

African Rue

Peganum harmala



FAMILY Nitrariaceae

ORIGIN Mediterranean, North Africa

LIFE CYCLE Perennial

OTHER NAMES Syrian Rue, Wild Rue, Harmal

QUICK FACTS

- African Rue is a small, green succulent perennial that grows like a bush. It grows 1-2 feet in height and about 3 feet in diameter. It has smooth, bright green leaves and stems and small white flowers.
- It grows in dry, disturbed areas, especially grasslands, roadsides, and rangelands. Its ability to spread by seed and vegetatively has allowed it to take over in many areas of the southwest. This weed is **extremely drought-tolerant** and grows in alkaline and saline soils.
- African rue, native to the Mediterranean region and parts of North Africa, was intentionally planted in New Mexico to make red dyes. However, this weed is **highly toxic** to animals and humans and should never be eaten. Symptoms include trembling, incoordination, and **hemorrhaging** in the heart and liver.

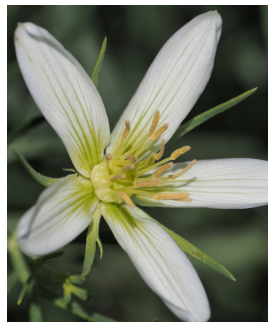
African rue was introduced to New Mexico in 1928 by a farmer trying to make red dyes. It quickly became invasive in the area and took over disturbed fields, roadsides, and grazing areas. This weed spreads both by seed and root fragments, grows deep roots, and produces allelopathic chemicals, making it difficult for other vegetation to establish in infected areas. African rue is also extremely poisonous to humans and animals.

What does it look like?

African rue is a bush-like succulent. It grows to 1-2 feet tall and 3 feet wide, with bright green leaves and stems. The leaves and stems are smooth and hairless. In the spring and summer, it grows small white flowers with five petals on leaf axils. Flowers can grow a green fruit that produces many seeds. This plant was named after its resemblance to rue, but has different leaves (bright green and linear), and the flowers are white instead of yellow.



brian gade, inaturalist.org



Lambrechts Yves, inaturalist.org



Бекаат Айжанов, inaturalist.org



Karimov Boburbek, inaturalist.org

Plant: African rue has multiple branches and looks like a bush. It has bright green stems and leaves that are smooth and fleshy. This weed grows up to 2 feet tall and 3 feet wide. Plant flowers in spring with small, white, five-petaled flowers and a cylindrical green fruit. This plant dies back in the summer when it's hot and grows again in the fall when more moisture is available.

Roots: African rue has a deep, extensive root system consisting of one taproot and shorter, creeping roots. The taproots are woody and can grow up to 25ft deep to follow water. Creeping roots can extend up to 20 feet away from the parent plant and usually grow about 15 inches below the surface.

Leaves: The leaves are bright green, smooth, and alternate along the stems. They are flat and deeply lobed, with very thin linear leaflets. When crushed, leaves have a disagreeable odor that usually deters livestock.

Flowers: African Rue flowers have five white petals with green sepals that wrap around the flower, and yellow stamens inside. They are usually present during late spring to fall and are located on the axils of the leaves.

Seeds: Seeds grow inside a fruit, which can be green, orange, or brown, and grow from the flower. The seeds are about 4mm long, red or blackish-red, have a rough surface, and are somewhat triangular, like an orange wedge. African rue plants can produce thousands of seeds per plant, with approximately 1,000 fruits per plant and 50 seeds per fruit.

Impact and Management

Ecosystem Health

Once established, African rue displaces native plants, resulting in a notable loss of floral and faunal biodiversity. This can significantly reduce forage availability for game, particularly during the winter months, and may even alter migratory patterns. African rue grows its roots aggressively and competes with other vegetation for limited resources like water. Additionally, African rue is allelopathic, which further prevents other plants from growing in infected areas. This, in turn, reduces the amount of forage plants that are available for wildlife and livestock.

Health and Safety

African rue is highly toxic and can cause death when consumed. As little as 0.15% of a person or animal's body weight can cause detrimental effects. It can lead to hemorrhaging of the heart, loss of appetite, trembling, loss of coordination, and abortion.



Uriel Levy, inaturalist.org

Livestock

Sheep, goats, cattle, and horses are known to graze on various types of weeds, often utilizing specific species as a food source. However, African rue is an exception, as it is highly toxic and unpalatable to all living creatures. When livestock consume this plant, it can lead to hemorrhaging, ultimately resulting in death.

In pregnant livestock, ingestion of this toxic plant not only poses a lethal risk but may also endanger the developing fetus.

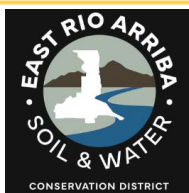
Prevention is the best method of managing this weed, as it is very difficult to manage once it is introduced to an area. African rue mainly invades disturbed areas, so keeping the soil undisturbed and covered in desired vegetation often keeps plants away. Prevent seed dispersal by cleaning equipment. If infection occurs, the best way to remove this weed is a combination of mechanical and chemical methods. The depth of the roots makes it nearly impossible to eradicate by pulling or digging, but this may prevent seed dispersal, especially when removing seedlings or young plants. Mowing and plowing are not recommended as they often spread roots and allow for plants to regrow. Because of how toxic this weed is, it is important not to let any animal graze on it. Herbicides can be effective at killing roots.

DO's

- Maintain healthy vegetation cover and avoid disturbing the soil, as this provides plants with the opportunity to grow.
- Prevent animals from grazing in areas where this plant is infected, as it is highly toxic.
- Clean equipment after use to prevent the spread of seeds or roots to new areas.

DON'Ts

- Mow or plow infected areas, as this often spreads roots and allows for more growth.
- Allow it to become widespread, as this plant is easier to deal with when young, individual, or small infestations.
- Travel through infected areas with animals or vehicles, as they often spread seeds.



For more information on managing African rue, please visit www.nmweeds.org

