

THE EARLY PRODUCTION BY A. W. HOWARD OF SUBTERRANEAN CLOVER SEED

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Subterranean Clover (*Trifolium subterraneum* L.) is the most important sown pasture plant in Australia, now occupying an estimated area of 25-30 million acres (Donald, 1960). It was in South Australia that its agricultural development began and here the first clean seed was sold by Mr. A. W. Howard of Blakiston. Subterranean Clover has the unusual habit of placing its fruiting burrs on or just below the soil surface so that the gathering of the burrs and their threshing presented two distinct problems which had to be overcome before clean seed could be produced.

Hill (1936) states that Howard's attempts to produce seed began about 1900. The dried mature plants were hand raked, chaffed and winnowed, to obtain a relatively clean sample of burrs. It proved impossible to thresh the burrs by flailing and they were eventually hand-rubbed and sieved. Small quantities of seed were cleaned by 1903. Howard persisted in his attempts to improve the method of threshing and with F. I. Dutch eventually built a small two-man huller. With this or other relatively simple machines threshing was continued until after World War I when much larger, more elaborate, tractor-driven hullers were both imported and manufactured locally. At this time, too, the use of horse rakes and rotary brooms for sweeping the burrs together became common. The considerable increase in seed production at this time is reflected in the figures below and in those quoted by Hill for the State.

Miss G. Howard of Blakiston, South Australia, has made available papers of her father, the late A. W. Howard of Blakiston, in which are recorded details of the early sales of subterranean clover seed.

Howard's first letter to the press advocating subterranean clover was to the Adelaide "Advertiser" on February 3rd, 1906, in which a brief but enthusiastic reference was made to the plant. He wrote again to "The Advertiser" on March 2nd, 1906, offering seed to the secretaries of the local branches of the Agricultural Bureau of South Australia. This letter was copied widely in the Australian press and Howard later distributed over 300 packets of seed in response to requests from all over Australia. Ninety-two of these letters requesting seed have been preserved and of these 38 came from Victoria, 33 from South Australia, 10 from New South Wales, three each from Queensland and Tasmania, four from Western Australia and one from South Africa.

Small quantities of seed must have been available at this time, but the first commercial sale was on January 18th, 1907, when Messrs. E. and W. Hackett, an Adelaide firm of seedsmen, bought 30 lb. of clean seed at 2/6 lb. This order was supplied in three lots during January and February which suggests that Howard had little seed on hand and that threshing was slow. Hacketts gave further orders for seed during February-June, 1907, the amounts ranging from 15-44 lb. The only other sales in this year appear to have been 7 lb. to Mr. J. Redcamp, Mayhu, Victoria, and 7 lb. to R. Sewell, another Adelaide seedsman. In this first season about 160 lb. of seed was sold, of which 146 lb. went to Hacketts.

During the 1907-1908 season 624 lb. of seed were cleaned and sold at 2/3 lb. and a single order for 10 lb. of clover burrs was supplied. Hacketts received 602 lb. of the clean seed, the remaining 22 lb. being sold in eight small lots, none greater than 5 lb.

Seed production was further increased during the 1908-1909 season and 1,720 lb. of seed were sold by Howard at 2/3 or 2/- lb. All this seed went to Hacketts except for 40 lb. to two other Adelaide seedsmen. Seed production was more than doubled in the next season (1909-1910) when 3,730 lb. of seed were sold at 2/- per lb. Of this only 926 lb. went to Hacketts, the remainder being widely distributed to buyers from New Zealand, South Australia, Victoria, New South Wales and Tasmania.

Until the 1914-15 season, seed production continued to increase, but only 6 cwt. was recorded as sold for the 1915-1916 season and no records of sales for the two seasons, 1916-1917 and 1917-1918, have survived.

In 1914, the only year of apparently full records during the war, the sale of subterranean clover seed provided more than half of Howard's income. His income was reduced by about 20 per cent. in the next year, 1915, but rose steadily in 1916 and 1917 until it had doubled the 1915 figure by 1918, when the sale of seed again provided more than half of his income. In addition, a record of wages paid by Howard also suggests there was some seed harvested and cleaned during this period.

After the 1914-1918 war, seed production again increased considerably as the threshing machines were greatly improved and there was a strong demand for seed. Many other farmers now began to harvest and distribute seed and Howard's personal contribution was relatively less important.

A summary of his production for the period 1906-1924 is as follows:

Season	Seed Production	Season	Seed Production
1906-07	1.4 cwt.	1915-16	6 cwt.
1907-08	5.5 cwt.	1916-17	No records
1908-09	15 cwt.	1917-18	No records
1909-10	13 cwt.	1918-19	64 cwt.
1910-11	37 cwt.	1919-20	148 cwt.
1911-12	20 cwt.	1920-21	171 cwt.
1912-13	41 cwt.	1921-22	187 cwt.
1913-14	71 cwt.	1922-23	131 cwt.
1914-15	48 cwt.	1923-24	133 cwt.

Finally, it is of interest to compare Howard's production with recent figures for Australia.

Australian production of Subterranean Clover Seed

Season	Tons	Season	Tons
1950-51	2605	1955-56	6236
1951-52	3671	1956-57	4319
1952-53	2432	1957-58	3197
1953-54	3623	1958-59	3100
1954-55	3208		

REFERENCES.

- HILL, R., 1936. Subterranean Clover, its History in South Australia. J. Dept. Agric., Sth. Aust., 40, pp. 322-330.
- DONALD, C. M., 1960. The Influence of Climatic Factors on the Distribution of Subterranean Clover. Herb. Abst., 30, pp. 81-90.

1907
 June 17 Hackett Messrs. E. & K. order for 1500 Narc. praelium
 50 Nerine Fothergilli (each set). 100 do Sarni have not got.
 500 Early mixed Tulips. have not got. 200 do Korhilitium
 1 doz white Anemone Belladonna Major.
 100 daffodils Princess.
 .. 18 Hackett Messrs. 30 lbs. clean seed of Scilla Subterranea
 .. " Mr. Bladen, Ghent Mt. Bonker 1 Clapnetaria 1/10
 .. Miss Julia B. B. 1 doz each cup Narcissus Nos 12 + 18.

A photograph of portion of a page in A. W. Howard's order book showing Hackett's original order.