



# ONTARIO HAY AND FORAGE CO- OPERATIVE INC.

206 Toronto St S  
Markdale, ON N0C 1H0

Phone: 1 877-892-8663  
Email: [support@ontarioforagecouncil.com](mailto:support@ontarioforagecouncil.com)

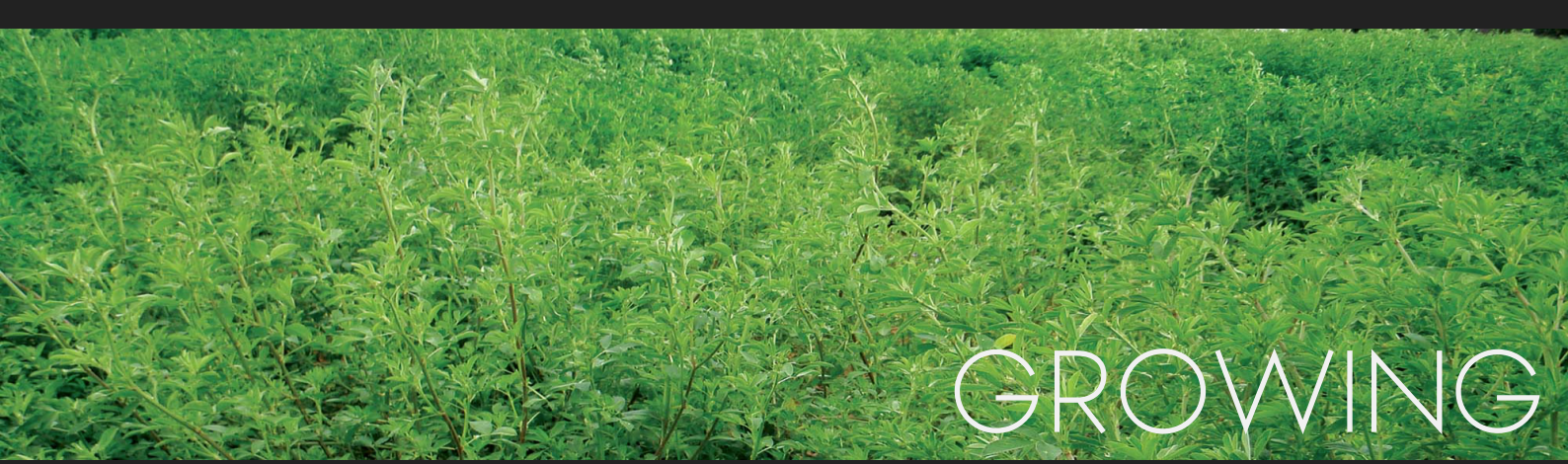
# GROWING TIMOTHY

## HOW TO GROW TIMOTHY FOR EXPORT

The most desired timothy in the ME market has a minimum 10% protein, a long head (4 inches), a big stem, a deep green colour and no brown leaf (rust). It is pure and has a RFV of at least 75 and a high WSC content (sweetness)

- Start timothy in the Fall after soy and use winter wheat recommendations as a guide
- Fertilize to enable the field to grow the timothy and also the soybeans after the timothy first cut
- Fertilize with P, K, S. and also lime to feed both crops
- Fertilizer is worked into the top 2-3 inches and have a clean field that is firm and level. Apply weed treatment if necessary before tillage as there is limited options to weed treat timothy after establishment
- Drill timothy seed 1/4" into a firm seedbed. 10-12 lbs per acre in narrow rows. Go over 2 times to get the rows down to 3 1/2". Pack the field to get it level and use an early maturing timothy (2 cut variety). Also look for rust resistance in the variety you pick.
- In the Spring, when timothy comes out of dormancy, apply 50 lbs of actual N. Usually 20 gallon UAN with ammonium Thiosul
- Watch for weeds and spray 1/2 rate of 2.4 DB when weeds are small. Add headline to the mix to keep the plants healthy. 1/2 rate of 2.4 DB because in our experience a full rate will damage and set back the timothy.
- The goal is to suppress broadleaf weeds and expect thick stand of timothy to do the rest
- At flag leaf emergence apply another 50 lbs actual N.
- Use Urea and hire an applicator who can run in our sprayer tracks and also uses the same width
- Harvest at full head elongation.
- There is a short window before bloom when timothy is at its best. it will become almost neon green for 2-3 days and then starts to lose colour quickl
- For the Co-op we would want 7.5 foot big square bales 3x3 or 3x4 tightly packed
- If at all possible arrange to have access to a big bale dryer and get the hay down to 12" moisture.
- Expect a yield of 3 tons of dry hay per acre.
- Drill short season RU soy into the stubble with a no till drill fairly deep to get to moisture (200 K seed per acre)
- When the timothy stubble greens up spray off with proper spray program
- Repeat in the Fall.





# GROWING

Select a field with little residue: such as soybean stubble, and a field that is not prone to flooding. Low, moist ground can cause the roots of alfalfa to “heave” during spring frost/thaw cycles.

Soil sample the field to be certain of:

- Phosphorus levels in the 20–30 range
- Potassium 250 range and a PH level of 6.7 or higher
- Sulphur context: based on soil sample, replace as needed.

- ammonium sulphate (21 - 0 - 0 - 24)
- potassium sulphate (0 - 0 - 50 - 18)
- sulphate of potash magnesia (Sul-Po-Mag or K-Mag) (0 - 0 - 22 - 20)
- calcium sulphate (gypsum) (0 - 0 - 0 - 17)

– If manure or soil amendments are being used, know the analysis of the material and adjust commercial fertilizer accordingly. Apply the fertility as recommended by a crop advisor. Spreading solid manure in season is not recommended. Liquid manure can be applied at a rate of 3–4 thousand gallons of pig manure or 5000 of dairy manure. Must be applied within one week of harvesting product.

– If lime is needed to adjust PH, apply it now. Remember if the ground is sweet the hay is sweet.  
– Apply 50 pounds of elemental Sulphur 0-0-0-90 (blend with fertilizer) if needed or desired

– Ensure the field is firm and smooth, free from rocks or other obstructions before planting seed. Do not overwork the soil, as this will cause crusting in a rainy period.

– Residue from a previous crop must be minimal as it will be caught up in the first cutting and create foreign material in the bales of hay making them unacceptable for export

– Select a pure alfalfa seed that has good disease resistance, adapted to your environment and shows evidence of nutrition suitable for a dairy ration. Ensure that the alfalfa seed is inoculated with rhizobium bacteria, which helps ensure proper nodulation so the plant is able to fix nitrogen for its growth and development.

– Plant seed ¼ inch deep with a Brillion seeder or a narrow (7 ½ ") drill, with press wheels, into the fine seedbed as early in the spring as allowed by the soil condition. Seeding rate for pure alfalfa should be 25 to 30 pounds. Finer stem-suppressing weed control-less resistance

– Airflow has shown good results—need to watch weather for rain in forecast

– Any planted fields should be packed a minimum of one time after planting

– Soil temperature should ideally be 10 degrees Celsius or 50 degrees Fahrenheit. Good seed to soil contact is needed for best germination. Following this method will ensure a crop return in the first year. Later planting is possible but not after mid-summer. Roots need to be 10" deep to survive the first winter.

– Control weeds and grasses! Refer to OMAFRA publication 75 for weed control in pure alfalfa stands.

– Monitor crop for insects throughout the growing season. Leafhoppers can destroy a crop quickly and cause the loss of establishment in the first year if they are severe.



# ALFALFA

- If irrigation is available and during a drought, here are some guidelines: alfalfa consumes water most efficiently during its spring growth period. At this growth stage, the forage crop requires only 4 to 5 acre-inches per ton of alfalfa the crop produces. By midsummer, however, alfalfa drinks up 7 to 8 inches of moisture to produce 1 ton of forage. By fall, that water use drops back to 5 to 6 inches of water per ton of forage.
- Spray a registered fungicide on the crop early in the growth period (6" to 8") in the spring to avoid leaf diseases. Quality of feed sample is not improved, however, there may be a notable increase in yield in a wet year. Fungicides need to be applied at a minimum of 21 days before harvesting.
- Cut and condition alfalfa, using a properly set machine, when the first buds appear. Using a PEAK stick, Predictive Equations for Alfalfa Quality measuring tool, cut when at 180-190 Relative Feed Value RFV. Using a scissor method and sending a sample to an accredited lab will ensure the correct timing for obtaining high value feed. Cut during daylight after dew has dried off the plant.
- Lay the cut, conditioned hay out as wide as possible over the stubble. Tedding the hay within the next 24 hours speeds drying however may result in leaf loss. The use of tedding should be used if a dryer is available, or if drying window becomes narrow.
- Bale as soon as the hay reaches 12% moisture or within 4 days counting the day of cutting.
- If hay is over 12% moisture, 12% to 20%, apply an inoculant to preserve the hay and bale with the intent of drying the bales before storage and within the next 48 hours. If a dryer is available, bale at 20% to retain feed quality.
- Calculate your yield by weighing a bale of hay, taking an average moisture reading and counting bales of hay per acre and calculating the weight per acre of 14% moisture hay.
- Store hay in a building, on pallets, immediately to avoid weather impacts. Bales left in the sun will lose color and if rain hits, the quality will be lost.
- Typically, quality hay can be harvested in 30-day intervals to achieve 4 cuts per year.
- Fertilize annually with nutrients according to your crop and soil needs. Consider Potash is removed at a rate of 54 pounds per ton of hay and Phosphorus is also removed at a rate of 13.5 pounds per ton of hay.
- Boron levels need to be maintained. A standard soil test is good, but it should be augmented with plant analysis and watching for B-deficiency symptoms. Boron availability can fluctuate with soil conditions, and levels found in plant tissue will vary with growth stage. Sample the top six inches of growth on alfalfa. In serious B-deficiency plants, the undersides of young leaves have a rosy red color, whereas the topsides are yellow. Under extreme B deficiency, the young leaves will turn brown and the plant will die.
- Do not cut the alfalfa during the critical fall harvest period. This is when the plant is storing energy to survive the winter. Typically 4-6 weeks before a killing frost which for alfalfa is -5 degrees Celsius or 23 degrees F. Replace the crop when there are less than 40 stems per foot on average in the field.
- Typical Export hay has an 8 cut rule: after its 3<sup>rd</sup> year the quality of alfalfa may not be as high and may not hit certain feed values.

# PROPER PLANNING FOR

## PRE PLAN

1. Pick a field that is efficient, remember this field may have to be driven over up to 20 times a year, spending time in multiple small fields creates a lot of work
2. Pick a seed or variety that is best suited for your field. Type and variety is key, to a good crop
3. Soil sampling is important, just like growing and other grain crop, a healthy field makes a healthy crop
4. A field with low amount of previous residue I find works best.

## GROUND PREP

1. Ground needs to be smooth, level. All rocks need to be removed, equipment needs to drive on fields in all direction
2. Any cultivation with a packer works best, to get rid of clumps, if in heavy clay.
3. No till is possible, make sure ground is suitable for planting

## PLANTING

1. Make sure drill is properly looked after, test all grass tubes to make sure runs are not plugged or uneven feeding.
2. Make sure it is not too windy if planting with airflow or trickle tubes—Planting rate will differ with each form of planting, and what kind of seed you are planting.
3. Recommend packing after planting as soon as possible
4. Narrow rows as possible no more than 7.5 inch planting

## MOWING

1. Be efficient as possible, need to understand if you cut for 6 hours during the day, there will be a six hour difference of drying
2. Cut early evening or early morning if possible
3. Make best effort to not drive on windrow, driving on windrow does not allow underneath row to dry properly

## TEDDING/RAKING

1. Best tedding option is within 24–30 hours after mowing, to be done early in morning or early evening, to keep leaf retention
2. Raking needs to be planned carefully, too early and you will never get hay dry, too late and you will lose a lot of leaves, less time material is touched the better product produced.
3. Make sure entire row is flipped or turned. A tight high windrow allows air and wind to pass through the product properly



# PLANTING FORAGE CROPS

## BALING

1. Be aware of weather conditions at all times.
2. Constantly check field conditions—possible small window for baling each day.
3. Make a consistent bale. 3x3 or 3x4 bales and make them 7.5 feet long to fit into trucks or containers crossways. Balers should be set up to have at least 35 flakes per bale. Balers should be set up to make all flakes very even, fill out corners of the bales and not overload the middle of the bales. This is usually a function of how big and even are your windrows and how you drive and weave over these windrows. It is especially important with 3x4 bales who are often Very uneven. Keep in mind that these bales might need further drying and repacking into small Bales. A dryer and a double compactor work much better with good even bales.
4. Need to remember that acid does not make hay!
5. If field was cut over a large period of time remember which side you started on.

## REMOVING FROM FIELD AND STORING

Have a well ventilated dry building available.

Make sure no rain or snow can enter. We place bales on skids to avoid spoilage to the bottom bales. Some farms are using heavy plastic on the floor and put 6" of chaff on top and store hay on it. The important thing is hay needs to breathe.

Store different skews of hay so that they can be accessed without having to move other hay. We mark our different haystacks. Make sure your storage is accessible for big trucks to move the hay anytime it is needed.

Catalogue your for export inventory and inform the co-op of what you have so that the co-op

Can optimize the marketing.

What we all want to achieve is to adopt the same mindset for how we deal with hay as we deal with grain. Hay has the same or higher value per tonne as grain if we grow harvest and store it right.

