

CAPITAL VEGETABLE NEWS

A newsletter for commercial vegetable growers in Albany, Columbia, Rensselaer, Schenectady and Schoharie Counties.

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The Capital District Area Vegetable Program provides research-based information to commercial vegetable growers through the county offices of Cornell Cooperative Extension.

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SUMMER COVER CROPS FOR THE CAPITAL DISTRICT

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Practically every vegetable field in the Capital District has periods during the growing season when the ground lies idle. It may be early in the spring before a crop gets planted, in the middle of the summer between spring and fall plantings, or it may be in late summer or fall after a relatively early harvested crop. It doesn't matter when the ground is bare, those times present an opportunity to plant a cover crop and get the beneficial effects of organic matter production and weed suppression. Depending on the cover crop, you may also get nitrogen contributions and some improvement of plow pan compaction.

The Capital District Area Vegetable Program is part of a statewide team which received a grant from the USDA Sustainable Agriculture Research and Education Program to look at ways to improve soil quality and soil health. During the summer of 1996 we evaluated five summer cover crops for their suitability in the Capital District. In 1995, we evaluated six summer cover crops. The five 1996 cover crops and their seeding rates are listed below.

Hubam (annual) sweetclover -
Melilotus alba 25 lbs/A

"Nitro" non-dormant alfalfa -
Medicago sativa 20 lbs/A

Trudan 8 sudangrass hybrid -
Sorghum sudanense 40 lbs/A

Yellow-blossom (biennial) sweetclover -
Melilotus officinalis 15 lbs/A

Crimson clover -
Trifolium incarnatum 20 lbs/A

All but the crimson clover were also evaluated in 1995.

Two planting dates were used for each leguminous cover crop - May 9th and May 15th. We were hoping to have planting dates of May 1 and May 15, but we all remember how wet the spring of 1996 was. The sudangrass was planted on May 29th and June 11th.

HOW DID THE COVER CROPS PERFORM?

Based on two years of observations, Hubam sweetclover, Yellow-blossom sweetclover, and sudangrass are summer cover crops that can find a place in Capital District vegetable rotations. Crimson clover may have a place in early or late season plantings, but will need additional evaluation in this area. Nitro non-dormant alfalfa had less than optimal growth in both years and does not seem to be as well adapted as some of the other summer cover crop

options. Summaries of my evaluations are included below.

Hubam sweetclover - Very nice stand at the end of the season with good biomass production. Weed competition was fairly high early in the spring, but the Hubam eventually out-competed the weeds. By the end of the season, the Hubam was 5-6 feet tall, had a good stand, very few weeds, and lots of bloom. Bees especially like this crop.

Yellow-blossom sweetclover - Similar to Hubam in growth habit, rate, and appearance. It is a biennial and will produce excellent growth the following spring. Our 1995 planting of yellow-blossom produced incredible growth in the spring of 1996. After six weeks of growth in 1996 the new planting was 1 - 1 1/2 feet tall and competing moderately well with galinsoga. After nine weeks, it was 2-3 feet tall and stayed at this height for the remainder of the growing season. Hubam was slightly better at smothering weeds than first year yellow-blossom.

Nitro non-dormant alfalfa - Overrun with weeds by the end of the year. It finished biomass production by the middle of July. Hopper burn was again a problem in 1996. It does get out of the ground quickly and is quite vigorous in early stages of growth. It may have a place in very early seedings with early plowdown.

Crimson clover - Gets out of the ground very quickly with good early vigor. It had its first true leaves out several days before the other legumes. Best early stand. Reaches mature height by mid-July and then does not compete as well with weed competition. Has possibilities for early planting with early plowdown.

Sudangrass - Superb biomass production in both years and excellent weed suppression when you have a good stand. This crop will not tolerate cool soil temperatures. An excellent stand is produced when soil temperatures are warm. Do not plant before June first!

OTHER COVER CROP OPTIONS

Buckwheat - Buckwheat can be a superb soil conditioner and smother crop. A grower in the Plattsburgh area told me he plants 2 crops of buckwheat each year as a smother crop and has virtually no weeds in his vegetables or berries the following year. You need to plow under buckwheat

when it has its first flower or you risk it becoming a weed problem. According to Thomas Bjorkman at Geneva, the crop should grow for about six weeks from planting to plowdown to get the desired effects of soil building, without producing mature seed.

Mammoth Red Clover - Mammoth red clover is a biennial and we had spotty growth in 1995 (which I think was mainly due to the drought). However, the spring growth in 1996 was incredibly lush and it produced quite a bit of biomass. Nitrogen contributions from a lush stand can be quite significant and it can be an excellent soil conditioner. It can also help make phosphorus and micronutrients more available to subsequent crops.

Japanese millet - Brian Caldwell in Tioga County tested Japanese millet in 1996 and was impressed with its biomass production and weed suppression capability. If you have a six week window during the summer season, this warm season grass would be a good one to try.

Oats - Did you miss getting your rye on last fall? Oats can be seeded very early in the spring - even frost seeded - and then turned under as a green manure. This can be helpful on fields that get planted to a later vegetable crop, but where you may want to suppress some weeds and get some organic matter turned back in.



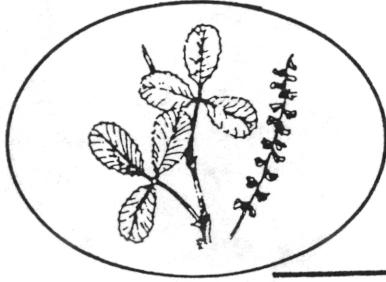
ESTABLISHMENT

Good seed-soil contact is absolutely critical for adequate stand establishment. The best stands I've seen have come from drilling the cover crop. A cultipacker can be used if a drill is not available. The third option is to roll the field after seeding.

Good soil moisture is essential for quick, uniform establishment. If we have a dry spring, try to pre-irrigate the field if possible.

Legumes should get planted early so they can out-compete weeds. The legumes tend to be slower to establish so early seeding and putting them in fields with lower weed pressure will be best. Frost seeding may be a successful technique.

Warm season grasses such as sudangrass hybrids and Japanese millet are just that - WARM SEASON grasses - so don't plant them until soil temperatures have reached at least 70°F.



WORKING SUMMER COVER CROPS INTO YOUR PLANS

I sometimes get calls from growers wanting to know what "my recommendation" is for a summer cover crop. There is not and never will be a "cookbook" recommendation for cover crops on your farm. You need to think about the time periods when you have bare ground, the reason you're putting in a cover crop, and the equipment you have to manage a cover crop. Summer cover crops are one of the many management tools you have available to ensure the long-term health of your farm. Your soil is the foundation of your cropping program. Take care of it with cover crops and it can serve you well for many years to come!
