BUL 1084

2024 Idaho

ONION QUICK FACTS

University of Idaho Extension

2024 Onion Quick Facts

- Fifth-largest onion producer in the United States, contributing 15% of the nation's onions.
- Treasure Valley: Top US onion producer, spanning 20,000–22,000 acres annually, valued at $140 million.

Onion Production Facts (National Agricultural Statistics Service-Idaho)

- Harvested Area
  - » 9,000 acres
- Yield
  - » 650 cwt/acre
- Production
  - » 5,850,000 cwt

Growth Stages and Development

Onions go through three major development stages during their life cycle: establishment, vegetative growth, and bulb development.

- The timing of each stage depends on the planting date, variety, and the environment.
- Onion seeds start germinating at soil temperatures above 40°F and it can take 30–60 days for full emergence from seeds. Transplants and sets promote more rapid emergence.
- The establishment phase occurs in the spring for crops grown for bulb production from seed, transplants, or sets. The vegetative stage lasts from emergence until bulb initiation, which usually starts before the longest day of the year.
- The establishment phase occurs in the summer for crops grown for seed production from seed or sets. The plant enters a dormant stage over the winter, then initiates flower stalk production the following spring.

Planting

- For onion sets, plant in a furrow about 1 inch deep, with a row spacing of 4–6 inches apart.
- For direct seedlings, plant about about 1 inch deep, 3.25–4.00 inches apart in double rows spaced 3–4 inches apart.
- For onion transplants, plant about 2 inches deep with a row spacing of 4–6 inches apart.

Table 1. Optimum planting-date estimates.

Location	Timing
Treasure Valley	March–April
Magic Valley	Late April–early May
Upper Snake River Plain	Late April–early May

Irrigation

- Onions are shallow-rooted and sensitive to hot, dry weather.
- Moisture stress can significantly reduce yields, especially if it occurs at or after bulb initiation.
- Evapotranspiration requirement is 12–20 inches of water for maximum yields.
- Ideal soils are sandy loams and silty loams with a pH range of 7–8, good drainage, and water-holding capacity.
- Drip Irrigation reduces water use by 25% and that of nitrogen by 50% compared to furrow irrigation. Increases yield and quality, reduces runoff and leaching, but generates plastic waste.

Fertilization

- Take soil samples for onion after harvest (fall) or before planting (spring) with a soil depth from 0 to 12 inches.
- Apply granular fertilizer at planting time.
- Apply liquid fertilizer every 2–3 weeks during the growing season until bulb formation. For drip irrigation, more frequent applications at a low rate.
- Stop fertilizing when the bulbs are about the size of a quarter because too much nitrogen causes the splitting or rotting of bulbs.

Growth Regulators (PGR)

- Maleic hydrazide is an anti-sprouting agent applied in the field before the leaves senesce.
- Apply PGR directly to onion leaves while actively growing to get adequate uptake into the bulb.

Soilborne Diseases

- Fusarium basal rot (*Fusarium oxysporum* f. sp. *cepae*)
- Pink root (*Setophoma terrestris*)
- Damping-off (*Pythium* spp., *Fusarium* spp.)

Bulb Diseases

- Neck rot (*Botrytis allii* or *Botrytis aclada*)
- Blue mold (*Penicillium* spp.)
- Black mold (*Aspergillus niger*)
- Bacterial bulb storage rots (*Pseudomonas*, *Pantoea*, *Rahnella*, *Burkholderia*, and *Erwinia* spp.)

Foliar Diseases

- Stemphylium leaf blight (*Stemphylium vesicarium*)
- Purple blotch (*Alternaria porri*)
- Botrytis leaf blight (*Botrytis squamosa*)
- Iris yellow spot (*Iris yellow spot virus*)
- Bacterial leaf diseases (*Pantoea agglomerans*, *Pseudomonas* spp., *Enterobacter* spp., and *Xanthomonas* spp.)

Insect Pests

- Onion thrips (*Thrips tabaci*)
- Onion maggot (*Delia antiqua*)
- Seedcorn maggot (*Delia platura*)

Weeds

- Barnyard grass (*Echinochloa crus-galli*)
- Bindweed (*Convolvulus arvensis*)
- Blacknightshade (*Solanum nigrum*)
- Foxtails (*Setaria* spp.)
- Kochia (*Bassia scoparia*)
- Lambsquarter (*Chenopodium album*)
- Pigweed (*Amaranthus* spp.)
- Ragweed (*Ambrosia artemisiifolia*)
- Russian thistle (*Salsola iberica*)
- Yellow nutsedge (*Cyperus esculentus*)

Further Reading

Schwartz, H. F. ed. 2013. *Onion Health Management and Production.* Fort Collins, CO: Colorado State University. 104 p.

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