



Goat grazing as management of Scotch broom (*Cytisus scoparius*) in Mols Bjerger, Denmark

Buttenschøn, Rita M.; Buttenschøn, J.

Published in:

Biological Invasions in a Changing World - from Science to Management. Noebiota Book of Abstracts

Publication date:

2010

Document version

Publisher's PDF, also known as Version of record

Citation for published version (APA):

Buttenschøn, R. M., & Buttenschøn, J. (2010). Goat grazing as management of Scotch broom (*Cytisus scoparius*) in Mols Bjerger, Denmark. In J. Kollmann, T. van Mölken, & H. P. Ravn (Eds.), *Biological Invasions in a Changing World - from Science to Management. Noebiota Book of Abstracts: 6th Neobiota conference* (pp. 241). Copenhagen: Department of Agriculture and Ecology, University of Copenhagen.

6th NEOBIOTA conference

BIOLOGICAL INVASIONS IN A CHANGING WORLD
FROM SCIENCE TO MANAGEMENT

Copenhagen, 14–17 September 2010



Book of Abstracts

Kollmann, T. van Mólken & H.P. Ravn

Goat grazing as management of Scotch broom (*Cytisus scoparius*) in Mols Bjerger, Denmark

R.M. Buttenschøn¹ & J. Buttenschøn²

¹Forest and Landscape, University of Copenhagen, Frederiksberg C. Denmark

²Veterinary Department, Danish Veterinary and Food Administration, Århus, Denmark
email: rmb@life.ku.dk

Scotch broom (*Cytisus scoparius*) is an invasive species in many parts of the world within its native range in Europe as well as introduced species, e.g. in Australia and New Zealand. Within the latest decades it has spread and become a troublesome weed in many managed, open, semi-natural habitats in Denmark, and presents a threat to the character and biodiversity of these habitats.

Abandonment of grasslands in the 1960s and 1970s gave rise to extensive broom stands in Mols Bjerger in eastern Jutland. Broom does not encroach unmanaged habitats massively. The early control strategy was largely based on grazing with cattle or sheep in combination with mulching of the stands. This in fact rather contributed to the spread of the species than its control. Thus, the present situation are even denser stands and a large recruitment from the immense, long-lived seed bank.

An experiment with goat grazing was set up as a supplementary control measure to mulching and grazing with cattle in winter at a 40 ha sandy, acidic pasture. It has been grazed with 200 goats in the summers of 2007 to 2009. The influence of the goat grazing was studied on mulched areas with high density and recruitment on disturbed field layer and on low-density stands on stable field layer.

The population of broom on the disturbed area fluctuates over time and there is presently no trend indicating increase or decrease. There is substantial recruitment in spring and autumn and reduction during summer due to drought and uprooting. The goats eat most of the terminal shoots and flowering is prevented. Over time the broom gets a brush-like stature. Though the grazing in general does not prevent survival of the broom it does greatly reduce its biomass, in turn limiting the potency of below-ground resource capture. On the stable area there is a significant ($P = 0.043$) decrease in the above 0.5 m high broom and a change in bite pattern on broom ($P = 0.0003$). The below 0.5 m broom density does not change significantly. The latter reflects higher bite impact on low-density, lower on very high-density stand. Close to 10% of the foraging time is spent on broom.

In conclusion, short-term goat grazing does not eradicate broom populations on pastures, but does control flowering and growth rate, thus minimises input to the seed bank and limits the potency of resource capture of the grazed plants, which makes them susceptible to periodic limitation of water supply. Over the long term grazing stabilises the sward and decreases the amount of available seedbed for broom.