



# Seeding Recommendations Following Pipeline Construction

*Shale Oil and Gas Development Fact Sheet Series*

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Agriculture and Natural Resources

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Following pipeline construction, the area above and adjacent to the pipeline will need to be seeded to reduce soil erosion. There are a variety of seeding mixtures available to re-establish vegetative growth, giving landowners numerous options. This fact sheet details and examines these options.

## Seeding Considerations

Before deciding which mixture to seed, there are several items landowners should consider. Following is a list of these considerations:

**1. What grasses and forages were present prior to construction?**

It is recommended that the new seeding compliment the forage that was present prior to construction.

**2. What will you do with the land following construction?**

Depending upon whether you are going to make hay or graze the land may dictate the plant species you select.

**3. Will you graze livestock on the land?**

If so, the livestock species you plan to graze may impact your selection of seeding mixtures.

**4. Do you prefer a pure seeding mixture?**

The advantages of pure grass or legume mixtures include ease of management, a greater choice of herbicide options, and greater forage quality potential.

**5. Do you prefer a grass-legume mixture?**

Mixtures of grasses and legumes are very common in Ohio and are generally preferred over pure stands. Advantages include higher yield potential and more uniform production throughout the season. The addition of legumes also reduces the nitrogen fertilizer requirement, lengthens the life of the stand, and can reduce the incidence of nitrate poisoning and grass tetany in livestock grazing the forage.

## Seeding Rates

Table 2 below is from the Ohio State University Extension *Ohio Agronomy Guide* and provides sample mixtures for common grasses and forages grown in Ohio. The recommendations in this table are based on the percentage of pure live seed (PLS). PLS is a means of expressing seed quality. PLS is the percentage of seed, i.e., good viable seed that has the potential to germinate within a measured pound weight of any seed lot. This percentage is typically printed on a seed tag. PLS provides a basis for comparing the quality of seed lots of the same species that differ in purity and germination. The use of PLS guarantees that the same amount of viable seed per acre is planted even though different seed lots

with varying quality may be used. Knowing the PLS percentage is important when comparing price. See the example illustration in table 1.

From these calculations we can easily see that the posted price (per bulk pound) is not always the best buy. Company A's seed that sells for \$8.00 a bulk pound costs \$11.89 for each PLS pound as compared to Company B which sells its seed for \$8.25 per bulk pound that becomes the cheapest at \$11.38 for each PLS pound. Company B's seed results in a \$25.50 savings for each 50 pounds purchased.

This example shows that the initially cheapest seed is not always the best buy or the most economical. By comparing the purity and germination, and calculating PLS for any seed lots, you can see which lots are the most economical and have the best chance to establish a successful planting.

Table 1: Example illustration comparing PLS and price		
	Company A	Company B
<b>Species</b>	Variety	Variety
<b>Price (Bulk/lb.)</b>	\$8.00	\$8.25
<b>% Purity</b>	85.2%	86.3%
<b>% Total Germination</b>	79%	84%
<b>% PLS</b>	67.3%	72.49%
<b>Price/PLS lb.</b>	\$11.89	\$11.38

Table 2: Seeding Recommendations from the <i>Ohio Agronomy Guide</i>								
Species	Seeds/lb. x 1,000	Seeds/ft <sup>2</sup>	Lbs. Seed/A	Proportional Seeding Rates for Mixtures Pounds/Acre				
<b>Perennial Legumes</b>				<b>3/4</b>	<b>1/2</b>	<b>1/3</b>	<b>1/4</b>	<b>1/8</b>
Alfalfa	227	80	15	12	8	5	4	2
Alsike Clover	700	150	9	7	5	3	2	1
Birdsfoot Trefoil	375	80	9	7	5	3	2	1
Red Clover	275	70	11	8	6	4	3	1.5
White Clover	860	100	5	4	3	2	1	0.5
Crownvetch	140	30	9	7	5	3	2	1
<b>Perennial Grasses &amp; Forbs</b>								
Orchardgrass	590	130	10	7	5	3	2	1
Perennial Ryegrass	237	130	24	18	12	8	6	3
Reed Canarygrass	550	130	10	8	5	3	2.5	1
Smooth Brome	137	50	16	12	8	5	4	2
Tall Fescue	227	80	15	12	8	5	4	2
Timothy	1230	220	8	6	4	3	2	1

## Getting What You Want

Before the seeding is made, a soil sample should be taken to determine the present and future lime, and fertilizer requirements for the site. A soil sample will provide important information about the pH level of the soil and the amount of nutrients that should be applied prior to seeding. The sampling and associated costs should be negotiated into the easement agreement and the cost of sampling, seed and planting should be the responsibility of the company. If you have the interest and the ability, and can negotiate an agreement, you may consider making the lime, fertilizer and seeding yourself. Then you are assured of the type and amount of each that was applied.

If there is a particular species you do not want seeded on your land, make sure this is clearly stated in writing in the agreement. Once the seed is applied it is next to impossible to remove it from the soil.

If the pipeline will be installed across your lawn, the grasses you select to re-seed the area will be different than those provided in the table from the *Ohio Agronomy Guide*. Contact your local OSU Extension office for recommendations about these areas.

## Summary

Establishing vegetation on a pipeline right-of-way and construction area is important to conserve soil. Consider your intended use of the land and select the most improved varieties that maximize production. Contact your local Ohio State University Extension office for information about soil testing, nutrient management, variety selection and seeding.

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## References:

- Ohio State University Extension (2005). *Ohio Agronomy Guide* (OSU Extension Bulletin 472). Columbus, OH: The Ohio State University.
- USDA Natural Resources Conservation Service. *Understanding Seeding Rates, Recommended Planting Rates and Pure Live Seed*, Technical Note.

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