:22:10.240

fertiliser.

0:22:08.559,0:22:12.480

It's probably be a slower job doing it

0:22:10.240,0:22:13.919

through the sprayer

0:22:12.480,0:22:15.600

but, again, it's nothing that's

0:22:13.919,0:22:16.159

unsurmountable if the results are good

0:22:15.600,0:22:20.000

enough,

0:22:16.159,0:22:23.360

if it shows to be a very

0:22:20.000,0:22:24.960

profitable way of farming.

0:22:23.360,0:22:26.799

I suppose, coming in there, I would

0:22:24.960,0:22:30.000

say

0:22:26.799,0:22:30.799

at the moment we do a ready-to-spray

0:22:30.000,0:22:33.600

mix

0:22:30.799,0:22:34.799

which basically goes on at 200 liters

0:22:33.600,0:22:37.600

per hectare but

0:22:34.799,0:22:38.159

I mean it's about looking at

0:22:37.600,0:22:41.360

making

0:22:38.159,0:22:42.080

more concentrated mixes. And

0:22:41.360,0:22:44.799

then

0:22:42.080,0:22:45.200

for every

0:22:44.799,0:22:47.120

mix

0:22:45.200,0:22:49.120

and say, IBC or a tank or

0:22:47.120,0:22:52.799

something you can do more area.

0:22:49.120,0:22:55.200

It's about ramping up, so

0:22:52.799,0:22:57.760

fine-tuning these application

0:22:55.200,0:23:00.080

method to do it.

0:22:57.760,0:23:03.440

That would be some of

0:23:00.080,0:23:04.720

the ongoings of change with it,

0:23:03.440,0:23:07.280

to

0:23:04.720,0:23:08.720

work it on a bigger level and

0:23:07.280,0:23:09.440

that'd be the next challenge with it I

0:23:08.720,0:23:12.720

think.

0:23:09.440,0:23:14.559

And Mike, from a business perspective and

0:23:12.720,0:23:16.000

from your point of view and running the

0:23:14.559,0:23:16.880

business, you want to be as efficient as

0:23:16.000,0:23:19.919

possible

0:23:16.880,0:23:21.120

but, by adopting this method, do you think

0:23:19.919,0:23:23.280

it's going to save you

0:23:21.120,0:23:24.799

significant sums of money on inputs

0:23:23.280,0:23:26.640

each year?

0:23:24.799,0:23:28.799

It certainly appears to have that

0:23:26.640,0:23:30.559

potential.

0:23:28.799,0:23:32.640

What we've got to be

0:23:30.559,0:23:34.960

able to do is match the output

0:23:32.640,0:23:36.000

because, at the end of the day, output

0:23:34.960,0:23:38.960

is what we get paid on.

0:23:36.000,0:23:40.400

We don't get paid on efficient

0:23:38.960,0:23:42.159

grass use. We get paid on the amount of

0:23:40.400,0:23:43.840

milk that we sell off the farm.

0:23:42.159,0:23:46.559

It's important that it doesn't

0:23:43.840,0:23:48.240

come at the cost of reduced output

0:23:46.559,0:23:48.960

because we haven't grown the volumes of

0:23:48.240,0:23:52.000

grass that

0:23:48.960,0:23:53.520

we would normally have done. There's

0:23:52.000,0:23:55.120

definitely a balance point there

0:23:53.520,0:23:56.240

somewhere between efficiency of nitrogen

0:23:55.120,0:23:59.520

use

0:23:56.240,0:24:02.159

versus production of grass that

0:23:59.520,0:24:03.520

allows us to produce the milk.

0:24:02.159,0:24:05.039

Finding that

0:24:03.520,0:24:06.480

sweet spot is a challenge and

0:24:05.039,0:24:08.080

that's what we're looking into

0:24:06.480,0:24:10.400

more closely this year.

0:24:08.080,0:24:12.240

I'm sure you will have looked in

0:24:10.400,0:24:12.640

detail as many farmers in Wales would

0:24:12.240,0:24:15.039

have

0:24:12.640,0:24:16.159

at the new regulations around water

0:24:15.039,0:24:18.799

quality, do you think

0:24:16.159,0:24:21.039

this approach will help you in meeting

0:24:18.799,0:24:23.679

those regulations going forward?

0:24:21.039,0:24:25.440

I think the initial issues around

0:24:23.679,0:24:29.200

the NVZ legislation

0:24:25.440,0:24:32.000

are to do with the limits on

0:24:29.200,0:24:32.960

organic nitrogen, they are probably more of

0:24:32.000,0:24:35.279

a problem than

0:24:32.960,0:24:36.799

actually the sort of

0:24:35.279,0:24:38.480

conventional fertiliser.

0:24:36.799,0:24:40.320

The stocking rate issue and the

0:24:38.480,0:24:43.120

limits of 170 kilos

0:24:40.320,0:24:44.159

per hectare of nitrogen, that's

0:24:43.120,0:24:46.559

the

0:24:44.159,0:24:48.640

real sort of challenge

0:24:46.559,0:24:49.840

that's facing farmers

0:24:48.640,0:24:51.919

at the moment

0:24:49.840,0:24:52.880

but, certainly there's other

0:24:51.919,0:24:53.520

things that's going to come down the

0:24:52.880,0:24:54.720

line.

0:24:53.520,0:24:55.840

If you look at the clean air act, you

0:24:54.720,0:24:56.720

look at various other bits where

0:24:55.840,0:25:00.000

they're looking at

0:24:56.720,0:25:01.919

ammonia emissions, purely the

0:25:00.000,0:25:03.440

production of ammonium nitrate

0:25:01.919,0:25:06.640

in itself, is

0:25:03.440,0:25:09.200

not particularly

0:25:06.640,0:25:10.480

great in terms of carbon footprint.

0:25:09.200,0:25:12.159

All these other pressures are kind of

0:25:10.480,0:25:12.720

going to ramp up, it's not just NVZ’s.

0:25:12.159,0:25:15.840

0:25:12.720,0:25:17.039

You can certainly see how

0:25:15.840,0:25:19.679

we're really going to have to

0:25:17.039,0:25:20.240

be very efficient in

0:25:19.679,0:25:22.559

what we do.

0:25:20.240,0:25:23.440

I certainly think that this

0:25:22.559,0:25:25.360

is

0:25:23.440,0:25:26.480

an area that's going to be worth looking

0:25:25.360,0:25:29.600

at further.

0:25:26.480,0:25:31.600

Yes, saying that Mike,

0:25:29.600,0:25:32.640

part of the project when

0:25:31.600,0:25:36.400

we were setting up

0:25:32.640,0:25:38.000

we had actually looked on actually

0:25:36.400,0:25:39.760

testing air quality from the different

0:25:38.000,0:25:41.039

plots but we just didn't have the

0:25:39.760,0:25:42.000

budget to do it. The

0:25:41.039,0:25:45.200

machine to do it

0:25:42.000,0:25:47.200

is quite an

0:25:45.200,0:25:49.600

expensive machine. But,

0:25:47.200,0:25:51.120

ideally, as part of the project,

0:25:49.600,0:25:53.440

it would have been nice to be able to do

0:25:51.120,0:25:56.720

that and compare the

0:25:53.440,0:25:59.440

the environmental losses

0:25:56.720,0:26:00.240

with the conventional plot to the foliar feed

0:25:59.440,0:26:02.240

plot.

0:26:00.240,0:26:04.320

I think that would be quite a nice

0:26:02.240,0:26:06.640

set of data to

0:26:04.320,0:26:08.480

go along with what we have.

0:26:06.640,0:26:10.960

But, ongoing,

0:26:08.480,0:26:12.320

in farming, I

0:26:10.960,0:26:15.600

think it's going to

0:26:12.320,0:26:16.159

be looked at more seriously again.

0:26:15.600,0:26:17.760

But

0:26:16.159,0:26:19.200

because there are other benefits

0:26:17.760,0:26:20.640

isn't it when you start looking

0:26:19.200,0:26:21.120

at things and one of the things Nigel

0:26:20.640,0:26:22.799

0:26:21.120,0:26:24.960

has been monitoring is sward

0:26:22.799,0:26:28.159

quality. They've been looking at

0:26:24.960,0:26:29.679

things like clover content and grass

0:26:28.159,0:26:30.640

density and various things like

0:26:29.679,0:26:32.080

that.

0:26:30.640,0:26:34.960

When you look at any conventional

0:26:32.080,0:26:38.240

fertiliser application from a soil

0:26:34.960,0:26:40.720

biology point of view certainly,

0:26:38.240,0:26:42.720

when you put large quantities of any

0:26:40.720,0:26:44.880

0:26:42.720,0:26:46.080

inorganic fertiliser on or even organic

0:26:44.880,0:26:47.840

fertiliser to that sense

0:26:46.080,0:26:49.200

that's when you do the most damage.

0:26:47.840,0:26:50.720

Little and often is

0:26:49.200,0:26:52.799

is the best approach in terms

0:26:50.720,0:26:55.919

of efficiency.

0:26:52.799,0:26:57.679

That foliar

0:26:55.919,0:26:59.360

benefit of using that such a small

0:26:57.679,0:27:01.679

amount actually should bring a

0:26:59.360,0:27:03.919

benefit through of clover thriving

0:27:01.679,0:27:04.960

and fixing more nitrogen. The total

0:27:03.919,0:27:08.559

benefit

0:27:04.960,0:27:10.000

might be that

0:27:08.559,0:27:11.520

your grass varieties or your clover

0:27:10.000,0:27:13.039

varieties that are in the ground and the

0:27:11.520,0:27:15.360

bacteria that are in the ground fixing

0:27:13.039,0:27:17.679

nitrogen naturally from the atmosphere

0:27:15.360,0:27:19.360

might thrive to make up some of the

0:27:17.679,0:27:21.279

shortfall in terms of the level of

0:27:19.360,0:27:24.080

actual product that you're

0:27:21.279,0:27:25.600

applying. Where I also see it is a timing

0:27:24.080,0:27:28.399

thing. I think with artificial

0:27:25.600,0:27:29.919

fertiliser, the reason why you

0:27:28.399,0:27:30.960

use it is because it gives a relatively

0:27:29.919,0:27:33.919

quick response.

0:27:30.960,0:27:35.039

When you look at organic fertiliser like

0:27:33.919,0:27:37.039

applying slurry

0:27:35.039,0:27:39.200

pre first cut you don't really see

0:27:37.039,0:27:42.480

the benefit of that until the second cut.

0:27:39.200,0:27:44.559

0:27:42.480,0:27:45.679

Obviously you've got windows then where

0:27:44.559,0:27:48.399

you need forage

0:27:45.679,0:27:49.600

that sit outside where the

0:27:48.399,0:27:52.159

organic fertiliser

0:27:49.600,0:27:53.279

benefit is helping you. And

0:27:52.159,0:27:54.799

certainly, that would be the same with

0:27:53.279,0:27:56.000

clover. Clover's obviously traditionally

0:27:54.799,0:27:58.080

slow in the spring,

0:27:56.000,0:27:59.679

and as the season goes on the

0:27:58.080,0:28:01.200

level of cover would increase

0:27:59.679,0:28:04.159

as the season goes on

0:28:01.200,0:28:04.960

therefore having

0:28:04.159,0:28:06.799

a benefit

0:28:04.960,0:28:08.159

of early season where you could get a quick

0:28:06.799,0:28:11.120

response

0:28:08.159,0:28:12.720

to your foliar feed to allow your

0:28:11.120,0:28:13.200

slurries and your clovers to

0:28:12.720,0:28:14.159

kick in

0:28:13.200,0:28:16.080

without putting something that's

0:28:14.159,0:28:16.480

potentially damaging and holding that

0:28:16.080,0:28:20.080

back.

0:28:16.480,0:28:22.559

On that point Mike,

0:28:20.080,0:28:23.360

something I haven't said yet is,

0:28:22.559,0:28:25.919

0:28:23.360,0:28:26.880

with the foliar feed application, it doesn't

0:28:25.919,0:28:30.240

depend on

0:28:26.880,0:28:32.960

soil conditions.

0:28:30.240,0:28:35.679

Effectively, you could go on

0:28:32.960,0:28:38.480

early with an early small application

0:28:35.679,0:28:38.960

even if soil conditions are four or five

0:28:38.480,0:28:40.960

degrees

0:28:38.960,0:28:42.480

to potentially could kick

0:28:40.960,0:28:44.559

start the

0:28:42.480,0:28:45.679

grass growth early in the

0:28:44.559,0:28:48.559

season

0:28:45.679,0:28:49.600

without any detriment effect.

0:28:48.559,0:28:52.159

0:28:49.600,0:28:53.039

It certainly gives flexibility

0:28:52.159,0:28:55.360

0:28:53.039,0:28:56.320

for early and late applications as far

0:28:55.360,0:28:58.720

as

0:28:56.320,0:29:00.080

growing grass. It's

0:28:58.720,0:29:02.159

certainly

0:29:00.080,0:29:03.679

gives a flexibility in

0:29:02.159,0:29:07.200

that sense that you don't have to

0:29:03.679,0:29:10.640

wait as in with conventional fertiliser,

0:29:07.200,0:29:12.960

well, as far as ryegrass

0:29:10.640,0:29:13.760

growing at five degrees but certainly

0:29:12.960,0:29:16.080

with

0:29:13.760,0:29:17.440

commercial fertiliser the soil needs to

0:29:16.080,0:29:19.200

have warmed up to be able to deal with

0:29:17.440,0:29:20.880

the conventional fertiliser.

0:29:19.200,0:29:22.559

But, with a foliar feed,

0:29:20.880,0:29:23.200

because it goes direct into the

0:29:22.559,0:29:25.039

plant,

0:29:23.200,0:29:26.240

as

0:29:25.039,0:29:28.159

long as there are

0:29:26.240,0:29:29.760

four inches there to take the

0:29:28.159,0:29:31.919

foliar feed in then certainly it

0:29:29.760,0:29:34.320

will be effective.

0:29:31.919,0:29:36.240

It could give

0:29:34.320,0:29:37.120

the farmers another tool in the box

0:29:36.240,0:29:40.960

as far as

0:29:37.120,0:29:40.960

fine-tuning things and

0:29:41.760,0:29:45.279

make the best of what they have. It's

0:29:43.840,0:29:48.000

certainly giving farmers

0:29:45.279,0:29:48.799

more options. Mike, have you noticed any

0:29:48.000,0:29:50.399

interest from

0:29:48.799,0:29:52.000

other farmers in what you're doing? I

0:29:50.399,0:29:53.600

know this is a farmer-led project and

0:29:52.000,0:29:54.399

there's four farms involved in the

0:29:53.600,0:29:56.960

trials

0:29:54.399,0:29:57.919

but have you spoken to others who are

0:29:56.960,0:30:00.320

keen to learn

0:29:57.919,0:30:01.200

what you've learned and possibly adopt

0:30:00.320,0:30:03.520

that system

0:30:01.200,0:30:05.120

on their own farms in the future? Yes,

0:30:03.520,0:30:06.480

there’s certainly a few people have been

0:30:05.120,0:30:08.320

in touch

0:30:06.480,0:30:10.080

wanting to pick my brains on what

0:30:08.320,0:30:11.919

what they could get away with trying

0:30:10.080,0:30:13.840

without causing them too much

0:30:11.919,0:30:15.679

hassle.

0:30:13.840,0:30:16.960

There is a farm locally that's

0:30:15.679,0:30:18.480

actually bought

0:30:16.960,0:30:20.159

a specialist piece of kit from New

0:30:18.480,0:30:22.159

Zealand

0:30:20.159,0:30:24.559

which is a sprayer that's designed for

0:30:22.159,0:30:26.320

for doing foliar feeding. It

0:30:24.559,0:30:27.679

would be a step forward from what

0:30:26.320,0:30:29.039

we're doing at the moment.

0:30:27.679,0:30:29.840

We're using a conventional sprayer

0:30:29.039,0:30:31.440

whereas

0:30:29.840,0:30:34.080

this particular machine is designed to

0:30:31.440,0:30:34.559

produce quite large droplet sizes so

0:30:34.080,0:30:37.039

0:30:34.559,0:30:38.000

you don't lose any product through

0:30:37.039,0:30:40.880

the atmosphere

0:30:38.000,0:30:42.080

and you can also mix in

0:30:40.880,0:30:44.640

minerals and even

0:30:42.080,0:30:46.000

small grass seeds and clover

0:30:44.640,0:30:47.360

seeds

0:30:46.000,0:30:48.559

through the machine as well. I'm

0:30:47.360,0:30:50.559

watching him as well

0:30:48.559,0:30:52.799

to see. He bought that at the

0:30:50.559,0:30:54.159

beginning of last season and I'm

0:30:52.799,0:30:56.320

keeping an eye on him and we're

0:30:54.159,0:30:59.440

having a few discussions to

0:30:56.320,0:31:02.240

see what we're trying next.

0:30:59.440,0:31:03.440

It's something like that

0:31:02.240,0:31:05.519

that might

0:31:03.440,0:31:07.279

push this job on a step further because

0:31:05.519,0:31:09.760

it is designed for the job,

0:31:07.279,0:31:10.880

it mixes the product more

0:31:09.760,0:31:13.039

aggressively than a

0:31:10.880,0:31:13.919

conventional sprayer would and keeps

0:31:13.039,0:31:15.600

the products,

0:31:13.919,0:31:17.360

you're putting

0:31:15.600,0:31:18.720

solid mineral products

0:31:17.360,0:31:20.320

in, to keep that in

0:31:18.720,0:31:22.240

suspension if you're going to

0:31:20.320,0:31:24.080

spray as a foliar feed

0:31:22.240,0:31:25.039

which a conventional sprayer perhaps

0:31:24.080,0:31:28.320

wouldn't do so.

0:31:25.039,0:31:30.399

I think with that machine,

0:31:28.320,0:31:32.159

0:31:30.399,0:31:34.240

0:31:32.159,0:31:35.600

like anything in agriculture,

0:31:34.240,0:31:38.720

I think if you make it

0:31:35.600,0:31:40.880

simpler and easier to do

0:31:38.720,0:31:42.000

I think it will be taken up more readily.

0:31:40.880,0:31:44.399

0:31:42.000,0:31:45.120

I speak to the

0:31:44.399,0:31:47.200

0:31:45.120,0:31:50.159

sprayer contractor we use on one of the

0:31:47.200,0:31:52.640

farms, he has been actually doing

0:31:50.159,0:31:54.000

foliar feeding on a number of

0:31:52.640,0:31:56.240

his clients’ farms.

0:31:54.000,0:31:57.279

He's seen what

0:31:56.240,0:31:58.880

we've been doing and

0:31:57.279,0:32:01.600

obviously related to these farmers and

0:31:58.880,0:32:04.000

I think for

0:32:01.600,0:32:05.519

one guy he did about 60 acres of his

0:32:04.000,0:32:08.720

grazing pasture

0:32:05.519,0:32:10.480

foliar fed purely on the what

0:32:08.720,0:32:12.799

the contractor said of what he's seen

0:32:10.480,0:32:14.559

on the project.

0:32:12.799,0:32:16.080

There are a few farmers

0:32:14.559,0:32:17.919

looking at taking it

0:32:16.080,0:32:18.480

up. Last year as well, with

0:32:17.919,0:32:21.279

the dry

0:32:18.480,0:32:22.799

conditions, quite a few guys

0:32:21.279,0:32:24.640

had a go with it last year.

0:32:22.799,0:32:26.080

With the conditions

0:32:24.640,0:32:29.039

very poor, for conventional

0:32:26.080,0:32:32.080

fertilisers certainly ,

0:32:29.039,0:32:34.880

did try it and

0:32:32.080,0:32:35.679

saw positive responses from it.

0:32:34.880,0:32:37.919

0:32:35.679,0:32:39.600

Slowly but surely people are

0:32:37.919,0:32:40.159

seeing what it can do but

0:32:39.600,0:32:43.600

obviously

0:32:40.159,0:32:45.679

it's getting

0:32:43.600,0:32:46.720

the system to fit your farming system.

0:32:45.679,0:32:50.080

0:32:46.720,0:32:53.120

I think it's a positive step.

0:32:50.080,0:32:53.519

Mike, as a farming family, have you always

0:32:53.120,0:32:55.200

been

0:32:53.519,0:32:56.799

involved in research work? Does it

0:32:55.200,0:32:58.799

always interests you

0:32:56.799,0:33:00.559

trying to find out ways of doing things

0:32:58.799,0:33:02.640

differently, doing them better,

0:33:00.559,0:33:04.559

finding those efficiencies that all add

0:33:02.640,0:33:05.760

up to the bottom line at the end of the

0:33:04.559,0:33:08.240

day? Is it something

0:33:05.760,0:33:09.760

that excites you as being a farmer?

0:33:08.240,0:33:12.399

Certainly.

0:33:09.760,0:33:13.600

Farming isn't a pure

0:33:12.399,0:33:15.440

science but

0:33:13.600,0:33:16.799

it's certainly

0:33:15.440,0:33:18.559

an experiment isn't it.

0:33:16.799,0:33:20.799

It's a practice,

0:33:18.559,0:33:22.080

0:33:20.799,0:33:23.840

some of the comments

0:33:22.080,0:33:24.960

sometimes about agriculture I think

0:33:23.840,0:33:26.399

people think you're making nuts and

0:33:24.960,0:33:26.960

bolts that is a fairly consistent

0:33:26.399,0:33:29.200

process.

0:33:26.960,0:33:30.480

Agriculture doesn't work like that.

0:33:29.200,0:33:32.799

It's

0:33:30.480,0:33:34.080

obviously got lots of variables and

0:33:32.799,0:33:35.279

things that work on my farm won't

0:33:34.080,0:33:36.799

necessarily work on my next-door

0:33:35.279,0:33:38.159

neighbours’ farm.

0:33:36.799,0:33:40.720

You've always got to be open-minded and

0:33:38.159,0:33:41.519

you've always got to be prepared to try

0:33:40.720,0:33:44.080

things and

0:33:41.519,0:33:45.600

you either

0:33:44.080,0:33:46.720

benefit or you learn don't you. That's

0:33:45.600,0:33:49.760

basically

0:33:46.720,0:33:51.360

how it works. That's

0:33:49.760,0:33:52.240

always been our mantra.

0:33:51.360,0:33:54.960

We're always

0:33:52.240,0:33:56.240

trying something and I'd

0:33:54.960,0:33:57.440

encourage other people to do the same.

0:33:56.240,0:33:59.519

0:33:57.440,0:34:01.360

And, I'm sure Nigel, it's refreshing to

0:33:59.519,0:34:03.440

have the opportunity to work

0:34:01.360,0:34:04.880

with forward-thinking farmers like

0:34:03.440,0:34:07.120

Mike?

0:34:04.880,0:34:08.399

It is.

0:34:07.120,0:34:10.560

0:34:08.399,0:34:12.240

They're looking outside

0:34:10.560,0:34:13.839

of the conventional box and looking

0:34:12.240,0:34:16.399

0:34:13.839,0:34:17.359

to

0:34:16.399,0:34:20.879

environmentally

0:34:17.359,0:34:22.960

improve their farming practices.

0:34:20.879,0:34:24.240

At the end of the day

0:34:22.960,0:34:25.679

they are a business that

0:34:24.240,0:34:26.960

has to make money

0:34:25.679,0:34:29.760

so obviously they want to

0:34:26.960,0:34:31.200

have the balance of having a profitable

0:34:29.760,0:34:33.440

business but obviously

0:34:31.200,0:34:34.960

fine-tuning. That's the thing

0:34:33.440,0:34:37.839

with most businesses,

0:34:34.960,0:34:39.200

if you do all these small

0:34:37.839,0:34:41.040

little things,

0:34:39.200,0:34:43.359

a lot of little things right, it

0:34:41.040,0:34:46.000

ends up with a positive outcome.

0:34:43.359,0:34:47.119

0:34:46.000,0:34:50.240

Working with positive

0:34:47.119,0:34:52.000

minded farmers is

0:34:50.240,0:34:54.240

a good way to go forward and to show

0:34:52.000,0:34:55.599

other farmers as well.

0:34:54.240,0:34:57.280

Farmers being farmers,

0:34:55.599,0:34:59.440

they will wait

0:34:57.280,0:35:01.119

to see what other farmers do and how it

0:34:59.440,0:35:02.480

turns out first before doing anything.

0:35:01.119,0:35:04.400

I think it's good that

0:35:02.480,0:35:05.839

Mike and the other guys are in this

0:35:04.400,0:35:08.560

project showing

0:35:05.839,0:35:09.200

what's going on. From a purely business

0:35:08.560,0:35:11.200

point of view,

0:35:09.200,0:35:12.320

we trade as a

0:35:11.200,0:35:14.720

limited company and

0:35:12.320,0:35:15.520

certainly limited companies can actually

0:35:14.720,0:35:17.920

0:35:15.520,0:35:19.359

claim research tax credits.

0:35:17.920,0:35:20.880

Some of these farmer trials, if you

0:35:19.359,0:35:21.520

actually organise yourself to record the

0:35:20.880,0:35:23.839

data

0:35:21.520,0:35:25.119

properly, there is an

0:35:23.839,0:35:27.440

opportunity to actually

0:35:25.119,0:35:30.560

create a

0:35:27.440,0:35:32.320

direct financial benefit which would

0:35:30.560,0:35:33.520

pave or cover the cost of some

0:35:32.320,0:35:35.280

of this trial work that you're carrying

0:35:33.520,0:35:37.119

out on farms.

0:35:35.280,0:35:38.800

It's certainly something that

0:35:37.119,0:35:42.000

I'd encourage farmers to look at.

0:35:38.800,0:35:43.680

0:35:42.000,0:35:45.040

I think perhaps agriculture has

0:35:43.680,0:35:45.359

been slow at looking at some of the

0:35:45.040,0:35:48.000

other

0:35:45.359,0:35:49.280

opportunities that sit around research

0:35:48.000,0:35:51.599

0:35:49.280,0:35:53.920

but farmers just do things for their own

0:35:51.599,0:35:56.000

benefit. They don't realise that

0:35:53.920,0:35:57.839

what other people would class as

0:35:56.000,0:35:59.760

research is what

0:35:57.839,0:36:01.359

we would class as our day-to-day

0:35:59.760,0:36:02.400

job.

0:36:01.359,0:36:04.880

There certainly are

0:36:02.400,0:36:06.960

opportunities. And what do you say Mike,

0:36:04.880,0:36:08.880

collecting data and analysing data is

0:36:06.960,0:36:10.880

part of your day-to-day job now that is

0:36:08.880,0:36:12.800

part and parcel of what you do.

0:36:10.880,0:36:14.480

Certainly, that's key it's

0:36:12.800,0:36:15.839

increasingly so isn't it.

0:36:14.480,0:36:16.640

The constant pressures of

0:36:15.839,0:36:19.839

efficiency,

0:36:16.640,0:36:21.839

you've got to be

0:36:19.839,0:36:23.280

on the money really in terms of the

0:36:21.839,0:36:24.880

monitoring

0:36:23.280,0:36:27.359

that's going on. And farms

0:36:24.880,0:36:29.680

are brilliant. They generate so much data

0:36:27.359,0:36:30.880

it's actually having the time to

0:36:29.680,0:36:32.800

sit down or having

0:36:30.880,0:36:34.079

the capability to sit down and interpret

0:36:32.800,0:36:35.760

it to see whether

0:36:34.079,0:36:37.119

the potential benefits can come

0:36:35.760,0:36:38.560

from and where

0:36:37.119,0:36:40.720

you're best focusing your time.

0:36:38.560,0:36:42.079

That's always a key factor

0:36:40.720,0:36:43.920

isn't it. You've only got

0:36:42.079,0:36:45.520

so many hours in the day but where can

0:36:43.920,0:36:48.720

you spend that time most productively.

0:36:45.520,0:36:52.320

0:36:48.720,0:36:54.400

It's an ongoing challenge.

0:36:52.320,0:36:55.359

I know Nigel that you've published

0:36:54.400,0:36:57.280

the results

0:36:55.359,0:36:59.200

of the trial from the first and second

0:36:57.280,0:37:01.200

year on the Farming Connect website

0:36:59.200,0:37:03.440

and there's a whole host of information

0:37:01.200,0:37:04.400

that's already available for

0:37:03.440,0:37:06.480

people

0:37:04.400,0:37:07.839

to look at there. In terms of the next

0:37:06.480,0:37:09.520

steps, you're now into the third and

0:37:07.839,0:37:11.359

final year of this project,

0:37:09.520,0:37:13.040

will there be a report at the end of it?

0:37:11.359,0:37:15.040

How will people get more information

0:37:13.040,0:37:18.400

about the results in due course?

0:37:15.040,0:37:19.839

0:37:18.400,0:37:20.720

We've tweaked a bit this

0:37:19.839,0:37:23.200

year so

0:37:20.720,0:37:24.960

we're looking to see

0:37:23.200,0:37:25.440

where we can get to in this final

0:37:24.960,0:37:27.440

year

0:37:25.440,0:37:28.480

compared to the first two years.

0:37:27.440,0:37:31.200

0:37:28.480,0:37:33.760

The

0:37:31.200,0:37:36.640

project goes until the end of September

0:37:33.760,0:37:37.839

and after that then me and a

0:37:36.640,0:37:40.800

colleague will be

0:37:37.839,0:37:41.200

putting the final report together.

0:37:40.800,0:37:43.359

0:37:41.200,0:37:45.280

0:37:43.359,0:37:47.680

There'll be clips and

0:37:45.280,0:37:49.680

links on social media and it will be on

0:37:47.680,0:37:51.680

the Farming Connect website

0:37:49.680,0:37:53.520

as well to show the true results.

0:37:51.680,0:37:56.640

Hopefully, as things

0:37:53.520,0:37:57.760

relax we will be able to have

0:37:56.640,0:38:00.400

some sort of

0:37:57.760,0:38:00.960

open day on one of the

0:38:00.400,0:38:02.960

farms,

0:38:00.960,0:38:04.000

hopefully late summer

0:38:02.960,0:38:06.000

0:38:04.000,0:38:07.440

to get farmers to see what

0:38:06.000,0:38:09.520

we've been doing and

0:38:07.440,0:38:10.880

why we'd be doing it.

0:38:09.520,0:38:13.680

0:38:10.880,0:38:14.800

0:38:13.680,0:38:16.800

0:38:14.800,0:38:18.240

There will be plenty of information

0:38:16.800,0:38:20.560

about the project once

0:38:18.240,0:38:22.160

we've finished the project.

0:38:20.560,0:38:24.160

0:38:22.160,0:38:26.160

It's getting farmers to see

0:38:24.160,0:38:28.480

what can be done and

0:38:26.160,0:38:30.320

if you can get farmers to

0:38:28.480,0:38:31.359

think about it and see what they can do

0:38:30.320,0:38:33.760

on their own farm,

0:38:31.359,0:38:35.200

maybe they can't go all the way

0:38:33.760,0:38:38.240

but they can

0:38:35.200,0:38:40.160

compromise and do some in

0:38:38.240,0:38:41.520

different places. It's getting

0:38:40.160,0:38:45.040

people to think about it is

0:38:41.520,0:38:47.599

probably my take on its main

0:38:45.040,0:38:48.720

objective. Yes, it's about

0:38:47.599,0:38:51.200

raising awareness

0:38:48.720,0:38:52.720

and making people aware of the options

0:38:51.200,0:38:55.760

and potential tools that they have

0:38:52.720,0:38:57.280

at their disposal and if there is

0:38:55.760,0:38:59.599

an open day I'm sure there'll be a huge

0:38:57.280,0:39:01.599

amount of interest in that,

0:38:59.599,0:39:03.119

people wanting to travel and go

0:39:01.599,0:39:05.680

somewhere after

0:39:03.119,0:39:07.200

having months and months of lock down.

0:39:05.680,0:39:08.560

We live in hope that the

0:39:07.200,0:39:11.440

situation is indeed

0:39:08.560,0:39:11.839

improving, which leads me on nicely to

0:39:11.440,0:39:13.760

my

0:39:11.839,0:39:15.520

final question and as our regular

0:39:13.760,0:39:17.280

listeners will know we're asking all

0:39:15.520,0:39:18.960

guests on Ear to the Ground a very

0:39:17.280,0:39:22.000

similar question and that is,

0:39:18.960,0:39:23.760

what makes a successful farmer? Each and

0:39:22.000,0:39:24.160

every guest has had their own take on

0:39:23.760,0:39:26.560

this

0:39:24.160,0:39:27.200

and if I can start with you Mike, in your

0:39:26.560,0:39:29.280

view

0:39:27.200,0:39:30.400

you know what makes a good successful

0:39:29.280,0:39:32.640

farmer?

0:39:30.400,0:39:33.920

It's a great question actually

0:39:32.640,0:39:35.280

isn't it.

0:39:33.920,0:39:37.359

You gave me a heads up and I

0:39:35.280,0:39:40.720

still don't know a great answer but

0:39:37.359,0:39:42.320

for me, I mean farming is

0:39:40.720,0:39:43.760

a multi-generational business isn't it

0:39:42.320,0:39:45.520

so we're not setting up businesses

0:39:43.760,0:39:47.200

to be sold, we're setting up businesses

0:39:45.520,0:39:48.640

to thrive and to

0:39:47.200,0:39:50.560

bring through the next generation and

0:39:48.640,0:39:53.200

give them the opportunity.

0:39:50.560,0:39:54.640

I was told once by a

0:39:53.200,0:39:56.160

consultant years ago and it's something

0:39:54.640,0:39:57.680

that hit home with me, if you sit around

0:39:56.160,0:39:59.359

your breakfast table every morning

0:39:57.680,0:40:00.320

complaining to your kids how rubbish

0:39:59.359,0:40:01.760

farming is,

0:40:00.320,0:40:03.040

then why would you be surprised when

0:40:01.760,0:40:03.680

they have the opportunity to farm

0:40:03.040,0:40:06.000

themselves

0:40:03.680,0:40:07.920

that they don't want to. I think I've

0:40:06.000,0:40:10.240

always taken that on board.

0:40:07.920,0:40:11.599

I'm someone who treats

0:40:10.240,0:40:13.359

everything as an opportunity.

0:40:11.599,0:40:14.800

I'm literally the person who went to

0:40:13.359,0:40:15.760

the dentist and came back having rented

0:40:14.800,0:40:19.599

his farm.

0:40:15.760,0:40:21.680

Whatever situations

0:40:19.599,0:40:23.839

get thrown at, I always

0:40:21.680,0:40:24.880

look from a solutions and an opportunity

0:40:23.839,0:40:28.000

point of view, and I think

0:40:24.880,0:40:28.880

mindset is the key to

0:40:28.000,0:40:31.520

overall

0:40:28.880,0:40:33.119

potential success for

0:40:31.520,0:40:34.160

a farmer. It can be whatever

0:40:33.119,0:40:36.640

you want it to be,

0:40:34.160,0:40:37.920

but it's having a broad enough, an

0:40:36.640,0:40:39.200

open enough mind to see those

0:40:37.920,0:40:41.359

opportunities I think

0:40:39.200,0:40:42.880

is what will make you successful. Great

0:40:41.359,0:40:45.040

answer there Mike.

0:40:42.880,0:40:46.000

How about you Nigel, what's

0:40:45.040,0:40:48.480

your view?

0:40:46.000,0:40:49.359

Obviously, looking at it

0:40:48.480,0:40:51.359

from my

0:40:49.359,0:40:52.720

point of view, because

0:40:51.359,0:40:54.480

I

0:40:52.720,0:40:55.920

work from the bottom up, so

0:40:54.480,0:40:56.800

from the soil with the grass, I

0:40:55.920,0:40:59.359

think

0:40:56.800,0:41:02.079

a successful farmer would be

0:40:59.359,0:41:04.240

in tune with his farm and

0:41:02.079,0:41:06.240

know itself have a good idea of his

0:41:04.240,0:41:09.839

capabilities

0:41:06.240,0:41:11.599

and not try to force a different

0:41:09.839,0:41:14.480

farming system but to

0:41:11.599,0:41:16.079

adapt other systems to work on his

0:41:14.480,0:41:18.880

specific unit.

0:41:16.079,0:41:19.680

But also, I think that successful farmers

0:41:18.880,0:41:22.720

should

0:41:19.680,0:41:24.160

have a correct balance as well as

0:41:22.720,0:41:26.560

because

0:41:24.160,0:41:27.920

working long hours, you need to

0:41:26.560,0:41:30.560

have downtime

0:41:27.920,0:41:31.040

and time away from the farm.

0:41:30.560,0:41:33.119

To me,

0:41:31.040,0:41:34.800

a successful farmer would have a

0:41:33.119,0:41:37.680

business which is

0:41:34.800,0:41:38.240

run simply and well but also it gives

0:41:37.680,0:41:41.200

him time

0:41:38.240,0:41:42.079

to chill out and take time away.

0:41:41.200,0:41:44.560

0:41:42.079,0:41:45.680

That would be

0:41:44.560,0:41:48.560

0:41:45.680,0:41:49.599

my idea of successful farmer. Well, thank

0:41:48.560,0:41:51.839

you very much

0:41:49.599,0:41:52.960

to both you Nigel and Mike there. It's

0:41:51.839,0:41:54.560

been a fascinating

0:41:52.960,0:41:56.000

40 minutes or so listening to you guys.

0:41:54.560,0:41:57.440

Clearly, you're very passionate

0:41:56.000,0:41:59.520

about the subject, passionate about your

0:41:57.440,0:42:00.960

businesses and when I spoke to Nigel

0:41:59.520,0:42:02.640

pre-recording and he said I can talk

0:42:00.960,0:42:04.319

about foliar feeding for four hours. We

0:42:02.640,0:42:06.079

managed to cut four hours to 40 minutes

0:42:04.319,0:42:09.520

which I think is quite a success.

0:42:06.079,0:42:11.200

But thank you both once again.

0:42:09.520,0:42:12.960

Thank you on behalf of Farming Connect

0:42:11.200,0:42:13.599

for joining the podcast and all the very

0:42:12.960,0:42:15.200

best

0:42:13.599,0:42:18.880

for the future with your businesses and

0:42:15.200,0:42:18.880

indeed with the remainder of the project.

0:42:21.440,0:42:25.040

If you would like more information about

0:42:23.119,0:42:25.680

the support available through Farming

0:42:25.040,0:42:27.440

Connect

0:42:25.680,0:42:29.280

then please contact your local

0:42:27.440,0:42:29.839

development officer or the Service

0:42:29.280,0:42:32.800

Centre

0:42:29.839,0:42:33.359

on 08456 000 813.

0:42:32.800,0:42:36.160

0:42:33.359,0:42:38.400

And there we are, we've reached

0:42:36.160,0:42:40.079

the end of yet another episode.

0:42:38.400,0:42:41.839

We'll be back in two weeks time with

0:42:40.079,0:42:43.839

plenty more to talk about

0:42:41.839,0:42:46.400

but in the meantime don't forget to hit

0:42:43.839,0:42:48.800

subscribe on whichever platform you use

0:42:46.400,0:42:50.480

to keep notified of all new episodes of

0:42:48.800,0:42:52.319

Ear to the Ground.

0:42:50.480,0:42:54.160

On behalf of the team at Farming

0:42:52.319,0:42:55.839

Connect and myself Aled Jones,

0:42:54.160,0:42:59.839

thank you for listening and goodbye for

0:42:55.839,0:42:59.839

now.

0:43:04.480,0:43:11.980

[Music]

0:43:14.640,0:43:16.720