

Gandana, the Afghan Leek

About Gandana

Gandana is a type of leek grown in almost every province in Afghanistan, although dry and warm weather favors its growth. It is a perennial crop grown for up to 3 years. The leaves are sold as fresh vegetables. *Gandana* is the main ingredient of a the popular Afghan dish *bolani*. Wash leaves in iodine or salt water before food preparation to remove manure bacteria.



Bunches of gandana sold at the retail market in Mazar-e-Sharif, Afghanistan (Source: Robert Morris, AAEP).

Overview of production practices

- **Soil preparation.** As most vegetables in Afghanistan, *gandana* is grown in small (typically 2 x 6m) plots. Sandy soil is preferable for *gandana*. Use a shovel to loosen and turn the soil.
- **Fertilization.** If it is available, farmers incorporate 40 wheelbarrows-1.5 truckloads of manure per jerib or 14 kg chemical fertilizer (7 kg diammonium phosphate (DAP) and 7kg urea) per jerib before planting and again after each harvest.
- **Planting.** Broadcast 8-10 kg of seed per jerib onto dry soil and irrigate immediately. If transplanting, moisten the soil beforehand and irrigate immediately afterward.
- **Irrigation.** Keep the plots moist at all times; depending on weather conditions irrigation normally occurs every 5 days using flood irrigation. Farmers irrigate 4 days before harvest to soften the soil for harvest.
- **Harvest.** Let the first crop grow 12cm tall (3-6 months), and then cut 2cm below the ground with a trowel or knife. Farmers throw away this first harvest. After that, leaves may be harvested every 10 - 20 days (about 14 times per year). Extend harvest into the winter by covering the plots with low tunnels or greenhouses. To produce seed, stop harvesting in mid-summer. Leaf harvest can resume once seeds are harvested.
- **Postharvest.** *Gandana* leaves are sold in bunches (Figure 1) or by weight. The shelf life of the harvested leaves is 1 - 3 days during summer, and up to a week during winter. Bunches are often covered with moist burlap bags and rewetted frequently to maintain freshness.
- **Market.** Consumers prefer soft and thin leaves so harvest time is critical. If the farmer waits too long, the leaves get thicker and become less marketable. The leaves will also thicken as the plant ages. The price is the highest in late fall and winter when leeks are not as abundant.

Opportunities

- **Soil fertility.** Incorporate manure and crop residues, and/or plant legumes and cover crops to help improve soil fertility, reducing the need for fertilizer and increasing crop yields.
- **Planting.** Row planting enables furrow irrigation (which is usually more uniform than flood irrigation) and better weed control. *Gandana* is naturally pest resistant; plant a row of *gandana* between each row of pest-susceptible crops such as melons. Replant every 3 years to improve marketability.
- **Irrigation scheduling.** Maintaining soil moisture is critical to avoid crop water stress. Assess soil moisture by feel to improve irrigation timing. Use furrow irrigation with row planting.
- **Harvest.** Harvest more often during late spring and early summer, when the crop grows faster and the price is lower. The first crop may be composted or fed to non-milk producing livestock (feeding *gandana* to milk-producing livestock may give milk products an unmarketable odor).
- **Off-season (greenhouse) production.** Best prices can be achieved in late fall and winter, when leek is less abundant.