



LAKEVIEW ORGANIC GRAIN

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LATE SUMMER 2023 NEWSLETTER

What are my choices ???

That is THE question on everyone's mind right now. The vegetable farmer seeking to add fertility and protect soil over the winter, the grain farmer managing pesky weeds, the dairy farmer in need of more forage this fall or planning for early forage production next spring, and all our Northeast flood-stricken farmers struggling to recover sodden land, ruined hay and lost crops.

On our farm, we've come to the conclusion that adding more of the right diversity will control most of the challenges we deal with. Cover-crops make so much sense – a good mix adds lots of diversity in species and timing, they cut fertilizer costs, improve soil health and condition, prevent soil erosion, improve water-holding and infiltration capacity, produce nitrogen, and so much more. They also make great animal feed - grazed, chopped, and ensiled! A mix of species diversity is key to successful cover-cropping and annual forage production but sometimes all the choices can seem mighty confusing. This does not have to be complicated!

Your crop mixture will depend on four factors – (1) what you are trying to accomplish, (2) when you can plant in the fall, (3) when you will harvest/plant next spring, and (4) what equipment/soil preparation you plan to use.

If you intend to plant an early-mid-spring crop in 2024 or if you need a quick boost in grazable forage this fall, then a winter-killed mix like oats, peas, radishes, dwarf Essex rapeseed and forage turnip/brassica is preferred. The winter-killed mixes must be planted early enough in late summer-early fall to grow enough to be useful, they are best planted before mid-September.

If you intend to plant a later-spring crop in 2024, or if you will need abundant delicious grazable or choppable forage next spring, an over-wintering mix of winter triticale-Austrian winter peas or rye-vetch would be better. This will produce a large amount of organic matter, nitrogen fixation and weed suppression, but will need to be terminated (mow/plow/graze) before planting the next crop. A bit of crimson clover in the mix will add amazing color and attractive pollination for bees – your neighbors will be absolutely thrilled!

If you can't plant until late October, your choices are limited to hardier species like rye, triticale and winter peas which will overwinter. Triticale, a cross between wheat and rye, is a more palatable forage than rye.

What about planting clover now? Fall is a good time to get clover and alfalfa started, but clover can also be frost-seeded into standing small grains or cover-crop/forage in late February-early March when there is minimal snow cover but when still regular day/night soil freeze and thaw cycles. Frost seeding is simple broadcasting on the soil surface, but at any other time, clover seed needs to be planted into the soil with a grain drill or grass seeder.

For a terrific cover crop between vegetable rows next summer, our favorite is a mix of Dutch white clover and annual ryegrass which stands up well to foot & equipment traffic, is highly mow-able and not very aggressive.

See – this is NOT hard! Like an artist painting a beautiful picture, you choose your 'colors' from the repertoire of crops which will best address your needs, your situation, and your window of opportunity and then as we always say, "inch by inch, row by row, we're gonna make this cover-crop grow!"

But for right now, please look up from all the work really see the joy of pigs on pasture, the long rows of corn tasseling, the plump chickens in their movable pens, the smells of fresh hay and pungent silage, moist grain and summer morning air, the greenest greens, the golden grains, the rich dark earth, the bluest sky, the juiciest tomato, the eyes and tired backs of the family and friends who accompany us on this wonderful, challenging adventure.

Delight in the tangible touchable fragrant joy of harvest, the solid physical truth of our hard work and time.

We order our fall cover crop seeds, we check our feed bins, we enjoy watching our plants and animals grow, because this half-full/half-empty glass of farm life, yes, all of this - . . . this is what we do, this is who we are.

CERTIFIED ORGANIC SEED

FALL 2023

Oats – Hayden <i>Organic!</i> (mid-season/medium height, certified seed)	\$28/50 lb
Oats – Guyanoga cover crop <i>Organic!</i>	\$26/50 lb
Barley – Equinox (winter, 6-row feed barley) <i>Organic! (48 lb bag)</i>	\$35/48 lb
Barley – VNS (winter, 6-row feed barley) <i>Organic! (48 lb bag)</i>	\$30/48 lb
Barley – Violetta malting (winter, 2 row, requires a license) <i>Organic! (48 lb bag)</i>	\$35/48 lb
Triticale - Kashong winter (grain or forage, certified seed) <i>Organic!</i>	\$40/50 lb
Wheat - Viking 211 hard red winter wheat <i>Organic!</i>	\$40/50 lb
Wheat - Expedition hard red winter wheat (certified seed) <i>Organic!</i>	\$35/50 lb
Rye – cover crop <i>Organic!</i>	\$35/50 lb
Spelt – winter. <i>Organic!</i>	\$40/50 lb
Peas – ‘4010’ purple forage pea <i>Organic!</i>	\$45/50 lb
Peas – Austrian winter pea <i>Organic!</i>	\$52/50 lb
Buckwheat <i>Organic!</i>	\$50/50 lb
Clover – Medium Red (best for cover crop) <i>Organic! Inoculated, but not coated</i>	\$200/50 lb
Clover – ‘Manitoba’ (better for grazing, longer rotations) <i>Organic! Coated & inoculated</i>	\$215/50 lb
Clover - Alsike <i>Organic!</i>	\$160/50 lb
Clover - Crimson <i>Organic!</i>	\$160/50 lb
Clover - Yellow sweet <i>Organic!</i>	\$160/50 lb
Clover – ‘Rivendell’ (grazing white clover, much like Alice) <i>Organic! (in 25 lb bags)</i>	\$180/25 lb
Hairy Vetch <i>Organic (limited)! Conv untreated (good supply)</i>	\$150/50 lb
Alfalfa – Viking 3800 (multi-disease resistance) <i>Organic!</i>	\$280/50 lb
BMR sorghum-sudangrass (‘Viking 210’ = Blue River Grayhawk BMR 6) <i>Organic!</i>	\$105/50 lb
Timothy <i>Organic!</i>	\$200/50 lb
Organic Pasture/Hay Mix <i>Organic! (25 lb bags)</i>	\$120/25 lb
<i>smooth bromegrass, timothy, perennial & annual ryegrass, festilolium, meadow fescue</i>	
Orchardgrass – <i>Organic!</i> (very late maturity, exc yield & hardness)	\$225/50 lb
Tall Fescue – <i>Organic!</i> (drought tolerant, deep rooted exc yield, digestability)	\$225/50 lb
Meadow Fescue - <i>Organic!</i> (high yield, quick establish, very palatable, tolerant of wet soils)	\$270/50 lb
Perennial Ryegrass <i>Organic!</i> (quick establish, best on heavy soil, late maturing)	\$180/50 lb
Annual (Italian) Ryegrass - <i>Organic!</i> (quick growth, great in new seedings, high yield)	\$125/50 lb
Festilolium – <i>Organic!</i> (Meadow fescue x Italian ryegrass, quick establish, exc yield)	\$180/50 lb
Bromegrass - smooth <i>conv untreated only</i> (excellent persistence, best for heavier soil)	\$180/50 lb
Birdsfoot Trefoil <i>*conventional untreated only</i>	\$280/50 lb
Yellow Mustard (cover crop) <i>*conventional untreated only</i>	\$130/50 lb
Japanese Millet <i>* conventional untreated</i>	\$60/50 lb
Tillage Radish (Daikon)– <i>Organic!</i>	\$195/50 lb
Turnip – Barkant Forage -(abundant leaf and dry matter) <i>*conv untr only</i>	\$75/25 lb
Turnip – Pasja -(all leaf, no stem or bulb, great heat & drought tolerance) <i>*conv untr only</i>	\$98/25 lb
Dwarf Essex Rapeseed--(succulent, leafy, vigorous, fast) <i>*conv untr only</i>	\$68/50 lb

Please call us if you need more information!

RECOMMENDED SEEDING RATES

<i>Crop</i>	<i>planting date</i>	<i>Seeding Rate/A</i>	<i>Seeding Depth</i>
Winter Triticale	mid Sept - late Oct	100 - 150 lb/A	1 - 2"
Winter Wheat	mid Sept - early Oct	120 - 180 lb/A	1 - 2"
Winter Spelt	late Sept - mid Oct	100 - 120 lb/A	1"
Winter Barley	early-mid Sept	96 - 130 lb/A (3-4 bu)	1-2"
Rye	mid Sept - early Nov	100 - 150 lb/A	0.5 - 0.75"
Oats for Cover-crop	mid Aug - mid Sept	50-100 lb/A (2-3 bu)	1-2.5"
Buckwheat	until early Sept	40 - 60 lb/A	0.5 - 1.5"
Austrian winter peas	mid Sept - mid Oct	60-100 lb/A	1"
Forage peas	until early Sept	60-100 lb/A	1"
Hairy Vetch	mid Sept - mid Oct	8 - 10 lb/A	0.25 - 0.50"
Yellow Mustard	early spring, fall	7-10 lb/A	frost seed - 0.75"
Medium Red Clover	early spring, fall	8 - 15 lb/A	frost seed - 0.5"
Tillage-type Radish	Aug - mid Sept	6-8 lb/A alone 2-4 lb/A with other cover-crops	0.25 - 0.5"
Forage Turnip	Aug-early Sept	1.5-3 lb/A	1"
BMR Sorghum sudangrass	June - July	35-50 lb/A	0.5 - 1.0 "
Japanese Millet	June - July	25 - 30 lb/A	0.25 - 0.5"
Alfalfa	spring, fall	12 - 20 lb/A	0.25 - 0.5"
Timothy	spring, fall	2 - 8 lb/A	0.25 - 0.5"
Orchardgrass, Ryegrass	spring, fall	4 - 12 lb/A	1 - 1.5"
Bromegrass	spring, fall	4 - 12 lb/A	1 - 1.5"
Reeds Canarygrass	spring, fall	6 - 12 lb/A	0.5 - 1"
Birdsfoot Trefoil	spring, fall	4 - 10 lb/A	0.25 - 0.50"
White Clover	spring, fall	2 - 8 lb/A	0.25 - 0.50"
Pasture/Hay grass mix	spring, fall	3-8 lb/A	

For best quality, seed grass mix with 1-2 bu/A oats as a nurse crop, and overseed with 12-15 lb/A alfalfa, 1-2 lb/A white clover or 6-8 lb/A medium red clover

Organically approved non-GMO Rhizobium inoculants are available

-All seed must be paid in full at time of delivery/pickup.

-Delivery costs are NOT included in seed price.

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- Pallet deposit of \$10.00/pallet, refundable upon return of pallet in same condition

- All returned seed - 10% re-stocking fee. Only sealed bags in original condition will be accepted for return.

SHIPPING OPTIONS - we offer the following seed shipping options:

You pick it up – always the cheapest, but please always call 24 hours in advance so we can have your order ready for you!

Pitt Ohio – a really great family-owned trucking company out of Watertown, they ship pallets throughout the northeast. Most places will cost around \$160/pallet (up to 2500 lb per pallet) for farm delivery, your forklift unload.

Rist, YRC, or FedEx – for pallet (LTL) delivery outside the Northeast, rates vary with location. Call for a quote.

UPS – delivery in 2 days, only cost effective for 5 bags or less. The UPS charge is usually about \$35/bag.

Lakeview Box Truck Transport – We now deliver pallets of feed and seed on our own box truck with liftgate service. Currently, this service is only for Western New York. The delivery cost is \$55 minimum up to 1000 lb and then \$110/T.

Our feed truck – we can sometimes deliver bags of seed to your farm or a farm near you when we make feed deliveries. Active feed customers take priority if space is limited. The delivery cost is \$1.50/ 50 lb bag.

FALL SMALL GRAINS . . .

What are my choices?

Barley must be planted early in the fall, usually in early September, approximately 1-2 weeks before usual wheat planting, to be sufficiently well-established before winter. Plant at 2-3 bu/A. Barley will be the first small grain in the summer to be harvested - generally in mid-late June. Barley is best adapted to rich, well-drained, loamy soils and should not be planted on poor, sandy, or wet fields. Barley may not be sufficiently winter hardy in colder areas of the Northeast.

Most Northeast barley is used as feed, but there is a small, growing market for 2-row malting barley to make local craft beers. We have a limited amount of organic 2-row Violetta barley seed for the malting markets. Barley produces good quality silage or hay, producing high quality, highly digestible forage, lower in acid detergent fiber and lignin than other small grains, but it yields less tonnage.

Triticale is a great grain for the Northeast, a cross between rye and wheat. It is generally the highest yielding small grain and forage crop that can produce approximately 10-12 T/A of high quality forage, or up to 3T grain/A. It is also the most adaptable, most forgiving grain, doing well in most locations under less-than-perfect conditions. You should plan a market for triticale grain before planting because it can be challenging to sell.

For high quality forage, triticale should be harvested at the boot stage and may require more time for wilting than rye and wheat. Triticale should be seeded at 2 bu/A in late September through late October, although we have seen triticale sown even into November make a decent crop. We strongly recommend dairy farmers plant winter triticale and Austrian winter peas for spring forage/grazing.

Wheat is a versatile small grain with several strong markets. Traditionally the soft white wheat varieties are most popular in New York. There is a growing market for both soft white and hard red wheat for the food/flour milling market. Best planted in late September/early October, wheat planted too early or too late may result in poorer winter survival. Depending on time of harvest, wheat is a good choice following soybeans.

Wheat is well adapted to most soils, performing best on loamy, well-drained soils with medium to high fertility. It will withstand wet soils better than barley or oats but not as well as rye and triticale. If there is rain during harvest, wheat may sprout, making it unsuitable for the food market.

Because there is not always a strong market for organic feed wheat, and a weak market for soft red wheat, make sure you plan the destination & market before planting - feed triticale or barley can be easier to sell than organic feed wheat.

Spelt - this ancient wheat has a persistent hull that must be removed (dehulled) before it can be used for the food/flour milling market. People with wheat intolerance often are able to eat spelt. Spelt grows taller and leafier than most wheat, making it more competitive against weeds. Spelt is also more tolerant to poorly drained soil or lower fertility conditions. Spelt is less likely than wheat to sprout if rain comes during harvest. Planting dates and rates for dehulled spelt are similar to wheat. Often called 'speltz' in Pennsylvania, whole spelt can be used in horse and cattle feed with approximately the same nutritional value as oats. Because spelt needs to be dehulled before sale for food use, make sure you plan the destination/market before planting.

Rye is a traditional winter cover crop. Rye is the most winter hardy of all small grains, tolerant of low fertility, acidic or sandy soil. Like wheat, rye can be sown in late August at 2-3 bu/A to provide fall grazing, excellent winter ground cover, and spring grazing. The rapid growth of rye, both in fall and spring, makes it productive for pasture at times when other forage may be in short supply. Forage rye can become unpalatable when vigorously growing in the spring and may impart off-flavors to milk.

There is an emerging market for larger-grain hybrid rye for distilling and baking. Hybrid rye produces larger kernels, higher yield, and better quality for the food/distilling market, but must be ordered on a custom basis and is under a license/patent that prohibits saving seed. Rye infected with the fungus ergot can cause abortions and other health issues in cows. Excessive nitrogen can cause lodging. As a cover crop, rye strongly suppresses weeds, but may leave a residual effect in the soil that can damage vegetables, especially cucurbits.

FALL COVER CROPS . . .

What are my choices?

One way to plan cover crops is whether they are :

(1) **LEGUMES** (clover, hairy vetch, peas, alfalfa) which can convert nitrogen in the air to a form that plants can absorb. In a forage mix, legumes will improve the protein level and palatability.

(2) **NON-LEGUMES** (buckwheat, cereal/small grains, and crucifers like radish, turnip and mustard) will add organic matter, improve soil condition and suppress weeds but do not fix nitrogen.

Both groups are strategically useful tools in a crop rotation strategy, and you don't have to choose one or the other - crop mixtures (peas & oats / rye & vetch / winter peas & triticale / oats & radish) provide multiple benefits at one time!

Another way to plan cover crops is whether they :

(1) will grow in the fall, then **WINTER_KILL** at hard frost leaving a ground-covering residue over the winter

(2) **OVERWINTER** - producing some growth in the fall, go dormant during the winter and then grow back in the spring

WINTER-KILLED COVERCROPS

Tillage/Cover-crop Radish (Daikon) –

Numerous studies have shown that corn and soybeans planted after fall cover-crop radish will have significantly higher yields. Additionally, radishes reduce soil compaction by 'punching' holes through compacted layers, improve water infiltration, suppresses weeds and nematodes, and controls erosion in fall and winter months. They scavenge and hold soil nutrients and increase soil organic matter by up to 5 tons/acre. They can also be grazed. Dairy farmers particularly like planting radish after manure application, because they effectively hold the nutrients. Plant in the fall, 40-60 days before the first killing frost. Cover-crop radish will grow rapidly and then winter kill, leaving the soil in great shape the following spring. Radish can be drilled or broadcast followed by a light disking. **One caution** – radishes don't smell good as they rot in the spring, think of your neighbors. **PLEASE don't forget to eat your radishes this fall!** They are absolutely delicious especially after a light frost and will keep for months in the refrigerator!

Oats and Spring Barley make a great fall cover-crops that produce vigorous grassy growth through the fall without putting any effort into making grain. Their natural allelopathy suppresses weeds while producing lots of biomass. Residue protects the soil over winter and in the spring, the soil is mellow and ready to plant. They also absorb nitrogen, potassium and phosphorus in a stable form through the winter. They can be grown alone or in

combination with peas, turnips, or radishes, and can be used as a nurse crop to establish perennial pastures and hay fields. Generally, fall oats and barley should be planted by mid August, at least 40-60 days before first killing frost. Mixed with turnips or peas, this mixture makes great grazing or forage.

Buckwheat is a quick-growing cover-crop that effectively suppresses weeds, solubilizes soil phosphorus, and softens and loosens the soil. Buckwheat performs better than small grains in dry and poorer soils and therefore is a great 'pioneer' crop when bringing abandoned or neglected land back into production or to improve soil structure and control persistent weed problems. Buckwheat is most commonly planted in the summer, although it can also be used as a fall cover.

4010 Forage Peas are legumes, and therefore fix nitrogen. 4010 peas produce excellent vigorous succulent vines that break down rapidly, releasing accumulated nitrogen in a form that other plants can easily use. When mixed with oats in the fall, or with oats or spring triticale in the spring, the mix is thick and lush, a great source of forage for grazing or chopping, producing a large quantity of rapidly degradable biomass.

Yellow Mustard – for the past couple years, we have been experimenting with yellow mustard as a short-term spring cover-crop, frost-seeding it in March and plowing it under in June before planting red kidney beans. Mustard also does well planted in late August-Sept as a fall cover-crop. We have been amazed how the brief spring growth has significantly raised our dry bean yields and we believe this could be extremely useful for vegetable, garlic and potato farmers to address soil borne disease problems. Like radishes, mustard is a crucifer (in the cabbage or brassica family and produces glucosinolates that suppress root rots and nematodes.

Forage Turnip, dwarf Essex rapeseed, kale and other forage brassicas – Short-season brassicas provide valuable cover-crop species diversity and grazable roots, stem and leaf growth 70 to 90 days after seeding. The leaves can be grazed from mid-September until January depending upon temperatures and snow cover. Top growth generally will survive temperatures between 15-20 degrees F, while bulbs are about 5 degrees hardier. The common purple top turnip can yield up to 7000 lb/acre of dry matter. The tops have 17-30% crude protein while roots contain 12-15% protein.

Brassicas are not adapted to wet, poorly drained sites but grow best on well drained soils with a pH between 5.3-6.8 with adequate levels of phosphorus and potassium. Good stands can be established by planting 1.5 to 3 lb/A. The seeds should be planted in rows 6 to 8 inches apart, one-half inch deep, or can be broadcast and then cultipacked or disked. Brassicas can be planted with small grains, such

as oats, for fall grazing. Brassicas can also be no-tilled into perennial pastures at lower seeding rates.

Brassicas should not be grown on the same site for more than two consecutive years to prevent buildup of diseases. When planted after June, forage/cover-crop brassicas will miss most of the usual cabbage insects. Like radishes, fall turnips are also absolutely delicious – so you can have your cover-crop and eat it too.

OVER-WINTERING COVERCROPS

Rye – the hardiest of the cereal small grains, rye can be seeded later in the fall and still produce a tremendous amount of biomass, both leaf and root mass, that will reduce erosion and nutrient loss. Rye's strong allelopathy provides exceptional weed suppression, and also controls nematodes and insect pests. It is widely adapted, and can grow on poorer soils or poorly prepared land. Farmers often mix rye with about 10% vetch for nitrogen fixing.

One warning - rye can be incredibly vigorous in the spring, and you may need to mow or chop it before plowing.

Hairy Vetch – vetch is a good example of the old 'truism' that *"one farmer's cover-crop is another farmer's weed."* Vegetable farmers love vetch for its strong nitrogen fixation, soil structure improvement, and weed suppression. Planted as a fall cover-crop with rye or wheat, it produces an early spring cover that can be tilled or rolled before planting vegetable seed or transplants. However, hairy vetch is considered a noxious weed in wheat grown for seed production or milling. Its life cycle almost exactly matches that of winter wheat, with round black seeds that are extremely difficult to separate from the wheat kernels using normal grain cleaning equipment. Flour made from wheat contaminated with vetch seed is bitter with unattractive black specks. Because vetch produces 10-20% hard seed each year, getting rid of it on a grain farm can be very difficult.

Triticale – a cross between wheat and rye, triticale combines the vigor and wide adaptability of rye with the more 'civilized' growth habit of wheat. It is the most forgiving of all small grains, doing well under a wide range of soil types, climates, fertilities, and planting dates. Triticale is highly versatile as a cover-crop, forage, or grain crop, and it can easily be mixed with other species like peas or vetch. There are both winter and spring versions of triticale, expanding its usefulness.

Austrian Winter Peas – few cover crops are as impressive as Austrian winter peas! Planted in September with barley or triticale, they grow moderately through the fall, and then in the spring simply explode with vigorous viney growth and purple flowers, fixing lots of nitrogen and making highly nutritious and palatable spring forage. The small grain is needed for support - without it, winter

peas will quickly go flat at bloom as they become heavy with leaves and pods. We have also found that small grains also help protect peas against winter kill. About 2 bu barley/A or 75 lb/A triticale is the right amount to provide adequate support for the peas without being too competitive. Winter barley or triticale, mixed with winter peas, makes a highly nutritious and palatable spring pasture for grazing. And there is *absolutely nothing tastier* for salad than Austrian Winter pea shoots in the spring (yes indeed, you can have your cover crop and eat it too!)

Medium Red Clover - the standard, dependable, well-adapted legume cover-crop that organic farmers rely on for much of their nitrogen needs. In the Northeast, we frost-seed red clover into our winter small grains in February-March. It grows through the spring and then grows vigorously after grain harvest. By the following year, the clover plow-down provides ample soil nitrogen to grow a healthy crop of corn or a vegetable crop. Clover can also be sown with a spring small grain before grain emergence. Red clover has also been successfully no-till drilled into wheat stubble in the summer, or overseeded into soybeans in the early fall at leaf-yellowing. Be aware that soil diseases affecting beans, peas and soybeans are also hosted by clover, so close rotations of these crops may technically be rotating crop species, but may not be sufficiently rotating root pathogens.

Other Clovers – Grazing white clover (Rivendell), Ladino white clover, mammoth red clover, crimson clover, yellow sweet clover are great forages and can also be added to cover-crop mixes.

ANNUAL FORAGES . .

What are my choices?

Annual Forages provide large amounts of high quality feed in a pinch especially when perennial pasture/hay growth may not be sufficient. Annual forages can be used to strategically supplement pasture in the fall, or to be growing in the early spring when hay supplies a start running low.

Annual forages must be handled a little different than perennial hay or pasture to avoid wasting much valuable feed. Rotational grazing is a must, allowing the cows to graze a few hours each day before moving them back to perennial pastures. Annual forages can be harvested as greenchop or ensiled, but generally do not dry well enough to make dry hay.

1. For winter / very early spring grazing (January/April) – in late winter, try grazing **CORN**

STALKS in last year's silage or grain corn. The cows will eagerly find dropped ears and early weeds like chickweed, and get valuable late winter exercise and sunshine. **Fall-planted brassicas, like forage turnip,** can provide nutritious winter grazing when there isn't much snow cover and may overwinter if the winter is mild.

2. For early spring forage (April/May) –

If you planted winter **TRITICALE, BARLEY, WHEAT mixed with AUSTRIAN WINTER PEAS** last September, you will be blessed by abundant delicious forage by mid-May! By the end of May, barley and winter peas will be nearly 3 feet tall and by mid June, they are over 5 feet. This makes for excellent, highly nutritious and highly palatable forage at a time when perennial pastures are just getting started and last year's hay supply may be running low. Winter triticale with winter peas, or spring triticale with 4010 peas, when ensiled as baleage makes one of the best milk-producing forages we can grow in the Northeast.

WINTER RYE can be used in the same way, but rye gets mature and unpalatable more quickly and can affect the flavor of the milk if the cows eat too much.

3. For mid spring/early summer forage (April-June) -

Plant small grains like **OATS, SPRING BARLEY and SPRING TRITICALE** mixed with **4010 FORAGE PEAS** in the early spring for very successful early summer grazing or harvested forage. If planted at several times during the spring, this can provide pastures with sequential maturities. **YELLOW MUSTARD** can be frost-seeded in March into standing winter small grains as an early mixed forage.

4. For summer forage (July/August)–

In May-July, plant **BMR sorghum-sudangrass or Japanese millet**, either single-species or mixed with soybeans, peas, buckwheat or oats. There is also **traditional sorghum (milo), sudangrass, and other types of millet**. These warm-season grasses do best under dry or hot conditions, and on droughty soils. They do NOT like temperatures below 50 degrees, so planting too early will reduce vigor, but they also won't achieve full yield if planted past mid-July.

BMR SORGHUM SUDANGRASS - Plant 1/4 to 1/2 inch, 40-55 lb per acre from June to mid July. For double the protein and energy levels equal to corn silage, cut BMR SS when 36-48 inches tall. At this stage crude protein can run around 15-16%. If you harvest when the BMR SS is taller, yields will be higher but protein will drop and dry-down may be more of a challenge as there will be much more water in the forage.

To avoid Prussic Acid problems when grazing or green-chopping, wait until plants reach a minimum of 24 inches in height. Do not graze new regrowth that has developed after a frost or period of dry weather. Do not graze horses on sorghum sudangrass, as it can cause cystitis. Green plants that are frosted should be completely dried before grazing or ensiled several weeks before feeding. If BMR SS is properly fermented, prussic acid should not be a problem. As with corn, BMR SS can accumulate nitrates. When fermented, and if mixed with other feeds (not the sole forage), nitrates are minimized. If in doubt, run an inexpensive forage nitrate test.

JAPANESE MILLET is a warm season forage crop ideal for production of quick hay and/or bedding. It comes on fast, controls weeds and tolerates lower soil fertility better than BMR SS. Plant 1/4 to 1/2 inch, 30-40 lb per acre from June to early August.

While Sorghum Sudan, Pearl Millet, and Sudangrass may produce a higher tonnage than Japanese Millet, they are coarser, less palatable, and dry down more slowly. Japanese Millet is not likely to have problems with prussic acid toxicity. Japanese Millet can grow 5-7 ft. tall. Rolling after seeding helps rapid emergence. If planted in June, you can get 2-3 cuttings. Cut the millet when 3' tall, but leave an 8 in. stubble for quick recovery between cuttings.

OPEN POLLINATED FIELD CORN can be grazed or planted during this time for forage. We've been very pleased with drilled open-pollinated corn, planted in mid-July at very high population, harvested as forage (not silage) in early October before tasseling. It is important to ensile corn forage the same day it is cut, otherwise much of the sugar will be lost.

BUCKWHEAT can also provide high quality, though rather low yielding forage, but it must be fed cautiously to prevent photo-sensitization. Warm season annual grasses, like **Annual (Italian) ryegrass**, sown spring through mid-summer can provide great late summer and fall grazing. **Forage brassicas** planted in late spring will provide forage in August and September.

5. For fall/early winter forage

(Sept/Dec)– We have found that **OATS OR SPRING BARLEY** planted in early August will not try to make seed but will instead grow a vigorous grassy highly-palatable forage by late September. Fall oat silage can run 15-17% protein if harvested at the first flag leaf stage, though it can produce higher tonnage of more digestible feed but slightly lower protein if harvested at the boot stage. **FORAGE BRASSICAS and 4010 PEAS**, can mixed with the oats for an extra nutritional boost, and when planted in early August, will provide excellent forage from October-

December, though if not grazed, harvest can be complicated a wet fall.

TILLAGE RADISH mixed with oats can also provide nutritious grazing. **TURNIPS AND DWARF ESSEX RAPESEED** are the fastest growing brassicas, reaching maximum production in 80-90 days, while swedes and kale require 150-180 days. Because brassicas are so rich in feed value, introduce them in a limited manner and always feed additional dry hay.

Some of the very best forage you will get in the fall will be from **MEDIUM RED CLOVER** that had been frost-seeded into small grains early in the spring. After the grain is harvested in July/August, let the clover grow, and you should be able to get one cutting of very high quality feed in mid-fall.

Some farmers plant **OATS AND 4010 PEAS with WINTER TRITICALE** in August in the hopes of harvesting an oat/pea forage crop in the fall, and a triticale forage crop in the spring. This can work as long as the oats are not chopped/grazed any shorter than 3.5 inches to make sure there is enough triticale biomass for successful overwintering.

... INOCULANT ?

Nitrogen is critical for plant growth and development. Most plant roots take up nitrogen from the soil, but the legume family of plants are able to make or "fix" nitrogen directly from nitrogen gas in the air. Legumes include peas, snap and dry beans, soybeans, alfalfa, clover, vetch, cowpeas, phacelia, chickpea, lentils, peanuts, and even redbud trees

In order to do this, legume roots must associate with a species of bacteria called 'Rhizobium'. The bacteria forms lumps on the legume's roots called nodules which turn atmospheric nitrogen (N_2) into ammonium (NH_4) and nitrate (NO_3), the forms of nitrogen that plants can use. Since nitrogen is essential for protein formation, legumes are the richest sources of plant protein.

There are over 200 different species of Rhizobia and they are species specific – it takes a different species of Rhizobium to infect soybeans than clover. Although commonly found in the soil, 'natural' Rhizobia may be dormant or of the wrong species. It is quick easy insurance to apply fresh Rhizobium inoculant when planting a legume.

Inoculants come in several forms, but the most common is a bacteria-infused peat. While it may look like just

moist humus, but the peat contains billions and billions of bacteria cells!

Because inoculant is packed with living organisms, it is essential to store it in a cool, dry location before use. Invisible but seriously massive bacterial death will occur in a hot truck. All inoculant bags are stamped with an expiration date, generally 12 months after manufacture.

Organic farmers must be careful that their inoculant is allowed by their certifier. Organically approved inoculants must not contain genetically-modified organisms or other prohibited ingredients.



We have posted many useful articles and agronomic tips on our website, based on our experiments and experience. We also have all our bagged feed dealers listed – we have dealers throughout New York, PA, and NJ. www.lakevieworganicgrain.com.

Of course, we are always happy to visit with you on the phone or if you stop into the mill!

You are why we are doing this!

On behalf of all of us at Lakeview – Mary-Howell, Daniel, Jeff, Jack, Andy, Sheila, Darrin, Travis, John, Klaas Peter, and all the others we work with –

We thank you for your continued business, support and confidence!

We appreciate your business and your friendship!

We hope this season is a good, happy, healthy and productive one for you.