

ONION SEED



In 2005, Yuma County was the home of over 150 acres of onion seed, valued at over \$1 million.

Onion seeds are planted from early August to September while seed maturity is reached, and harvested from late June to early August of the following year and is a lengthy 10 month growing period.

Onions are cool-season biennial plants which typically require two growing seasons to complete their life cycle, seed-to-seed. However, as onion seed production requires two distinct growing seasons, both can occur in a single 10-month period if the seeds are planted in late summer, a typical period for Yuma onion seed production. This allows enough time for the plants to achieve sufficient size in the fall, receive the proper chilling requirement during the winter and produce seeds the following summer.

Onion seeds are typically planted about 1/2 inches deep.

Bulb onions produce their characteristic “bulb” when onion leaf bases swell to form storage tissues. Bulb formation is triggered by increasing day lengths in late spring, during the first growing season.

When given the proper environmental conditions an onion plant forms one or more flower inflorescences which terminate in an umbel containing several hundred seeds.

Bolting (the growth of the seed producing inflorescence) is undesirable in onions grown for bulbs, but is essential for onion seed production. Bolting requires a period of chilling at temperatures of 45° to 55° F for approximately one month or longer, depending on the onion variety. Insufficient chilling temperatures often result in poor flower development and low seed yields.

Mature onion seeds will naturally fall from the inflorescence if not immediately harvested.

Onion seed production requires low-humidity during the spring and summer as the management of onion diseases, pollination by bees and seed maturation are enhanced by warm temperatures and dry days. The Yuma climate is the perfect growing environment for growing onion seed with cool winters and hot and dry summers.

Onion flowers are pollinated by flying insects, so onions grown for seed must be isolated by a minimum of 1½ miles (and sometimes greater) from any other onion seed field to prevent cross-pollination.

In Yuma County, onion seed crops are planted in August or September in double rows on raised beds in a well-drained soil.

Most onion seed varieties are for the production of making onion hybrids which require special growth and management considerations. One critical factor involves the careful selection of parents which bloom at the same time. At times, both parents may need to be planted on separate dates to ensure a simultaneous bloom and pollination.

Pollinator insects are necessary for the pollination of onions, and honeybees are used widely for this purpose.

When the seed-laden inflorescence has dried sufficiently in the field, they are cut from the mother plant and spread out on large plastic tarps and further dried for an additional 3 weeks. Later, the seed is thrashed using conventional combines.

Onion seed generally has a relatively short storage life, and viability decreases rapidly at high temperatures and high relative humidities.

After the onion seed is delivered from the grower to the processor, it is further cleaned to remove any weed seeds, light weight seed, trash or other contaminants. The final seed product is tested for moisture content, germination and purity.

Typically in Yuma, onion seed is grown under a contract between a grower and a seed company. The grower is responsible for all production inputs while the seed company provides the parent seeds, technical advice and variety information.

Hybrid seed production demands premium contracted grower prices.

One acre of onions grown for seed production can yield up to 300 pounds of seed.

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