Goals for Cover Crop Use

• Soil builder
• Nitrogen fixation
• Nutrient scavenging
• Weed suppression
• Erosion control
• Grazing potential
• Quick growth
Why Summer Cover Crops?

- Long-term rotational goals, such as weed and disease management
- Take advantage of fallow periods between spring and fall crops to build soil and reduce weed pressure
Desirable Traits of Summer Cover Crops

- Rapid growth
- Competitive against weeds
- Tolerate drought
Classes of Cover Crops

- Grass family
- Legumes
- Other broad-leaved crops
Grass Family: Sudangrass

- Heat-loving, killed by frost, but does well in Puyallup
- Need to wait for warm soil temps to plant
- Competes well against weeds
- Tolerates drought
- Tolerates mowing
Grass Family: Oats

- Establishes in cooler soils than sudangrass
- Good companion for legumes
Legume Family: Clovers

• Supply nitrogen to soil
• Poor at suppressing summer weeds
• Some success with summer mowing
Legume Family: White Clover – Summer Weed Competition

It’s clear who’s winning in this field
Legume Family: Fava Bean

- Vigorous, rapid growth in summer
- Competitive against summer weeds in our environment
- Could be grown as a food crop
Legume Family: Hairy Vetch

• Our most reliable winter legume cover crop
• More competitive in summer role than clovers
• Chickling vetch and lana vetch have potential summer roles
Legume Family: Sunn Hemp

- Tropical legume
- Rapid growth in response to heat
- Not as well adapted to our summers?
Other Cover Crops

- Buckwheat
- Brassicas

These fit important summer niches in our environment
Other: Buckwheat

- Grows quickly
- Good weed suppression
- Biomass breaks down quickly
- Killed by frost
Other: Brassicas

- Mustards, oilseed radish, canola
- Grows fast from small seed.
- Excellent weed suppression
- Some evidence of disease suppression
- Don’t let them go to seed or they will become a big weed problem
# Cover Crop Choice

<table>
<thead>
<tr>
<th>Cover Crop</th>
<th>Type/Variety</th>
<th>Genus sp.</th>
<th>Type</th>
<th>Seeding Rate (lbs/A)</th>
<th>Column</th>
<th>Use/Roles</th>
<th>Planting Time</th>
<th>Min. Germ. Temp (°F)</th>
<th>Seed Source</th>
<th>Cost/lb</th>
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</thead>
<tbody>
<tr>
<td>Annual Ryegrass</td>
<td>Lolium multiflorum</td>
<td>Winter Annual</td>
<td>10-30</td>
<td>20-70</td>
<td>NS, SB, EP, WP, G, QE, IS</td>
<td>40 D before frost</td>
<td>40</td>
<td>Skagit Farmers Supply, Lakeview Organic Grain, Johnny’s</td>
<td>0.70-1.30</td>
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<tr>
<td>Barley</td>
<td>Hordeum vulgare</td>
<td>Winter Annual</td>
<td>50-100</td>
<td>80-115</td>
<td>NS, SB, EP, WP, G, QE, IS</td>
<td>Fall, Winter</td>
<td>38</td>
<td>Inland Empire Milling, Lakeview Organic Grain, FEDCO, Johnny’s</td>
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<tr>
<td>Clover</td>
<td>Crimson</td>
<td>Trifolium incarnatum</td>
<td>Winter Annual</td>
<td>10-30</td>
<td>20</td>
<td>SB, EP, WP, G, IS, N</td>
<td>Late Summer</td>
<td>60</td>
<td>Johnny’s, Territorial, Osborne, FEDCO</td>
<td>1.25-0.00</td>
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<tr>
<td>Clover</td>
<td>Subterranean</td>
<td>Trifolium subterraneum, T. pratense, T. brachiatum</td>
<td>Cool-season annual</td>
<td>10-30</td>
<td>20-30</td>
<td>SB, EP, WP, G, IS, N</td>
<td>Late Summer/Early Fall</td>
<td>38</td>
<td>Pennington</td>
<td>2.50-3.00</td>
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<tr>
<td>Clover</td>
<td>Red/7Medium Red/Mammoth</td>
<td>Trifolium pratense</td>
<td>Short-lived perennial/Biennial</td>
<td>8-10</td>
<td>10-15</td>
<td>SB, WP, G, IS, N</td>
<td>Late Summer</td>
<td>41</td>
<td>Johnny’s, FEDCO, Territorial</td>
<td>1.40-3.00</td>
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<td>Clover</td>
<td>White/White Denim/Yellow</td>
<td>Trifolium repens</td>
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<td>3-10</td>
<td>5-14</td>
<td>EP, WP, G, IS, N</td>
<td>Early Fall</td>
<td>40</td>
<td>Territorial, Johnny’s, FEDCO</td>
<td>1.10-4.00</td>
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<tr>
<td>Clover</td>
<td>Yellow sweet/White sweet</td>
<td>Melilotus officinalis</td>
<td>Biennial</td>
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<td>10-20</td>
<td>SB, EP, WP, G, N</td>
<td>Spring/Summer</td>
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<td>Johnny’s, FEDCO</td>
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<tr>
<td>Field Bean</td>
<td>Dove/Banner</td>
<td>Vicia faba</td>
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<td>50-80</td>
<td>60-100</td>
<td>SB, G, N</td>
<td>Fall</td>
<td>50</td>
<td>Osborne, Territorial</td>
<td>3-5</td>
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<tr>
<td>Oats</td>
<td>Gougeas/Redeva/Harvest Buff</td>
<td>Avena sativa</td>
<td>Cool-season Annual</td>
<td>80-110</td>
<td>10-140</td>
<td>NS, EP, WP, QE, IS</td>
<td>Fall</td>
<td>38</td>
<td>American Organic, Lakeview Organic Grain, Skagit Farmers Supply, Osborne</td>
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<tr>
<td>Pea</td>
<td>Field/Australian</td>
<td>Pisum sativum var. Anvers</td>
<td>Winter Annual</td>
<td>50-80</td>
<td>60-100</td>
<td>EP, G, QE, IS, N</td>
<td>Fall, Spring</td>
<td>41</td>
<td>Johnny’s, Osborne, FEDCO</td>
<td>0.55-1.20</td>
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<tr>
<td>Radish</td>
<td>Olsed</td>
<td>Raphanus sativus var. oleiferus</td>
<td>Cool-season Annual</td>
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<td>10-20</td>
<td>NS, SB, EP, WP, QE</td>
<td>Late Summer/Early Fall</td>
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<td>Rye</td>
<td>Merced</td>
<td>Secale cereale</td>
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<td>90-180</td>
<td>NS, SB, EP, WP, QE, IS</td>
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<td>Triticale</td>
<td>Italian</td>
<td>Triticale hexaploide</td>
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<td>125-150</td>
<td>NS, SB, QE, IS</td>
<td>Fall</td>
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<td>Vetch</td>
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<td>Vicia angustifolia</td>
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<td>90-120</td>
<td>SB, IS, N</td>
<td>Fall</td>
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<td>Osborne, Territorial</td>
<td>1.5-2.50</td>
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<tr>
<td>Vetch</td>
<td>Hairly</td>
<td>Vicia villosa</td>
<td>Winter Annual</td>
<td>15-30</td>
<td>25-40</td>
<td>SB, IS, N</td>
<td>Fall</td>
<td>60</td>
<td>Osborne, Johnny’s</td>
<td>1.25-1.65</td>
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<tr>
<td>Vetch</td>
<td>Lana/Woollypod</td>
<td>Vicia villosa spp. alsacorpus</td>
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<td>10-90</td>
<td>30-60</td>
<td>SB, WP, QE, N</td>
<td>Fall</td>
<td>45</td>
<td>Osborne</td>
<td>1.25-1.65</td>
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<tr>
<td>Vetch</td>
<td>Chickling (AC Greenfix)</td>
<td>Lathyrus sativus</td>
<td>Cool-season Annual</td>
<td>50-75</td>
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<td>SB, QE, N</td>
<td>Late Summer/Early Fall</td>
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<tr>
<td>Wheat</td>
<td>Winter (Red or White)</td>
<td>Triticum aestivum var. Expedition</td>
<td>Winter Annual</td>
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<td>60-150</td>
<td>NS, SB, EP, WP, G, QE</td>
<td>Late Summer/Fall</td>
<td>38</td>
<td>American Organic Seed, Lakeview Organic Grain, FEDCO</td>
<td>0.15-0.34</td>
</tr>
</tbody>
</table>

**Key:***
- Nitrogen Scavenger (NS)
- Soil Builder (SB)
- Erosion Prevention (EP)
- Winter (WP)
- Quick Establishment (QE)
- Able to be interseeded (IS)
- Nitrates (N)