

# Nurse Crops



# Definition

In agriculture, a **nurse crop** is an annual crop used to assist in establishment of a perennial crop. The widest use of nurse crops is in the establishment of legumaceous plants such as alfalfa, clover, and trefoil. Occasionally nurse crops are used for establishment of perennial grasses.

Nurse crops reduce the incidence of weeds, prevent erosion, and prevent excessive sunlight from reaching tender seedlings. Often the nurse crop can be harvested for grain, straw, hay, or pasture. Oats are the most common nurse crop, though other annual grains are also. Nurse cropping is also tall or dense-canopied plants, may protect more vulnerable species through shading or by providing a wind break.

# What are some commonly used nurse crops

Oats ( most preferred)

Spring Barley

Spring Triticale

Spring Peas and Oats ( In northern Climates )

Summer Annuals like Millet for  
establishment of summer perennial crops like  
Sericea Lespedeza

# Nurse Crop Benefits

Erosion Control ( fast establishment)

Can aid in some weed suppression

Can add additional yield to the first harvest of the forage

Can aid in additional yield to the first grazing of the forage

# Crops for Nurse Crops

New Legume establishment

New Hay establishment

New Pasture establishment

# Seeding rates for Nurse crops

For spring grains we use 1 to 1.5 bu/acre or about 32 to 48 lbs

Heavier rates can cause too much competition with the main crop

Monitor the crop and if it looks like the nurse crop is getting too heavy, harvest earlier.

# Planting

With Legumes (oats) can be planted through the large box with the legume in the small box.

With grass mixtures they can be mixed in the large box with the seed and calibrate the drill accordingly.

Seeding depth should be set for the main crop and not the oats.

# Planting

The nurse crop can also be broadcasted prior to or right after seeding (conventional tillage) of the main crop but then should be culti-packed to firm the nurse crop in the ground.



King's  
**AgriSeeds** <sup>LLC</sup>



KingFisher Alfalfa  
Demo

King's  
**AgriSeeds** <sup>LLC</sup>



FORAGE MAKER  
OATS



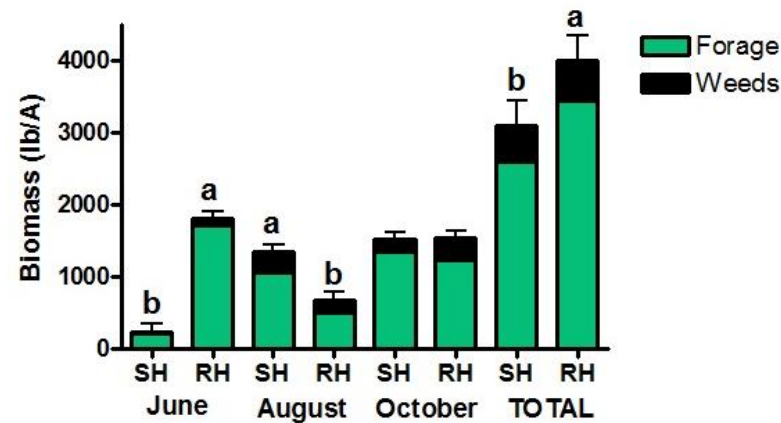




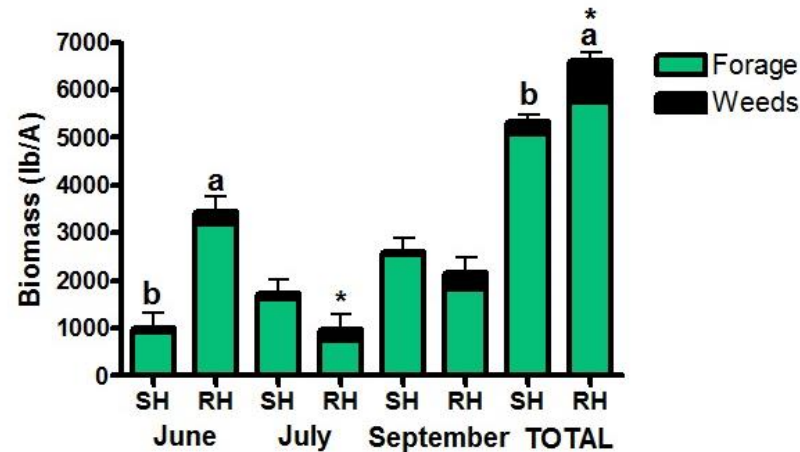




2011



2012



\* = significantly higher % weeds at  $p < 0.05$

a, b = significantly different yields at  $p < 0.05$

Figure X. Forage and weed yield during the year of establishment at Rock Springs, PA. The experiment was conducted in 2011 and repeated in 2012. SH = standard herbicide which included Butyrac + Select POST before first cutting. RH = reduced herbicide (no herbicide) which included a companion seeding of orchardgrass and 30 lb/acre each triticale + field pea. This experiment is part of a larger study at Penn State being conducted by Karsten et al. titled "Sustainable Cropping Systems for Dairy Farms in the Northeastern US" supported by Northeast Region SARE.

# Questions

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