Does Weed Seed Mature in Cut Flower Heads?

This question is often raised in connection with the mowing of flower heads of such weeds as dandelions or thistles in an attempt to prevent maturity and distribution of seed. The question was answered for the case of the dandelion by LaRue at the University of Michigan in 1935. As reported in Science he found that viable seed is not formed in cut heads unless they are cut after the petals have fallen and the white pappus has begun to extend beyond the green tips of the bracts.

Last year Gill in Great Britain conducted a comprehensive series of experiments in order to answer the same question for sixteen weeds. The results of Gill's study were published in Annals of Applied Biology. Although some of the weeds studied are not common turf weeds, all of Gill's results are summarized in the two accompanying tables because of their general interest. In each case he obtained the percentage of germination of the dead-ripe seed as a control, taking into account the dormant period where that was necessary. The immature material was allowed to dry on the cut plant so that the seed might have some chance to mature.

These data were taken at harvest. The dead-ripe seed of Datura failed to germinate after one month unless the seed coats were cracked, whereas the milk-ripe seed germinated 100 percent all winter. This was likewise true of other weeds. The explanation is that the seed coats of dead-ripe seed became impermeable to water whereas the milk-ripe seed did not.

So far as dandelions are concerned the results secured by Gill agree with those of LaRue. Roberts in Winni-

Comparison of Germination of Seed from Plants Harvested When Mature, in Flower and in Bud

WEED	Percentage of germination dead-ripe seed	Percentage of germination cut in flower	Percentage of germination cut in bud
Ragwort (*Senecio Jacobaea L.*)	73	80	0
Sow thistle (*Sonchus oleraceus L.*)	100	100	0
Groundsel (*Senecio vulgaris L.*)	90	35	0
Sea aster (*Aster Tripolium L.*)	90	86	0
Dandelion (*Taraxacum vulgare* Schrank)	91	0	0
Cats ear (*Hypochaeris radicata L.*)	90	0	0
Creeping thistle (*Canada thistle*) (*Cirsium arvense* Scop.)	38	0	0

PERCENTAGE OF GERMINATION OF SEED AT TWO STAGES OF MATURITY

WEED	Percentage of germination dead-ripe seed	Percentage of germination milk-ripe seed*
Meadow barley grass (*Hordeum nodosum L.*)	94	90
Soft brome grass (*Bromus mollis L.*)	96	81
Curled dock (*Rumex crispus L.*)	84	88
Broad dock (*Rumex obtusifolius L.*)	84	88
Thorn apple (*Datura stramonium L.*)	100	67
Shepherd's Purse (*Capsella bursa-pastoris* Med.)	viable	viable
Corn speedwell (*Veronica agrestis L.*)	viable	viable
Chickweed (*Stellaria media* Vill.)	viable	viable
Poppy (*Papaver dubium L.*)	0	46
Nettle (*Urtica dioica L.*)	77	70

*By milk-ripe seed the author refers to seed in green capsules.

peg, Manitoba, as reported in Scientific Agriculture, found that when dandelion heads were clipped in mowing a lawn thirteen percent of the seed produced were ripe enough to germinate.

How Many Seed Do Dandelions Produce?

It is easy to see that dandelions produce plenty of seed but Roberts in Winnipeg, Manitoba, made a study and reported the results in Scientific Agriculture, showing that in a thick stand of dandelions in sod between 240 and 270 million seed may be produced to the acre. That is seed enough to infest new land at the rate of 100 seed to the square yard on 500 to 580 acres.

He counted the plants in 50 small areas and found that the field contained an average of 137 plants per square yard; these plants had a total of 265 seed bearing heads and, on the average, each head produced 192 seed. This figures out to 50,880 seed per square yard. These plants were crowded in sod and did not produce the maximum number of heads or of seed. Plants on the margin of this field where they had room had an average of 93 heads per plant and the heads contained an average of 252 seed. The highest number of heads per plant produced by these uncrowded dandelions was 146 and the highest number of seed per head 412. This makes a possible seed production of 60,152 seed per plant.