

Effect of repeatedly removing leaves from Peking cotoneaster.

Removing the leaves of a shrub, thus depriving it of the ability to photosynthesize leads eventually to death of the plant. As it does not require disturbing the soil by digging the plant out, or the possibly adverse consequences of using a chemical herbicide, it has been suggested as a low risk way of removing unwanted species.

We tested this on 6 sample Peking cotoneaster (*Cotoneaster acutifolia*) shrubs growing in the balsam poplar/white spruce forest of the Weaselhead. The samples were medium-sized plants with 10 – 20 stems, ~1.5m tall. Stems diameters ranged from 0.5 – 2cm.

- **First treatment: 6th Aug 2011 (when root carbohydrates low):** plants cut to 1m tall and all leaves stripped. Following this the plants were revisited every 2 weeks until the end of Sept. and any new growth removed
- **July to Sept 2012, and 2013:** plants visited every month and re-growth removed
- **2014:** plants visited once in July and once in Sept and re-growth removed
- **Sept 2015 plant removed** (conclusion of experiment)

Results:

July 2012: the year after treatment, all plants when first visited had thin relatively large-leaved suckers growing from base and lateral shoots from lower parts of cut stems, up to 30cm long.



Sample 5 after initial treatment in Aug. 2011



Sample 5 in July 2012 showing regrowth

July 2013 to Sept 2014: very few new shoots were found and few suckers (when found they were removed): progressively individual stems died, became brittle and could be easily snapped off.

Note: the sample site was completely inundated by floodwater at the end of June 2013, and silt deposits ranged from 5 – 10cm in the area. However sample plants survived and new shoots grew through the sediment as seen in the photo on the left below.



Example of suckering (first visit of 2013, sample 9) on left, lateral shoot on right (first visit of 2013, sample 8)



Sample 7 showing brittle, dead stems with flaking bark



Sample 9 after treatment in 2011, and in Sept 2015 with only 5 stems left (and no re-growth)

State of plants after 5 years at last visit in Sept 2015:

Sample ID	Initial number of stems	Number of stems left July 2014	Still some suckers at base?
4	15	5	No
5	11	1	Yes
6	8	2	No
7	6	3	Yes
8	11	4	No
9	5	1	no

Conclusion:

The technique was very effective in reducing the vigour of the plant quickly – but to kill the plant this test indicates a lengthy commitment is necessary, so would only be worthwhile in circumstances where other treatments are not advisable (e.g. plants growing on steep, erosion prone slopes).