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THE PROLIFICNESS OF SOME COMMON PLANTS

H. E. JAQUES

The way Nature's creatures maintain their uniform balance when varying so widely in the number of offspring produced, is one of the most interesting problems of the Biologist. This paper gives the results of some computations made to determine the number of seeds produced by some of our common plants.

A number of representative plants of each species studied were secured from different locations and counts made to determine the average number of seeds to a fruit, the average number of fruits to the plant, and the average number of seeds per plant for all the specimens studied.

The work done with one of these plants,— Galinsoga (*Galinsoga parviflora* Cav.) will be discussed in detail to illustrate the method employed with all. For the others only a tabulation of results is given. Galinsoga is one of the newer weeds of the state. It is a composite and has been introduced from Tropical America. A recent bulletin¹ says of it, "This weed is an annual and easily killed by cultivation." After fighting it for three years in his garden it is the opinion of the writer that it is a most tenacious annual and very difficult to exterminate because of its very short life cycle, the abundance of seeds and the ease of their distribution.

For the study of Galinsoga, 23 representative plants were collected from two gardens, and the following data secured by actual count.

Largest number of heads per plant.....	571
Fewest heads per plant.....	27
Total number of heads on the 23 plants.....	4135
Average	179 18/23
Most seeds per head.....	41
Heads counted for seeds.....	160
Total seeds in 160 heads.....	4716
Average number of seeds per head.....	29 19/40
Largest number of seeds per plant.....	17558
Total seeds for 23 plants.....	123830
Average seeds per plant.....	5384

In the table which follows, an attempt has been made to give some of the data contributing to the final figures. The methods of computation of necessity varied with the type and arrangement of the fruiting parts of the plant. Because of this the table is not uniformly filled in for each plant. Fractions have been disregarded.

¹ Some New Weeds of Iowa. L. H. Pammel and Charlotte M. King, p. 5.

SCIENTIFIC NAME	COMMON NAME	NUMBER OF PLANTS STUDIED	NUMBER OF UNITS (HEADS, CAPSULES SPIKES, ETC.) PER PLANT		NUMBER OF SEEDS PER UNIT		TOTAL NUMBER OF SEEDS PER PLANT	
			LARGEST NUMBER	AVERAGE	LARGEST NUMBER	AVERAGE	LARGEST NUMBER	AVERAGE
<i>Digitaria sanguinalis</i> Scop.....	Finger grass.....	7	67	25	588	340	29242	8246
<i>Panicum capillare</i> L.....	Old Witch grass.....	10					56400	19730
<i>Panicum dichotomiflorum</i> Michx.	Sprouting Crab-grass..	21	21	10	2208	983	19348	10089
<i>Echinochloa crusgalli</i> Beauv....	Barnyard grass.....	12			655	290	4355	1869
<i>Setaria glauca</i> Beauv.....	Yellow Foxtail.....	9	127		259	177	32989	12618
<i>Setaria viridis</i> Beauv.....	Green Foxtail.....	10	97	19	369	153	21467	3375
<i>Cenchrus tribuloides</i> L.....	Sand bur.....	11					3372	1311
<i>Eragrostis megastachya</i> Link..	Candy grass.....	10	674	272		15	10784	5628
<i>Asparagus officinalis</i> L.....	Garden Asparagus....	10	370	161	8	4	1572	745
<i>Chenopodium album</i> L.....	Lamb's Quarters.....	16	*226, 645				*934, 911	27940
<i>Amaranthus retroflexus</i> L.....	Pigweed	10						27537
<i>Oxybaphus nyctagineus</i> Sweet..	Wild Four O'Clock..	16					2310	1121
<i>Lepidium virginicum</i> L.....	Wild Peppergrass....	14			2	2	40960	24241
<i>Rosa virginiana</i> Mill.....	Low or Pasture Rose	25	65		47	17	793	175
<i>Euphorbia Preslei</i> Guss.....	Large Spotted Spurge	5	8008	5520		3	24050	16260
<i>Abutilon Theophrasti</i> Medic....	Indian Mallow.....	16	52		54	38	2390	1009
<i>Malva rotundifolia</i> L.....	Common Mallow.....	10	193	128	15	13	2605	1720
<i>Asclepias syriaca</i> L.....	Common Milkweed...	10		10	251	224	2389	1968
<i>Linaria vulgaris</i> Hill.....	Butter and Eggs....	10	306	152	139	83	27540	13827
<i>Plantago major</i> L.....	Common Plantain....	6				6	18914	13031
<i>Solidaga memorialis</i> Ait.....	Golden Rod.....	7	11700	3465	19	15	146, 250	47024
<i>Aster multiflorus</i> Ait.....	Many Flowered Aster	11	1381		21	15	23470	7968
<i>Bidens</i> sp.....	Spanish Needle.....	16	74	31	63		4395	1480
<i>Galinsoga parviflora</i> Cav.....	Galinsoga	23	571	180	41	29	17558	5384

* Very large plant, not averaged with others.