

Growing Seeds for Market

Good Seeds Are Half the Battle

GLY ELLIOTT MITCHELL

One of the most thriving businesses in the United States today and which seemingly carries on its work regardless of the fluctuations of stocks on the great exchanges, is the growing and selling of seeds. From small beginnings in the colonial period this business has grown so that now its value is measured by the tens of millions. The first beginning of the seed business commenced in small shops where a few boxes of seed shared a corner with codfish or a shelf with calicoes or books. To-day it has come to claim for itself immense warehouses and business establishments, having interests which extend to every portion of the globe.

The Pilgrims probably were the first introducers of seeds into this country, for they brought with them seeds of the plants cultivated by them in their

seedman's agent, is a text-book of horticulture. Millions of these books find their way into rural homes and become the basis by which the amateur gardener derives a knowledge of varieties and even methods of growing plants under varied conditions.

Seed Growing a Big Industry.

The seed trade has changed quite as much as has the catalogue, first with its woodcut engravings, to excellent



FIELD GROWN LILIES FOR BULBS.

half-tones and color plates. The barrel of peas first sold in Newport has grown to hundreds of barrels, and the few thousand packets to millions. The modern seed house has every mechanical contrivance to aid in making the business economical and systematic. From the cellar to the mailing room everything is so arranged that orders may be filled with accuracy and dispatch. During the late summer and early fall catalogues are prepared for mailing, and seeds packed in readiness for distribution. While one hundred letters a day was considered a large business thirty years ago, some houses now receive over six thousand daily during the busy season.

Of course to supply this enormous trade much attention must be paid to the growing of the seed. The present development of garden-seed growing began when David Landreth established a small seed farm at Philadelphia in 1784. During the Civil War

grown in this country for at least fifty years. The amount raised, even at the present time, is not sufficient to meet the trade and the greater part of the flower-seed sold is imported from Europe.

Importance of Seed Testing.
Since the days of tradition a great deal of attention has been paid to seed testing for quality of germination. Seeds have been floated or have been heated until they popped; they have been broken and the fracture noted; they have been cut and judged by the appearance of the inside. Various experiment stations of the United States have, for a long time, paid much attention to practical seed testing. The Department of Agriculture for nearly eight years has conducted a trial ground in connection with its seed laboratory where studies

water and a warm place in the kitchen. A sitch in time often saves nine, and a little trouble a month before planting time may make the farmer or the gardener considerable money and conduce greatly to his happiness and good temper. Nothing is certainly more aggravating than to plow, dig the ground well, plant, and then, as the golden moments of spring slip by, wait in vain for the young plants to appear, or secure only a half stand.

THE WOODMAN'S STRIDE.

With a Long Swinging Step, He Covers Much Ground and Preserves a Perfect Balance.

A woodman walks with a rolling motion, his hips away from a lurch or more to the stepping side, and his pace is correspondingly long. His hip action may be noticed to an exaggerated degree in the stride of a professional pedestrian, but the latter walks with a heel-and-toe step, whereas an Indian's or sailor's step is more nearly flat-footed. In the latter case the center of gravity is covered by the whole foot. The point is as secure as that of a rope walker. The toes are pointed straight forward, or even a trifle inward, so that the inside of the heel, the outside of the ball of the foot, and the smaller toes all do their share of work and assist in balancing. Walking in the woods in this manner, one is not so likely to trip over projecting roots, stones and other traps as he would be if the feet formed hooks by pointing outward. The advantage is obvious in snowshoeing. If the Indian were turned to stone while in the act of stepping, the statue would probably stand balanced on one foot. His gait gives the limbs great control over his movements. He is always poised. If a stick cracks under him it is because of his weight, and not by reason of the impact. He goes silently on, and with great economy of force. His steady balance enables him to put his foot down as gently as you would lay an egg on the table.

American Cheese Production.

Twenty years ago the cheese supply of Great Britain was largely furnished by the United States, but to-day Canada has taken the lead and far outstripped us as an exporter of this commodity. In 1880 the United States sent 131,208,776 pounds of cheese to Great Britain, while in 1904 only 25,180,900 pounds were shipped to that country. Canada, on the other hand, exported over 31,000,000 pounds twenty-five years ago as against 212,802,322 pounds last year. This loss of trade, however, has not been injurious, but on the other hand, is caused through an excess of consumption at home over production, while reverse conditions prevail with our Canadian neighbor.

Canada was thus forced to seek the British markets for her plethora and to fill up the place left vacant in that market by the withdrawal of the United States therefrom.

While the United States, in 1900, manufactured nearly 282,000,000 pounds of cheese, the per capita factory production was only 3.7 pounds, whereas, on the other hand, in 1901, Canada produced 224,000,000 pounds, furnishing nearly 41.8 pounds for each inhabitant. It is therefore shown, by a report from Consul-General Holloway, of Halifax, that the Canadian export trade to which every one of our neighbors points with pride was not gained at the expense of the United States, for they must export their cheese or get "snowed under." The United States can not keep up in production with our increasing home consumption.

Mulberry Fences.

There are but few fences in Japan. The mulberry tree is planted instead, the leaves of which furnish food for silk worms. Nearly 200,000 acres are thus utilized.



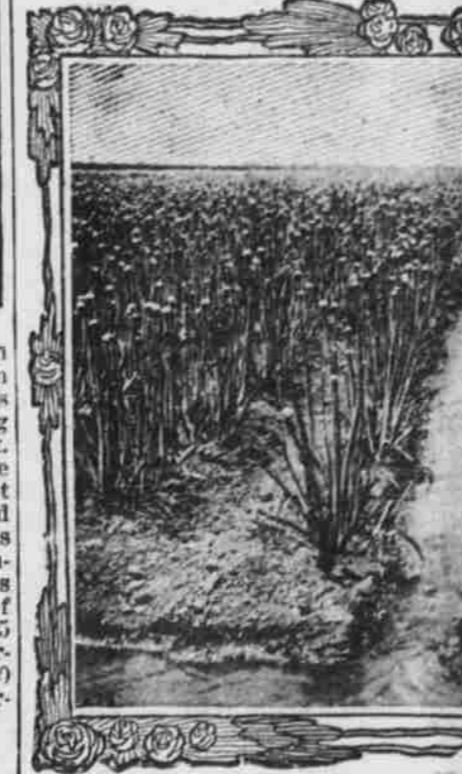
A CLOVER SEED STORE-HOUSE.

both with regard to their germinative quality and their trueness to name. There is great opportunity for adulteration, and many farmers are apt to consider they are saving money if they can get seeds at a reduced rate. Binding out when it is too late that they have been swindled with false varieties or that perhaps 50 per cent. of their seeds fail utterly of germination.



Personal Seed Tests.

The average farmer, however, would do well to carry on a little seed testing establishment of his own each year, and this course is advocated by the Department of Agriculture. In



A CALIFORNIA ONION PATCH.

fact, the Department will send anybody a pamphlet describing simple methods of testing seeds.

Firms with any reputation behind them can not afford to work off poor seeds, and if a lot of seed is tested and found to be defective in germinative qualities, the seedsmen will probably stand ready to supply a good article in its place. The fault, in fact, may not be the seedman's. Although the seed dealers attempt to convey the idea that they raise their own seeds on their own farms, such a practice is manifestly impossible where vast supplies of seeds are furnished. They raise some of the seeds, but large quantities are contracted for by them with other growers and farmers, and there is always a chance of the seedsmen themselves being imposed upon.

So that it is well for the individual grower to test each batch of farm or garden seeds which he expects to plant. The test which he can make will show him nothing regarding varieties; he may be getting a common cabbage instead of some high-priced novelty, that can only be determined at the end of the year; but the government experiments along this line are effectually holding the more irresponsible seedsmen in line, and the farmer himself can check up with his seedsmen on the question of germination.

Seeds Germinate Quickly.
Most seeds will germinate in from three to ten days. The apparatus required is very simple—a pan, some cotton flannel or cotton batting, a little

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BEATING OUT HEMP SEED IN KENTUCKY.

English and Dutch homes. These of course were of such plants as were considered necessities of life—corn, barley and peas, while fruit trees were also set out.

Early records show that in 1783, Nathaniel Bird, a book-dealer of Newport, R. I., advertised garden seeds just arrived from London. The following year an announcement was made by Gideon Welles that he had some choice Connecticut onion seeds for sale. In New York city hemp and flax seeds were advertised for sale as early as 1765. Boston, however, being the commercial center in the early days, was the chief city for the sale of garden seeds. In 1767 out of twenty-six advertisers in the Boston Gazette, six were dealers in seeds. Dur-



Harvesting Sorghum Seed in Nebraska.

A Few Pumpkins For Seed



ing the War for Independence the advertising of this commodity apparently ceased, although it is hardly believed that there was not a time but what one could purchase seeds in any of the large cities of that period.

A Pioneer Seedsmen.

In 1784, David Landreth commenced operations in Philadelphia; Bernard McMahon, in that same city in 1800, while in 1805, Grant Thorburn began to sell seeds in New York. By 1830 the population had increased from about three million in 1790, to ten and a half millions. To meet the growing demand for vegetables and flowers, these ten and a half millions required more than three and a half times as many seeds as were used in 1790. Dealers established themselves in the principal cities and crossed the mountains.

Along with the reaching out for trade came the increasing size and prominence of the catalogue. The earliest seed catalogues were mere lists not intended for general distribution. Thorburn probably issued the first seed catalogue as early as 1823, shortly after the civil war the catalogue became more prominent. Its size was increased and a few illustrations appeared. Novelty was not as numerous twenty years ago as they are today; they were not given so much attention either. Today there is not an important catalogue but gives considerable space to novelties. Seedsmen are on the alert for novelties; they are the money makers. The modern catalogue, with its profusely illustrated pages while in a sense the

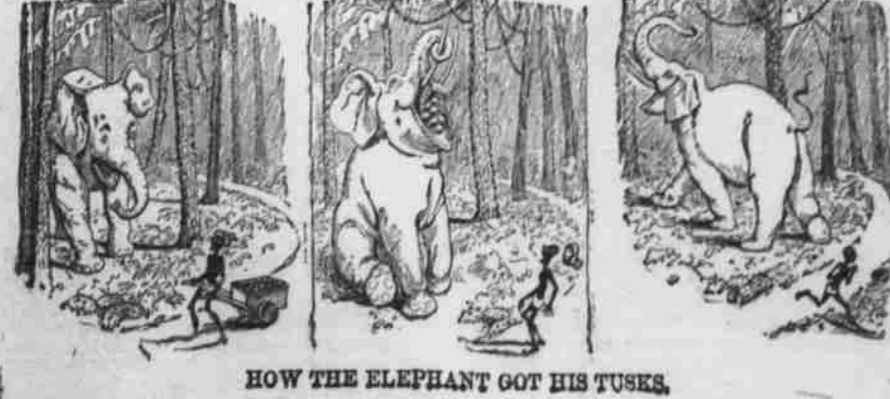
this country largely depended upon foreign markets for seeds, but between 1860 and 1870 as many seed farms were established as had been during the thirty years before the conflict. Growers also became expert and the market gardener found he could get from the seedmen just as good seed as he could save himself and at less cost. The business of seed-raising increased rapidly after the war, farms being established in various parts of the eastern United States. In 1875 seed growing commenced in California, when R. W. Wilson planted 59 acres to beets, onions, lettuce and carrots for seed purposes.

Two Thousand Acre Seed Farm.

From this beginning the business has grown to enormous proportions. Now a single firm of growers devotes annually some 2,000 acres to seed crops. Onion and lettuce are staple seed crops, while carrot, celery, leek, endive, kale, kohlrabi, parsnips and parsley are all grown by California seed growers.

While the census of 1890 showed that there were in the United States 596 seed farms, containing 169,580 acres, the census of 1900, with incomplete returns, showed more than 2,500 seed farms. The Census Office made an effort to collect statistics of seed-growing farms, but owing to the refusal of a number of the large firms handling seed to furnish the names of the farmers growing seed for them, the information secured was very incomplete.

Not a small part of seed-growing is devoted to the raising of flower seed. Flower seeds have been regularly



HOW THE ELEPHANT GOT HIS TUSKS.