SELECTED GREEN MANURES AND COVER CROPS FOR MAINE

**RED CLOVER (Trifolium pratense)**

**Type:** Legume, short-lived perennial (biennial)
**Hardiness:** Winterhardy
**Seeding rate:** 8-12 lb/A (about ¼ lb/1000 sq. ft.)- ½ in. depth
**Soil Requirement:** Relatively tolerant to low pH (as low as 5.0); Prefers pH greater than 6.0 and good fertility
**Root System:** Good, deep root system with taproot
Most roots in upper 12 inches
**Comments:** Shade tolerant, good in interseedings.
Slow early growth, does poorly in hot dry weather.
Can be frost-seeded or over-seeded (corn 6-10”).

**CRIMSON CLOVER (Trifolium incamatum)**

**Type:** Legume, spring annual (Northern New England)
**Hardiness:** Not hardy in Northern New England
**Seeding rate:** 20-30 lb/A (1/2 - ¾ lb/1000 sq. ft.)-1/2 in. depth
**Soil Requirement:** Relatively tolerant to low pH (as low as 5.0); Prefers pH greater than 6.0 and good fertility
**Root System:** Good root system. Most roots in upper 12 inches
**Comments:** Poor performance in interseedings with grain
Good early growing legume, better weed competition than red clovers.
Attractive flowers.

**BERSEEM CLOVER (Trifolium alexandrinum)**

**Type:** Legume, spring annual (Northern New England)
**Hardiness:** Not hardy in Northern New England
**Seeding rate:** 15-20 lb/A (1/3-1/2 lb/1000 sq. ft.)-1/2 in. depth
**Soil Requirement:** Prefers pH greater than 6.0 and good fertility
**Root System:** Good root system
**Comments:** Good performance in interseedings with grain.
Fair early growth, better weed competition than red clovers.
Responds well to mowing or grazing.
HAIRY VETCH (Vicia villosa)

Type: Legume, vigorous vines
Hardiness: Variable in Northern New England
Seeding rate: 50-60 lb/A (1-1 ½ lb/1000 sq. ft.) - 1 in. depth
Soil Requirement: Wide range of soil conditions
Root System: Fair root system, 1 to 3 feet deep
Comments: Often seeded with rye (56 lb/A) for support (reduce vetch rate to 30 to 40 lb/A).
Slow early growth.
Strong nitrogen fixer once established.
Sensitive to frost heaving.

FIELD PEA-VETCH-OATS (Pisum sativum-Vicia villosa-Avena sativa) (PVO)

Type: Legume/small grain mix
Hardiness: Not winterhardy
Seeding rate: 150-30-50 lb (P-V-O)/A (3.5-0.75-1.0 lb/1000 sq ft.)
Soil Requirement: Tolerant of a wide range of soil conditions
Root System: Combination of fibrous and deep root systems
Comments: Excellent smother crop.
Spring or summer seeding.
Produces lush, heavy growth.
Can be difficult to incorporate.
Field pea not available locally and quite expensive.

BUCKWHEAT (Fagopyrum esculentum)

Type: Non-Legume, summer annual
Hardiness: Frost sensitive
Seeding rate: 50-60 lb/A (1-2 lb/1000 sq.ft.) - 1 in. depth
Soil Requirement: Tolerant of wide range of soil conditions. Low soil fertility requirement.
Root System: Taproot
Comments: Good early growth, good smother crop.
Breaks down quickly in soil, easily tilled.
Can be double-cropped.
Good phosphorus scavenger, first crop on new land.
Mow before plant goes to seed (potential weed).
**ANNUAL RYEGRASS (Lolium multiflorum)**

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<thead>
<tr>
<th>Type:</th>
<th>Non-Legume, cool-season grass</th>
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<tbody>
<tr>
<td>Hardiness:</td>
<td>Winter hardy in mild climates</td>
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<tr>
<td>Seeding rate:</td>
<td>25-35 lb/A (1/2-1 lb/1000 sq. ft.) - ½ in. depth</td>
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<td>Soil Requirement:</td>
<td>Tolerant of wide range of soil conditions.</td>
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<td>Prefers pH 5.5 to 7.0 with good drainage.</td>
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<td>Root System:</td>
<td>Fibrous root system</td>
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<td>Comments:</td>
<td>Can be grazed, good temporary pasture.</td>
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<td>Tolerant of intercrops.</td>
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<td>Can be overseeded into corn at above rate.</td>
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<tr>
<th><strong>SPRING OATS (Avena sativa)</strong></th>
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<tr>
<td>Type:</td>
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<td>Hardiness:</td>
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**WINTER RYE (Secale cereale)**

**Type:** Non-Legume, small grain  
**Hardiness:** Winterhardy (avoid poorly drained sites)  
**Seeding rate:** 90 lb/A (2 lb/1000 sq. ft.) - 1 in. depth  
**Soil Requirement:** Tolerant of wide range of soil conditions. Does well pH 5.0 to 7.0.  
**Root System:** Fibrous root system  
**Comments:** Grain crop that can be grazed. Can be seeded into late September. Good nurse crop for legumes (frost seedings). Excellent fall cover, will have to be killed (tillage, herbicides, or mowing) if different crop desired next spring. Good smother crop, can be "allelopathic". Winter wheat is similar, but is less hardy, needs pH >5.5 and slightly earlier seeding.

**SORGHUM/SUDANGRASS (Sorghum bicolor x sudanensis)**

**Type:** Non-Legume, warm-season grass  
**Hardiness:** Not hardy  
**Seeding rate:** 30-40 lb/A (1 lb/1000 sq. ft.) - 1 in. depth  
**Soil Requirement:** Tolerant of wide range of soil conditions. Does well pH 5.0 to 7.0.  
**Root System:** Fibrous root system  
**Comments:** Good summer smother crop, 6 to 8 feet tall. Produces lush, heavy growth when adequate nitrogen is available. Can be used for late pasture, but not early due to prussic acid. Can be difficult to incorporate.