

# Final Update- Weed control in Galega Part 2

*If producers are planning on planting new fields of galega and wish to use no herbicides, the best approach would be to plant as early as they can get onto the field. If producers wish to use herbicides, there are two different products that have shown promising results.*



For more information about this project, please contact:  
Mikala Parr, Research Technician  
705-942-7927 x3046  
mparr@ssmic.com

[www.rainalgoma.ca](http://www.rainalgoma.ca)



In partnership with LUARS (Lakehead University Agriculture Research Station), RAIN developed a research project in order to find the optimum seeding time of galega in its establishment year, in terms of weed control and yield. Taking place in Algoma and Thunder Bay, the project completed its third year and final year in 2020.

Yields were reported in part one of the final update of weed control in galega. It was noted that the highest yields were when the galega was planted as early as possible, in Algoma and Thunder Bay in both years 2019 and 2020. Weed pressure was still prevalent but the yields were able to overcome. It was also noted in years 2019 and 2020 that Galega seeded after pre-plant incorporation of Rival (trifluralin) at 3L/ha, and Galega sprayed with Pursuit at 210 ml/ha + Ag-Surf at 0.25% v/v post- emergent showed significantly less weed pressure, as well as a high yielding crop. Forage quality was taken, results were as follows:

Location	Treatment	Crude Protein	ADF-CP	ADF	NDF	TDN	RFV
Algoma	Early Plant	13.38	2.53	32.96	42.08	63.22	140
Algoma	July Plant	12.69	2.81	33.88	40.80	62.51	142
Algoma	Alfalfa-Check plot	16.57	3.21	27.52	36.42	67.46	172
Thunder Bay	Ealy Plant	20.4	3.32	37.6	50.4	67.1	110
Thunder Bay	Rival herbicide	19.4	2.77	35.5	45.1	69.8	126
Thunder Bay	Pursuit herbicide	20.3	3.01	36.9	48.2	69.2	116
Thunder Bay	Alfalfa-Check plot	20.4	1.57	33.1	41.8	68.8	141

Crude protein is low in both Algoma samples, however all other levels in Algoma are within recommended ranges for haylage. Thunder Bay's samples fell within the recommended ranges for haylage.

If producers are planning on planting new fields of galega and wish to use no herbicides, the best approach would be to plant as early as they can get onto the field. This method produced higher yields, will less weed pressure in the second and third year. If producers wish to use herbicides, there are two different products that have shown promising results. Pre-plant incorporation of Rival (trifluralin) at 3L/ha, and Pursuit at 210 ml/ha + Ag-Surf at 0.25% v/v post- emergent. These two treatments showed the highest yielding crop with significantly less weed pressure.



# Final Update- Weed control in Galega

## Part 1

*The galega grew well this year but so did the weeds. The summer of 2020 was not a great growing year, with colder temperatures in May and June than expected. Overall, the highest yielding treatments where the seeded as early as possible at both locations, as well as three herbicide treatment*



In partnership with LUARS (Lakehead University Agriculture Research Station), RAIN developed a research project in order to find the optimum seeding time of galega in its establishment year, in terms of weed control and yield. Taking place in Algoma and Thunder Bay, the project completed its third year and final year in 2020.

There are two separate areas of galega in the Algoma trial. One planted in mid-June (early planting) and one planted mid-July (late planted). The mid-July planted galega was planted after the weeds had grown up and then been sprayed off. This method was used to see if the galega would be able to establish better without the pressure of weeds but much later in the season.

Thunder Bay had 10 treatments in total;

1. Alfalfa seeded at 15 kg/ha
2. Galega seeded in spring as early as possible
3. Weeds killed off in spring before planting
4. Galega seeded after barley harvest
5. Galega seeded mid-july after killing off weeds
6. Galega seeded after pre-plant incorporation of Rival (trifluralin) @ 3L/ha
7. Galega seeded after pre-plant incorporation of Rival (trifluralin) @ 3L/ha
8. Galega sprayed with Sencor @ 275 g/ha post-emergent
9. Galega sprayed with Basagram Forte @ 1.75L/ha post-emergent
10. Galega sprayed with Pursuit @ 210 ml/ha + Ag-Surf @ 0.25% v/v post- emergent

The galega grew well this year but so did the weeds. The summer of 2020 was not a great growing year, with colder temperatures than expected in May and June. Overall, the highest yielding treatments was when the galega was seeded as early as possible at both locations, as well as three herbicide treatments from Thunder Bay. Yields were as follows:

Location/Treatment	Yield in kg/DM/ha
Algoma- June planted	3566
Algoma- July planted	710
Thunder Bay #1	2570
Thunder Bay #2	<b>2052</b>
Thunder Bay #3	1424
Thunder Bay #4	1489
Thunder Bay #5	1426
Thunder Bay #6	<b>2008</b>
Thunder Bay #7	1458
Thunder Bay #8	<b>1849</b>
Thunder Bay #9	1573
Thunder Bay #10	<b>1792</b>

For more information about this project, please contact:  
Mikala Parr, Research Technician  
705-942-7927 x3046  
mparr@ssmic.com

[www.rainalgoma.ca](http://www.rainalgoma.ca)



# Best Management Practices for Alfalfa Production



*Alfalfa is also very sensitive to light and air quantities in beginning stages of life. By increasing the row spacing of alfalfa, we may be able to increase the yield simply by allowing more light and air into each row during establishment years*



Alfalfa is one of the most used forage for hay and feed production in Ontario, and best management practices are a very important aspect for producers. This project will be looking at different row spacing for alfalfa and sulphur fertilization. Sulphur has become an increasing area of interest for producers. According to soil tests, most areas in northern Ontario are deficient in sulphur, and that can affect yields of several different crops. Alfalfa has an uptake of 35 lbs/ac of sulphur every year, therefore if it is not receiving the correct amount, it will suffer in plant health and yield production. Alfalfa is also very sensitive to light and air quantities in beginning stages of life. By increasing the row spacing of alfalfa, we may be able to increase the yield simply by allowing more light and air into each row during establishment years. This project will be a combination of both of those treatments, by applying different rates of sulphur to each row spacing and documenting the results on several locations in northern Ontario; Algoma, Thunder Bay and Rainy River.

Spacing order for the alfalfa will be:

1. Alfalfa seeded @ 15 kg/ha at 6 inch row spacing
2. Alfalfa seeded @ 15 kg/ha at 12 inch row spacing
3. Alfalfa seeded @ 15 kg/ha at 6 inch row spacing – missing one row after every two rows

Rates of Sulphur on conventionally seeded alfalfa (4 Replications, Randomized Control Block Design):

1. No S
2. 24 kg S/ha
3. 36 kg S/ha
4. 48 kg S/ha

There will not be a harvest in the first year of establishment.

This trial will be duplicated at the Lakehead University Agricultural Research Station (LUARS) in Thunder Bay District and the Emo Agricultural Research Station (EARS) in the Rainy River District. This trial will also be conducted on farm in the Algoma region by RAIN, but the trials will be separated into two locations: one looking at just sulphur and one looking at just row spacing. There is a greater potential for more producers in northern Ontario to start growing, or to expand their current alfalfa crops if this project proves a yield increase simply by adding sulphur or increasing the planting spacing.

For more information about this project, please contact:  
Mikala Parr, Research Technician  
705-942-7927 x3046  
mparr@ssmic.com

[www.rainalgoma.ca](http://www.rainalgoma.ca)





# Alternative Legumes- 2020

*2020 was the final year for this project and started out as a wet spring, then turned into a very dry and abnormally hot summer and then back to a very wet fall. The alternative legumes (red clover, alfalfa, trefoil, galega and sainfoin) did fairly well considering.*

*The LUARS (Thunder Bay) trial will be reported on a follow up report.*



For more information about this project, please contact:  
Mikala Parr, Research Technician  
705-942-7927 x3046  
mparr@ssmic.com

[www.rainalgoma.ca](http://www.rainalgoma.ca)



In spring of 2018, five legumes were planted at the Algoma Community Pasture to show alternative legumes that could potentially be utilized in a Northern Ontario climate. Alfalfa is commonly grown as a forage crop in Ontario, but due to its sensitivity to wet and cold conditions it may not be the most suited to a Northern Ontario climate. By evaluating how alternative perennial legumes perform in Northern Ontario, in comparison to alfalfa, the objective was to find the forage that best suits the needs of local farmers and give them the opportunity to choose between comparable forages.

The five legumes that are being compared include galega, red clover, sainfoin, birdsfoot trefoil, and alfalfa as a control. The seeding rates are as follows:

Alfalfa at 13 kg/ha  
Galega at 35 kg/ha  
Red clover at 11 kg/ha  
Sainfoin at 30 kg/ha  
Birdsfoot trefoil at 9 kg/ha

2020 was the final year for this project and started out as a wet spring, then turned into a very dry and abnormally hot summer and then back to a very wet fall. The alternative legumes (red clover, alfalfa, trefoil, galega and sainfoin) did fairly-well considering. The sainfoin did not regrow after the past winter. Certain plots of the galega did well though. Alfalfa and trefoil almost tied for top yielding, however birdsfoot trefoil yielded more than an other legume.

The purpose of this project was to show if there were other top leading legumes Northern Ontario producers could use in their hay crops. It has been shown over the past three years that red clover, trefoil, and alfalfa are the top contenders. All three legumes were able to over-winter and establish well each spring. These three legumes have been used for many hay crops all over Ontario. Top yielding legumes are:

Harvested July 25 <sup>th</sup> , 2020- 1 <sup>st</sup> cut	
Birdsfoot Trefoil	8716.92 kg/DM/ha*
Alfalfa	7460.60 kg/DM/ha*
Red Clover	4759.52 kg/DM/ha*
Galega	3527.36 kg/DM/ha*

\*Kilograms of dry matter per hectare

Now, that is not to say that galega and sainfoin should not be used as a legume in your hay mix. This trial was completed on land that was not tile drained. Galega is known to be very picky when it comes to early competition and sainfoin has been known to do better on tiled ground.

This project could not have been completed without the help and support of the Algoma Community Pastures Association.

