

**AGROTECHNICS OF CULTIVATION OF CYNOGLOSSUM
VIRIDIFLORUM PALL. EX. LEHM. UNDER THE CONDITIONS OF THE
ARAL SEA REGION**

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Green-flowered black root – a biennial or perennial plant, not particularly outstanding for its decorative appeal, but used in folk medicine due to its beneficial properties. The green-flowered black root has unique characteristics that allow it to possess antimicrobial, strengthening, calming, anti-inflammatory, and wound-healing effects. The decorative varieties of black root can be a bright ornament for a flower garden or mixed borders.

Growing Green-flowered Black Root The green-flowered black root is grown from seeds. It is best to use seeds collected from bushes during their first or second year of life to obtain good planting material. Mature seeds are covered with spines, which easily stick to clothes after falling to the ground. Therefore, collecting them is not particularly difficult.

The black root can be sown both in early spring and autumn, right after the seeds are harvested. Cynoglossum seeds are very cold-resistant, so lowering the temperature and freezing will not affect their growth.

Choosing Light and Soil It is better to choose fertile, slightly acidic or neutral soil with drainage and organic matter. In natural conditions, the plant can grow in almost any type of soil, but in such soil, active growth and abundant flowering can be expected.

Cynoglossum is not a plant that thrives in direct sunlight. It is better not to grow it in direct sunlight, as it struggles to adapt to heat, though it can tolerate drought well.

Black root can be planted in shaded areas, as such places are also suitable for its growth.

Planting Black Root Seeds Growing black root from seeds does not require special preparation. The area should be dug up, and if the acidity is high, lime should be added, as the plant does not grow in acidic soil. For black root, you can prepare both planting holes and elongated furrows. The seeds are directly sown into open soil, approximately 2-4 cm deep, and the seedlings should be watered periodically. 95 seeds from one-year-old and two-year-old seedlings were transplanted into open ground at the International Research Center's experimental field in Moynoq district on April 17, 2023. Usually, the first shoots appear in late March or the first half of April. They resemble small rosettes made up of elongated leaf plates. If necessary, the young bushes can be moved to a permanent place at this time.

When transplanting, the black root bushes should be moved with a clod of earth. While *Cynoglossum* is growing, adding ammonium nitrate, a Kornevin solution, or other growth stimulators to the prepared planting holes or furrows can accelerate the rooting of the young shoots.

Green-flowered Black Root Care Green-flowered black root is a simple plant that does not require complex care:

1. It can adapt to any temperature conditions – both long-term heat and cold, and thus does not require frequent watering.
2. In hot weather, watering once every two weeks is sufficient. During the inflorescence setting period, the watering frequency can be increased to once a week. This ensures longer and more abundant blooming.
3. After flowering is complete and seed pods have formed, the black root must be prepared for winter. It can winter outdoors. For this, watering is gradually reduced and then completely stopped.

Black root tolerates excessive moisture worse than its lack. It grows better in dry soil than in wet soil. Therefore, when growing it, a drainage layer should be placed at the bottom of the planting holes or furrows – small crushed stones, pebbles, broken bricks, or expanded clay.

Fertilization A perennial plant does not require additional fertilization. After all, due to its strong root system, it independently "extracts" all the nutrients from the soil. However, since black root is grown in one place for many years, this leads to the depletion of the soil.

Therefore, it is necessary to restore the soil's fertility by fertilizing it once every 2-3 years. Both organic and complex mineral fertilizers can be used for this purpose.

Fertilizers are applied in a liquid solution form at the root. The process is best done in early spring or at the beginning of summer.

The solution is prepared according to the instructions on the package. When fertilizing green-flowered black root, you must ensure that the fertilizer does not come into contact with the plant's stems, leaves, and flowers.

Protecting Black Root from Rodents and Pests Green-flowered black root contains toxic substances that harm insects. They cannot tolerate the smell of Cynoglossum, as it acts as a natural insecticide. As a result, the perennial plant is never "attacked" by pests, and it protects not only itself but also all nearby plants. Dried, fresh, or crushed black root is an effective folk remedy against mice and rats. It can be used in both private plots and additional buildings.

Fresh or dried black root bundles can be placed under fruit trees to protect them from rabbits and mice in winter.

Black root is a perennial plant that is used both for medicinal purposes and for landscaping garden areas. With minimal care, this plant not only becomes a bright and colorful decoration for the garden but also protects it from pests and rodents.

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