HIGHWAY 101 GORSE REMOVAL & TREATMENT DEMONSTRATION AREA WHAT WORKED, WHAT DIDN'T, AND A FEW SURPRISES

TAKE HOME MESSAGE: COMBINING MECHANICAL AND HERBICIDE METHODS PROVIDES THE MOST EFFECTIVE GORSE CONTROL

- **Step 1:** The operator should use equipment in a slow and deliberate manner, with a goal of grinding gorse stems and mulching gorse material on site.
- **Step 2:** Spray gorse resprouts and seedlings either in the spring or fall with one of the Triclopyr products. Please refer to the GAG handout "Using Herbicides" to help select the right Triclopyr product for your site.

Important! Garlon 3A and Vastlan can be used near water, Garlon 4 Ultra **cannot** be sprayed near water. Garlon 4 Ultra should not be sprayed in hot dry months, nor in even slightly windy conditions, as it can move off target and easily damage or kill off target trees and shrubs.

Regardless of your methodology, plan on retreating regrowth and seedlings. Gorse, as we all know, is very tenacious.

LESSONS LEARNED

- Year one is critical. Don't miss your window to spray gorse regrowth. Spray gorse resprouts within 6 months of completing mechanical grinding/mulching. If you grind and mulch in the spring, spray gorse resprouts in the fall. If you grind and mulch in the fall, spray gorse resprouts in the spring. Gorse needs the "one-two" punch in year one.
- Spraying gorse regrowth and seedlings 1 x per year is sufficient. There was little added benefit of retreatment in both spring and fall.
- Overall, little to no difference was found between MSO (methylated seed oil) and Syl-tac (silicone based) surfactants. The most important thing: don't forget to add a surfactant to your tank.
- By the end of 2 years, plots with tank mixes of multiple herbicides and/or surfactants resulted in the same levels of gorse control as plots using just 1 Triclopyr product with 1 surfactant. All plots being compared were evaluated annually for maintenance spraying of gorse seedlings and resprouts. Beyond Triclopyr products already mentioned, other herbicides included in this trial: Garlon XRT, Escort XP, & Diuron. Surfactants used: MSO, Syl-tac EA, and Kinetic. Milestone or products containing Milestone (Capstone) were not included in this trial *(see bottom photo).*
- It takes multiple years to evaluate the success or failure of any control method. Declaring victory within months or even within a single year of a treatment can be misleading. A method can look like a winner at first and then prove to be an absolute disappointment. Promoting desirable competing vegetation and minimizing bare ground lend to the best outcomes.



Spray gorse crown regrowth and seedlings.



Fall 2019. Plot 7A (Vastlan (55% Triclopyr Al+Syltac EA surfactant), 7B Garlon 3A (44% Triclopyr Al)+ MSO surfactant), 7C Vastlan (55% Triclopyr Al) + Escort XP (Metsulfuron methyl) + Syltac EA surfactant, 7D Vastlan (55% Triclopyr Al) + Escort XP (Metsulfuron methyl) + MSO surfactant (for herbicide rates, see original prescription sheet).

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SUCCESSES + SURPRISES

- Vastlan (newer Triclopyr formulation) and Garlon 3A (old standard) both proved to be effective. Year 1 evaluations showed Garlon 3A performing better, but by the end of year 2, both products resulted in similar levels of control. Vastlan is slower acting, which is not necessarily a bad thing when controlling woody perennials. By the end of the 2-year trial, plots had between trace amounts-7% gorse resprouting, 64-84% other vegetation, and only 10-15% bare ground.
- **Black Fabric**, where it can be used (smaller scale, flat ground without debris) can be extremely effective. Once the black fabric was removed (1.5 years), less than 1% of gorse resprouted and 74% other vegetation filled in the plot (see photos below).



Fall 2019. Plot 4B, half clear plastic, half black landscaping fabric. The clear plastic ripped into shreds within months of being installed.



Fall 2019 . Plot 4B, taking a peak underneath the black landscape fabric. The black landscape fabric was SURPRISINGLY EFFECTIVE!



Spring 2020. Plot 4B, after both clear plastic and black plastic were removed.



Fall 2020. Plot 4B, black landscape fabric section.

Detailed information about the plots included in and treatment methods compared in this trial can be found in the GAG Handout: Highway 101 Gorse Removal Demonstration at https://gorseactiongroup.org

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SUCCESSES + SURPRISES (CONTINUED)

Tillage of resprouts proved to be very effective. After 2 years, 97% "other vegetation" with only 2% gorse resprouts was realized. Where tillage equipment can be used (flat with little debris), tillage is certainly worth considering *(see photos below)*.

- Step 1: Gorse plants removed ("plucked" or ripped out) with small excavator
- Step 2: Sprayed 6 months later with Triclopyr/surfactant
- Step 3: Tilled (slow and deliberate manner)
- Step 4: Annual spot treatment of few remaining gorse seedlings



Fall 2019. Plot 4A was tilled in Spring 2019. Post mowing follow-up with tillage can also be very effective.



Spring 2020. Plot 4A recently planted with a mix of trees after tilling. Shade is an excellent tool when battling gorse.

FAILURES

- Crossbow+ Roundup: While this treatment looked really promising within the first few months, at the end of 2 years, this plot had the most bare ground (50%) in the trial, ground susceptible to gorse reinvasion.
- Mechanical only or the "one and done" strategy, with no follow-up, was a complete failure for long-term control. After 2 years, 70% of the plot was overtaken by gorse regrowth. Gorse thrives after disturbance and grows back "bigger and meaner". Absentee homeowners often get trapped in this ineffective cycle (see photos below).



Spring 2020. Plot 5A. Mow and walk away, not "one and done".



Spring 2020. Plot 5B in foreground, mow and then 1x per year spray regrowth. Plot 5A in flower in background, mow and walk away.

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FAILURES (CONTINUED)

- It is a myth that fertilizing controls gorse. After 2 years, this plot, 3A, looked as if no treatments had been done (70% gorse regrowth. The result was a large, thriving gorse stand *(see top left and right photos, below).*
- When attempting to solarize cut gorse stems with clear plastic: the plastic broke down into pieces within months of coastal weather conditions. While plots had a decent amount of other vegetation (72%), resprouting gorse (28%) quickly dominated the plot *(see bottom left photo, below).*
- The hardware grade product, "Tough Brush Killer" was not effective. After 2 years, 60% of the plot was covered in gorse. This product contains only 8% of the Triclopyr Active Ingredient, as compared to Garlon 3A, Vastlan, Garlon 4 Ultra that contain 45-60% (see bottom right photo, below).
- Composting large stands of cut gorse was not effective due regrowth of gorse while waiting for the pile to break down; extreme caution needs to be taken when burning large piles of cut gorse, attempts in one plot smoldered for weeks.



Fall 2019. Plot 3A (green plants in background) fertilized 6 months after mechanical removal, 3B (brown plants in foreground) sprayed 6 months after mechanical removal.



Fall 2020. One year post treatment. Plot 3A left side (fertilized plot had to be mowed, gorse stand too large). Plot 3B right side.



Fall 2020. Plot 4B. Clear plastic broke down in short order allowing gorse crowns to resprout even as a lot of other vegetation also grew back.



Spring 2019. Plot 6B .Hardware grade, low concentration Triclopyr. Note green center of crown.