Plantago ovata
Forsk.

Common Names

| Ashwagolam       | India       | Arabic countries |
| Babka            | Poland      | Arabic countries |
| Barhanj          | Arabic countries |
| Bidr tp          | Arabic countries |
| Blond psyllium   | Arabic countries |
| Buzar qatona     | Arabic countries |
| Ch-chientzu      | China       |
| Common plantain  | Arabic countries |
| Hab zargah       | Arabic countries |
| Ispghhol         | India       |
| Lis al kalb      | Japan       |
| Obeko            | United States |
| Plantago         | United States |
| Plantain         | Germany     |
| Psillo indiano   | Arabic countries |
| Qurayta          | Arabic countries |
| Rebla            | Arabic countries |
| Spangur          | India       |
| Spogle           | Iran        |
| Warak sabun masasah | Arabic countries |

BOTANICAL DESCRIPTION

Plantago ovata is a stemless, soft, hairy annual herb of the PLANTAGINACEAE family that grows to a height of 30–45 cm. The leaves are 7.5–23 cm long, 0.5–1 cm broad, narrowly linear, linear lanceolate or filiform, opposite, finely acuminate entire or distantly toothed, attenuated at the base and usually three-nerved. The root system has a well-developed taproot with few fibrous secondary roots. A number of flowering shoots arise from the base of the plant. The flower spikes turn reddish brown at ripening, the lower leaves dry, and the upper leaves yellow. Plants flower approx 60 days after planting. Flowers are numerous, small, and white, in ovoid or cylindrical spikes 1.3–3.8 cm long, bracts 4 mm long and broad. The corolla gives attachment to four protruded stamina, ovary free with one or two cells, containing one or more ovules. The style capillar and terminated by a single subulate stigma. The fruit is a small pyxidium covered by the persistent corolla and enclosed in capsules that open at maturity. They are composed of a proper integument which covers a fleshy endosperm at the center of which is a cylindrical axis and a homotype embryo, ovoid-oblong or boat-shaped, smooth and yellowish brown, acute at one end 2–3 mm long, pale-green brown with a darker elongated spot on the convex side. On the concave side, the hilium is covered with the remains of a thin white membrane. It has no odor or taste, but the herbage is demulcent, bitter, and somewhat astringent. Seeds are hard, translucent, boat-shaped structure, up to 8 mm long and...
1 mm broad. The surface is glossy and shining, with a pinkish brown color. There is an oval spot in the center of convex (dorsal) surface. On the concave (ventral) surface is a deep furrow is seen with a hilum that appears as a red spot in the center.

**ORIGIN AND DISTRIBUTION**

*Plantago ovata* originated from Europe to Southern Mediterranean to Eastern Asia (India, Iraq, Iran, Spain, and Canary Islands). It is produced commercially in several European countries, Pakistan, and India. Seed produced from *Plantago ovata* is known in trading circles as white or blonde psyllium, Indian Plantago, or Isabgol; the common name in India for *Plantago ovata*, comes from the Persian words “isap” and “ghol” which mean horse ear, which is descriptive of the shape of the seed. India dominates the world market in the production and export of psyllium. In India, *Plantago ovata* is cultivated mainly in North Gujarat as a “Rabi” or post-rainy season crop. An important environmental requirement of this crop is a dry open place. Psyllium research and field trials in the United States have been conducted mainly in Arizona and Washington. A major cultural problem limiting psyllium production in the upper midwest is the shattering characteristic of the mature crop. Some success has been achieved by crossbreeding high-yielding Indian varieties with varieties that are more shatter-tolerant.

**TRADITIONAL MEDICINAL USES**

**India.** Decoction of dried seeds is taken orally for diarrhea and as a demulcent. Seeds are taken externally as an emollient poultice, for constipations, and for gastric complaints. Water extract of the dried seed husks is taken orally as a demulcent and for diarrhea.

**Iran.** Water extract of the dried seed is administered externally for its inflammatory and emollient effects. Mixed with coconut juice, it is used as a diuretic. Dried seeds are taken orally for diarrhea and indigestion associated with bile secretion abnormalities. Mucilage of the dried seed is used externally as an emollient. Seedcoat of the dried seed is taken orally as a bulk laxative. Acetic acid extract of the dried seed is used externally for rheumatoid arthritis and gout. Infusion of the dried seed is taken orally for urinary tract inflammation.

**Spain.** Leaf is taken orally by infusion for cold.

**Thailand.** Hot water extract of the dried seed husks is taken orally as a demulcent and for diarrhea.

**CHEMICAL CONSTITUENTS**

*(ppm unless otherwise indicated)*

- Alanine, (DL): Sd
- Amyrin, α: Sd
- Amyrin, β: Sd
- Asparagine, l, (→): Sd
- Aucubin glucoside: Sd
- Campesterol: Sd
- Cystine, l: Sd
- Docosane, N: Sd Cre
- Dotriacontane, iso: Sd Cre
- Dotriacontane, N: Sd Cre
- Eicosane, N: Sd Cre
- Fixed oil (*Plantago ovata*): Endosperm 8.8%
- Fructose: Sd
- Glucose: Sd
- Glutamic acid: Sd
- Glycine: Sd
- Heneicosane, N: Sd Cre
- Hentriacontane, iso: Sd Cre
- Hentriacontane, N: Sd Cre
- Heptacosane, N: Sd Cre
- Heptadecane, iso: Sd Cre
- Heptadecane, N: Sd Cre
- Hexacosane, N: Sd Cre
- Hexacosane, ante-iso: Sd Cre
- Hexacosane, iso: Sd Cre
- Indicaine: Sd
- Leucine, nor, (DL): Sd
- Linoleic acid: Sd oil 53.4%
- Linolenic acid: Sd Cre
- Luteolin: Lf
- Lysine, l: Sd
- Myristic acid: Sd Cre
- Myristic acid: Sd Cre
- Nonacosane, iso: Sd Cre
- Nonacosane, N: Sd Cre