Viability of seeds ripened after cutting (pot experiment)

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Methods

Pot experiments were done in Germany, 2012 August-December. Common ragweed (*Ambrosia artemisiifolia*) plants were cut at different post floral stages of the female flower. After cutting, single plants were stored in paper bags at a dry place at moderate temperatures (glasshouse) for seed ripening until the control has reached BBCH 97.

Treatments: Cutting at different growth stages, defined basically on the BBCH stages:

1. First female flowers open- 30% of female flowers open
2. Full flowering: 50% of female flowers open
3. End of female flowering
4. Nearly all fruits have reached final size normal for the species and location
5. Control BBCH 97 Seeds fall off, no cutting

Replicates: 10 plants per treatment, each plant is a replicate

Pots: 50, one plant per pot, pot size 2000cm^3

Assessments: number and weight of seeds per plant; germination and viability of seeds with TTC test.

Results and discussion

There were no viable seeds produced by post ripening when cutting at BBCH 63-79 of the female flower (Fig. 1). At BBCH 81 and 97 the number of seeds and their viability increased. So cutting common ragweed at BBCH stage after 81 (beginning of fruit ripening) is critical when the cut plants will be left on the soil surface because of post ripening of their seeds and their ability to germinate.

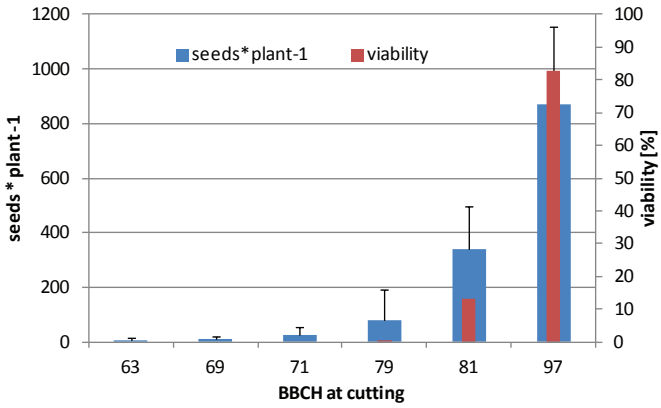

Fig. 1: Number of seeds (bars indicating standard deviation) of common ragweed and their viability at different BBCH stages of the female flower at cutting date