
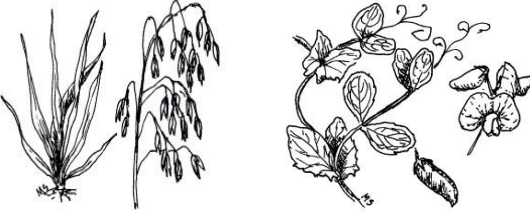
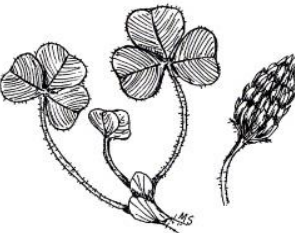
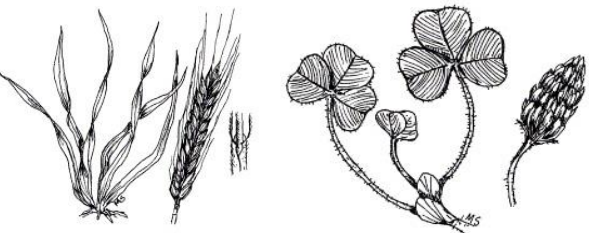
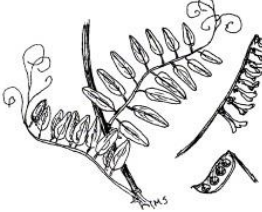
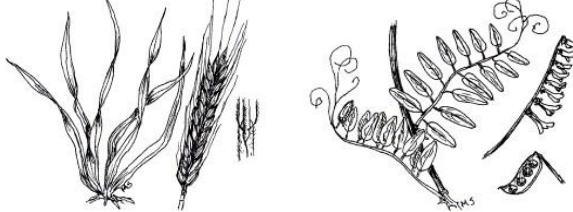


Winter-Kill and Over-Wintering Cover Crop Options for NYC Gardeners: An Overview and Decision Guide

Cover crops -- close-growing plants that are cut down and mulched, or turned into the soil -- can protect the soil, improve soil quality and water-holding capacity, add nutrients, shade out weeds, and attract beneficial insects. Here are some options for NYC gardeners in the *winter-kill* and *over-wintering* niches:

	~ LEGUMES ~	~ GRASS-LEGUME MIXTURES ~
WINTER-KILL COVER CROPS		
<ul style="list-style-type: none"> • Plant: Mid- to late August • Killed by frost • Plant before: Early spring crops (greens) 	<p><u>Field Peas (P)</u></p> 	<p><u>Oats & Field Peas (O/P)</u></p> 
OVER-WINTERING COVER CROPS		
<p>Crimson Clover group:</p> <ul style="list-style-type: none"> • Plant: Early to mid-September • Cut down: Mid- to late April • Plant before: Warm-season transplant crops (tomatoes, zucchini) 	<p><u>Crimson Clover (C)</u></p> 	<p><u>Rye & Crimson Clover (R/C)</u></p> 
<p>Hairy Vetch group:</p> <ul style="list-style-type: none"> • Plant: Early to mid-October • Cut down: Late April to early May • Plant before: Warm-season transplant crops (tomatoes, zucchini) 	<p><u>Hairy Vetch (V)</u></p> 	<p><u>Rye & Hairy Vetch (R/V)</u></p> 

Winter-Kill or Over-Wintering?

- ***Plant a winter-kill cover crop if you want to plant early spring greens in that bed next season.***
 - Advantages: Since these cover crops are killed by frost, they are easy to manage. You can plant early spring crops into the dead cover crop mulch without waiting.
 - Disadvantages: Due to their short growth period, winter-kill cover crops produce less plant material and nitrogen to enrich the soil.
- ***Plant an over-wintering cover crop to get the most benefit for soil quality and fertility.***
 - Advantages: Since they grow through early spring, over-wintering cover crops produce more organic matter and nitrogen to enrich the soil (2 – 7 times as much as winter-kill cover crops!)
 - Disadvantages: These cover crops are more work to cut down. You also must wait until May to plant vegetables – so you should follow over-wintering cover crops with warm-season veggies.

Legumes or Grass-Legume Mixtures?

- ***Legumes are nitrogen-fixing crops like peas, crimson clover, and hairy vetch.***
 - Benefits of Legumes:
 - Soil fertility: Rhizobia in legume roots add Nitrogen to soil for future food crops.
 - Soil conditioners: Legumes promote loose, porous soil structure.
 - Disadvantages of Legumes: Legumes provide less soil cover, organic matter and weed suppression than grasses (since legume plants break down quickly).
- ***Grass-Legume mixtures include a non-nitrogen fixing grass (like oats or rye) mixed with a legume.***
 - Benefits of adding grasses to the cover crop mixture:
 - Grasses grow quickly, providing soil cover & organic matter.
 - Grasses conserve nutrients over the winter.
 - Grass mulch breaks down slowly, and suppresses weeds for longer.
 - Disadvantages of adding grasses: Grasses may decrease yields if food crops are planted too early after cutting down the cover crop (grass debris ties up Nitrogen as it breaks down.)



To learn more about cover crops for urban gardeners:

Please visit our website at <http://blogs.cornell.edu/gep/>

