Oilseed Radish Research in Ohio

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Oilseed Radish
Railroad vital to NW Ohio economy
Grant would finance repair to run-down tracks

By BETHANY RAYLE
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It can be annoying to get stuck at a railroad crossing, especially if you’re in a hurry, but those trains play a vital role in supporting an industry.

In 2017, more than 331 million tons and nearly seven million units of freight were transported on Ohio railroads with coal, iron, steel and grain topping the list of freight originating from the state.

“They’re absolutely critical for northwest Ohio’s economy,” said Jerry Hayes, executive director of economic development of Defiance County. “We have a group of businesses in fairly heavy industry that rely on rail in this area.”

“It is a highly important service to the elevators and farmers in our area,” said Hayes. He added that locally, the Jewell Grain Co. and Gerald Grain Center are two businesses that rely heavily on rail to ship grain.

According to Tony Langham,
• RAILROAD, Page A10

Foul odor north of Defiance caused by oilseed radishes

By JARED ORZOLEK
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A pungent odor in the vicinity of a pair of natural gas facilities located north of Defiance isn’t caused by a gas leak.

The odor, which has led the Tiffin Township Volunteer Fire Department to respond to five odor investigations in the last 45 days, is caused by a cover crop planted along Ohio 66, north of Banner School Road.

The crop of oilseed radishes is located near the large TransCanada natural gas compression station and the smaller Parshall Eastern exchange station.

Citizens have apparently smelled the decaying radish plants — planted to help retain nutrients in the soil — and have called authorities to report a suspected gas leak. The latest call came into the Defiance County Sheriff’s Office at 9:11 Tuesday.

“It’s manure. Each time we go out there it’s about an hour,” said Tiffin Township Fire Chief Jamie "ODOR", Page A10
Austrian Peas & Oil Seed Radishes in different boxes
- planted @ the same time.
Oilseed Radish & Winter Pea
Shelby County
NW Ag Research Farm
Oilseed Radish

- Fast growing
- Absorbs nutrients
- Compaction correction
- Winterkills
Fall soil nitrate after manure application

Average of 24 tests, 7 field sites

No cover: 21.3 ppm nitrate N
Oilseed Radish: 6.5 ppm nitrate N
Recycling of nitrogen, phosphorus, and potassium by Oilseed radish

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>Concentration (%)</th>
<th>Content (lbs/a)</th>
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<tbody>
<tr>
<td>Nitrogen</td>
<td>1.89</td>
<td>650</td>
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<tr>
<td>Phosphorus</td>
<td>0.97</td>
<td>23</td>
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<tr>
<td>Potassium</td>
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<td>Sulfur</td>
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<tr>
<td>Calcium</td>
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<td>Magnesium</td>
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<td>20</td>
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### Biomass Production

<table>
<thead>
<tr>
<th>Growth</th>
<th>Oilseed radish w/peas</th>
<th>Oilseed radish wo/peas</th>
<th>Winter Peas</th>
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</thead>
<tbody>
<tr>
<td>Root dia. (in)</td>
<td>2 ¾</td>
<td>2</td>
<td>---</td>
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<tr>
<td>Root length (in)</td>
<td>22</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Fresh biomass (t/a)</td>
<td>40</td>
<td>56</td>
<td>21.6</td>
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<tr>
<td>Dry biomass (t/a)</td>
<td>3.5</td>
<td>4.8</td>
<td>4.3</td>
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</table>
Oilseed Radish Cover Crop

Alan Sundermeier, Ohio State University Extension, Wood County, Ohio

Overview

Oilseed radish is a unique cover crop that farmers are planting to improve their soil quality for economic crop production. It has the ability to recycle soil nutrients, suppress weeds and pathogens, break up compaction, reduce soil erosion, and produce large amounts of biomass. Freezing temperatures of 20 to 25 degrees will kill oilseed radish which allows for successful no-till spring planting of subsequent crops. As a fast growing, cool season cover crop, oilseed radish is best utilized when planted after small grain (e.g. wheat) or corn silage harvest. Excess nutrients in manure amended soil are rapidly absorbed by this cover crop, thus preventing leaching or runoff of nutrients into water systems.

Description

Oilseed radish (Raphanus sativus [L.] var. oleiferus), belongs in the Brassicaceae plant family, commonly called mustards. The Daikon type of oilseed radish has a large, fleshy taproot that can grow 2 to 3 inches in diameter and one foot or more in length (Fig. 1), not including the fine root hairs that spread from the main taproot. Above ground growth consists of two feet in height in a semi-erect stature. Leaf stems easily break from the main root, therefore traffic or grazing will destroy plant growth (Fig. 2).

Fig. 2. Succulent broad leaves on oilseed radish grow rapidly by utilizing excess nutrients in soil.

Planting Recommendations

As a cool season cover crop, oilseed radish is best suited for early fall growth. When given 60 days or more of plant development, maximum return on seed investment can be realized. Opportunities for planting oilseed radish in a cropping system would include:
- After small grain harvest (e.g. wheat)
- After vegetable or sweet corn harvest
- After corn silage harvest
- After early maturity soybean harvest

Seed is planted to a depth of one-half inch. Seed size is similar to alfalfa; therefore, when using a drill, a small seed may be necessary. After planting, adequate moisture is required to germinate. Oilseed radish is not a nitrogen fixer and will not supply nitrogen to a subsequent crop.
Diakon Tillage Radish

Ground hog Radish