REMOVING INVASIVE PLANTS UTILIZING LIVESTOCK

A FARMER-RANCHER PROJECT FUNDED BY A SARE GRANT

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THE GOALS OF THE PROJECT
REMOVE BUCKTHORN, PRICKLY ASH AND REED CANARY GRASS WITHOUT CHEMICALS
ALLOW HOGS TO USE THEIR NATURAL ROOTING ABILITY TO IMPROVE THE WOODLAND
REMOVE PRICKLY ASH THICKETS IN PASTURES
CONTROL REED CANARY GRASS ON RIVER BANKS USING HORSES AND SHEEP
PREVENT EROSION INTO SENSITIVE WETLANDS
PRESERVE AS MANY TREES AND NATIVE SPECIES AS POSSIBLE
PRESERVE AREAS FOR MILKWEED AND MONARCH BUTTERFLY CATERPILLARS
CONTROL RE-GROWTH WITHOUT CHEMICALS
IMPROVE PASTURE FORAGE AND RAISE QUALITY LAMB AND PORK
AVOID COSTS, LABOR AND POLLUTION USING CONVENTIONAL METHODS OF CONTROL
RETURN THE AREA TO NATIVE PLANT AND TREE SPECIES.
WHAT A HOG CAN DO THAT MACHINERY CAN’T
HOGS CAN REMOVE BRUSH FROM BETWEEN LARGE TREES AND ROCKS
HOGS CAN TURN THE TOPSOIL WITHOUT COMPACTION
HOGS CAN DIG UNDER THE ROOT BALL
AND PULL UP THE PLANT
HOGS CAN BREAK UP DEBRIS INTO LITTLE PIECES
HOGS CAN GLEAN 40 PERCENT OF THEIR DIET FROM FORAGING
THE BEST METHODS FOR TARGETING BUCKTHORN
FIRST: TRAIN THE HOGS TO JUMP BACK WHEN THEY TOUCH A FENCE BY PUTTING A HOT ELECTRIC WIRE INSIDE A PERMANENT FENCE.
USE PORTABLE SHELTERS, FEEDERS AND WATER
USE PIG-QUIK ELECTRO-WEB FENCING FROM PREMIER
PIG QUIK ELECTROWEB FENCING AND A ZAREBA BATTERY FENCER MOUNTED ON ITS OWN GROUND ROD WORKED BEST FOR HOGS

IT IS EASY TO INSTALL WITH ONE PERSON

IT IS SHORT ENOUGH TO STEP OVER TO ACCESS HOG YARDS FOR FEEDING ETC.

CAN FENCE ANY SHAPED AREA

IT IS LIGHTWEIGHT, EASY TO REPAIR AND EFFECTIVELY CONTAINS THE HOGS

A 12 VOLT SOLAR PANEL CHARGED A DEEP-CYCLE MARINE BATTERY FOR REMOTE LOCATIONS FOR SHEEP
ALLOW ENOUGH TIME TO DIG UP, EAT OR TRAMPLE THE VEGETATION
PLACE FEED TROUGHS IN BUCKTHORN THICKETS FOR MORE TRAMPLING
USE LARGER HOGS ON AREAS WITH LARGER BUCKTHORN
BETTER RESULTS USING HOGS

- To prevent odors, parasite and fly problems, fence small areas that can be hogged off in about a week.
- Move hogs off grazed off areas completely.
- The amount of area the hogs could target depended on temperature, moisture in the soil, size and number of hogs and size of the plants.
- Re-graze heavily infested areas to get better removal.
LIMITATIONS OF BUCKTHORN REMOVAL USING HOGS

- HOGS WON’T DIG IN DUNGING AREAS
- HOGS ARE LESS ACTIVE DURING HOT WEATHER
- HOGS DIG LESS WHEN SOIL IS DRY
- HOGS CHOOSE THE EASIEST AREAS TO DIG AND AVOID HARD TO DIG AREAS
- HOGS WON’T DIG NEAR ELECTRIC FENCE
- HOGS MAY GROUND ELECTRIC FENCE BY PUSHING DIRT PILES INTO IT.
THE PULLER BEAR WEED WRENCH WORKED WELL TO PULL PLANTS THE HOGS MISSED
HOGS BREAK UP THE BRUSH AND DEBRIS
BROADCAST GRASS SEED DIRECTLY ON TO HOG-TILLED SOIL
USE OLD BEDDING AS MULCH OVER BROADCASTED SEEDS
USE SHADE TOLERANT GRASS SEED UNDER FOREST CANOPY

- SHADE SEED MIX:
  - FINE FESCUES - CREEPING, HARD AND CHEWINGS VARIETIES
  - KENTUCKY BLUE GRASS - LIMOUSINE AND BARON VARIETIES.
IF THE SUMMER AND FALL ARE TOO DRY, WAIT AND FROST SEED IN THE SPRING
BROADCAST GRASS SEED ONTO SNOWPACK IN MARCH
ALLOW FROST S EEGED AREAS TO GROW UNTIL FALL BEFORE GRAZING
SHADY AREAS CAN ONLY BE GRAZED ONCE A YEAR DUE TO LIMITED GROWTH
THE AREA IN THE FOREGROUND WAS HOGGED OFF AND SEEDED TO SHADE GRASS
AFTER NATIVE SPECIES DROP THEIR LEAVES, THE BUCKTHORN IS EASY TO SEE
PART TWO: TARGETING UNWANTED PLANTS USING SHEEP
SHEEP PREVENT BUCKTHORN SEEDLINGS FROM GETTING RE-ESTABLISHED.
HAIR SHEEP WERE CHOSEN BECAUSE THEY PREFER TO BROWSE ON BRUSHY PLANTS
HAIR SHEEP DON’T REQUIRE SHEARING, DE-HORNING OR TAIL DOCKING.
HAIR SHEEP ARE SOMEWHAT RESISTENT TO INTERNAL AND EXTERNAL PARASITES
HAIR SHEEP THRIVE ON BUCKTHORN AND MOST LEAFY PLANTS
BUCKTHORN MUST BE CUT SO SHEEP CAN REACH IT
INTENSIVE TARGETED GRAZING REMOVES ALL THE VEGETATION SHEEP CAN REACH
ONCE VEGETATION IS REMOVED, IT IS ALLOWED TO LEAF-OUT, THEN RE-GRAZED
FREQUENT RE-GRAZING WAS AN EFFECTIVE WAY TO KILL BUCKTHORN
CUTTING THE STEM AT 2-3 FEET TALL WAS MORE EFFECTIVE AT KILLING IT
BENDING AND BREAKING THE STEM AT 2-3 FEET TALL AND GRAZING OFF LEAVES WAS THE MOST EFFECTIVE AT KILLING IT
CUTTING THE STEMS SHORT AND GRAZING WAS NOT AS EFFECTIVE
SHEEP ARE SELECTIVE GRAZERS AND DID NOT EAT ALL PLANTS IN THE WOODS
Hogs dug up the buckthorn and most every native plant species
TARGETED GRAZING WAS MOST EFFECTIVE NEAR THE BARNS AND WATER
HORSES WERE USED TO PRE-GRAZE PASTURES TO TARGET SHEEP WORMS AND LIVER FLUKES
SHEEP IMPROVED THE PASTURE BY TARGETING WEEDS AND BRUSH
SHEEP EAT MORE BROAD LEAF VARIETIES, HORSES PREFER GRASS
THE HOGGED OFF AREAS RESULTED IN BETTER CONTROL OF BUCKTHORN THAN GRAZING WITH SHEEP ALONE
GRAZING WITH SHEEP ALLOWED MORE NATIVE SPECIES TO SURVIVE
GRAZING WITH SHEEP ALLOWED LESS EROSION THAN HOGS
WOODLAND PLANTS ARE A Viable FEED SOURCE FOR BOTH SHEEP AND HOGS
HORSES WERE MOST EFFECTIVE AT IMPACTING REED CANARY GRASS
KEEPING REED CANARY GRASS GRAZED ALLOWS NATIVE SPECIES TO GROW
ROTATIONAL GRAZING REDUCED HAY CONSUMPTION AND FEED COSTS.
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AS A RESULT OF THIS RESEARCH:

THE STATE OF MINNESOTA HAS CHANGED ITS REIMBURSEMENT POLICIES TO INCLUDE USING ANIMALS TO REMOVE INVASIVE SPECIES.