

Sphagnum Moss Control

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haircap moss (*Polytrichum commune*)



Sphagnum sp.



Bog with research plots experienced a 54% reduction in yield since 2018.



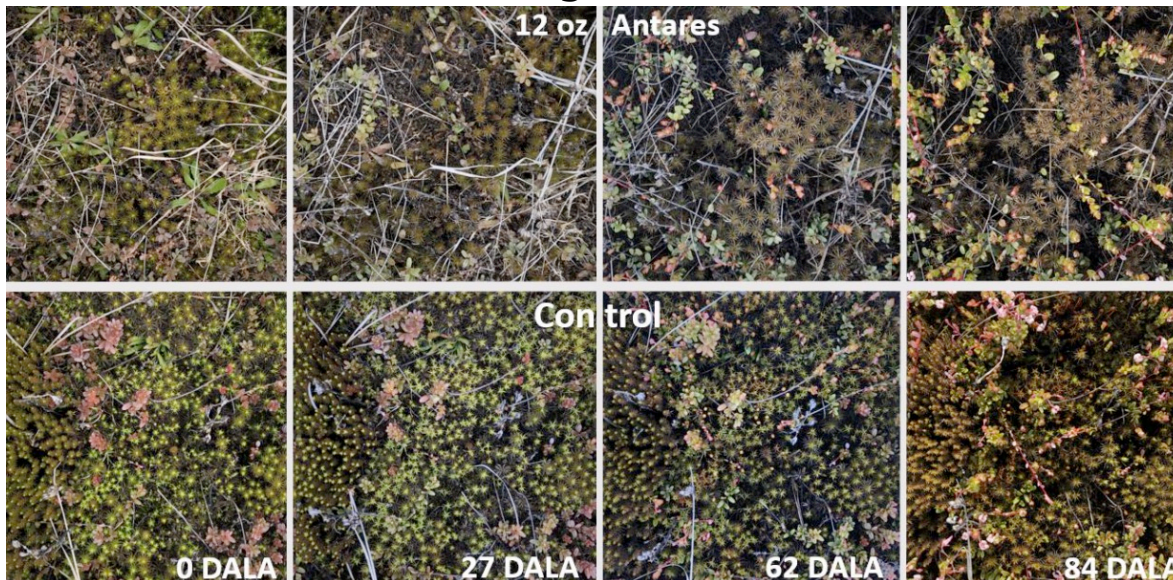
New Moss Control Possibilities

Group 14 Herbicides

Sulfentrazone (Zeus XC and Antares) and an unregistered "Product X"

- Sulfentrazone has been shown to be effective against haircap moss.

Washington Trials



Application made at tight bud stage on March 26th, 2021.

Massachusetts Trials



September 19th, 2018 ~5 months after treatment.



- Product X has also been shown to be effective against haircap moss.

Massachusetts Trials



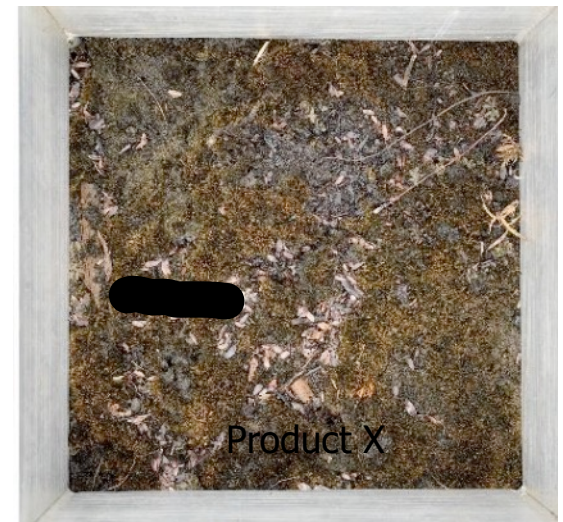
~3 weeks after treatment on May 7th, 2018 at 4 oz/A.

- Trials in WI and BC have shown this product to be effective against *Sphagnum* spp. as well.



Sulfentrazone has shown variable degrees of efficacy on *Sphagnum* spp.

- No effect in 2018 WI and 2021 WA trials.
- In 2022 efficacy was found against a *Sphagnum* sp. in WA.
- In BC sulfentrazone showed efficacy to a lesser degree, with less duration than Product X.



14 days after treatment on April 15th, 2020.



While sulfentrazone did not, copper hydroxide (Nu-Cop 50DF) had activity against haircap moss in preliminary OR trials conducted in December 2021.



Late January 2022 Trials
(Plots infested with a *Sphagnum* sp.)

- Sulfentrazone (Antares, 39.6% a.i.) – applied at 12 oz/A: alone, with a non-ionic surfactant, with a soil retention adjuvant, and a treatment incorporating both.

Effect on moss indistinguishable between treatments.



untreated



12 oz/A alone at ~2 months

Moss began recovering within 3 months.



- Addition of adjuvants to sulfentrazone caused temporary phytotoxic effects that did not negatively impact plant development.



sulfentrazone + adjuvants

untreated



- Nu-Cop 50DF – 3 applications made at 7-day intervals (maximum yearly rate) with and without a non-ionic surfactant.

No difference in results between treatments.



untreated

without surfactant

Less effective than sulfentrazone. Moss fully recovered within 3 months.



- Product X – applied at 4 and 6 oz/A.
- No difference between 4 and 6 oz/A rate.

Results at ~ 2 months:



untreated

4 oz/A



4 oz/A



No difference between 4 and 6 oz/A rate.

Results at ~ 4 months:



4 oz/A

untreated



4 oz/A





4 oz/A at ~ 9 months



Conclusions

- Copper hydroxide has good activity against haircap moss but causes only temporary, minor chlorosis in this *Sphagnum* sp.
- Sulfentrazone with or without adjuvants is more effective than copper hydroxide but not enough to be considered an effective tool against this established *Sphagnum* sp.
- Addition of adjuvants to sulfentrazone causes temporary phytotoxic effects.
- Product X shows promise as an effective and safe moss control tool.
- Repeat applications will be necessary.
- Trials are being conducted with lowered application rates in OR in hopes of being able to make two applications per year.
- OSU is conducting new moss control trials this year with several compounds.



Any Questions?

