

African rue

Colorado Department of
Agriculture

305 Interlocken Pkwy
Broomfield, CO 80021

(303) 869-9030
weeds@state.co.us



Key ID Points

1. Flowers are white with 5 petals and 5 sepals.
2. Bushy, succulent herb growing 1-2 feet tall with a branched taproot.

African rue Identification and Management



Identification and Impacts

African rue (*Paganum harmala*) is a bright green, succulent, shrubby, perennial herb that grows 1-2 feet tall with a tap root and lateral root system that can extend 20 feet or more into the soil. The stems are multi-branched, stiff, erect and hairless. The leaves are alternate and fleshy, and are irregularly dissected three times or more into linear segments. The flowers are white with five petals and are present from April to September. Seeds are produced in a three – chambered capsule, with many small seeds in each chamber.

African rue is native to northern Africa and the Middle East. African rue spreads by seeds, but can also resprout from roots or root fragments. It can be found growing in; dry, disturbed areas, open sites, fields, pastures, rangeland, roadsides, cropland and semi-arid desserts. It can grow in sandy or clay soils and is also tolerant of saline and alkaline conditions. Infestations can begin in small disturbed sites, and then spread to rangeland and wildlife habitats that are in excellent condition. Due to its deep root system, African rue is extremely drought tolerant and out-competes native rangeland shrubs and grasses. The soil seed reserve for African rue is unknown and site

monitoring should be carried out for at least 10 years after the last flowering adult plants have been eliminated.

African rue contains at least four toxic alkaloids and is allelopathic. It is extremely poisonous to cattle, sheep, horses, and humans. Animal toxicity symptoms include tremors, weakness, excitability, salivation, diarrhea, stupor, and hemorrhages in the heart and/or liver resulting in death. The seeds, fruit, and young leaves are the most poisonous plant parts. Although toxicity is high, livestock will rarely graze due to the bitter taste and smell unless they are severely malnourished.

The key to effective control of African rue is to prevent it from establishing through proper land management. Maintain healthy pastures and rangeland and continually monitor your property for new infestations. The following page provides management recommendations for African rue.

African rue is designated as a “List A” species in the Colorado Noxious Weed Act. It is required to be eradicated wherever found in the State. For More information visit: www.colorado.gov/ag/weeds and click on the Noxious Weed Management Program or call the State Weed Coordinator at the Colorado Department of Agriculture, Conservation Services Division at 303-239-4100.



Photos courtesy of Kelly Uhing, Colorado Department of Agriculture.

Paganum harmala

**CULTURAL**

Preventing African rue from establishing by maintaining healthy, native vegetation is the first step in any cultural control effort. Complete removal of any seedlings or newly established plants by continual hand pulling is possible.

**BIOLOGICAL**

Biocontrol agents are not included in the prescribed management plans by the State for List A species. Eradication is the management objective of all List A's. No biocontrol agent for African rue is available. For more information on biocontrol in Colorado, please contact the Palisade Insectary of the Colorado Department of Agriculture at 970-464-7916.

**MECHANICAL**

NOT recommended as an eradication treatment for established plants due to the lateral root system and extremely deep tap root which is often 20 feet deep. Burning is not recommended because the plant sprouts following disturbance.

Integrated Weed Management:

Preventing the establishment of this plant in Colorado is crucial since it exists in only one area of the state. Monitoring your land for infestations, especially lands in southern Colorado where African rue is present can significantly aid in detecting the species early and eradicating it quickly.

Herbicide timing is very important in controlling this species. Follow timing guidelines closely.

African rue

HERBICIDES

NOTE: The following are recommendations for herbicides that can be applied to range and pasturelands. Rates are approximate and based on equipment with an output of 30 gal/acre. Please read label for exact rates. **Always read, understand, and follow the label directions. The herbicide label is the LAW!**

| Herbicide | Rate | Application Timing |
|---------------------|---|---|
| Imazapyr* (Arsenal) | 0.5-1 qt./acre + 1% v/v methylated seed oil | Apply when plants are actively growing. |

Note: *Imazapyr products are nonselective and will kill any vegetation contacted. Imazapyr is NOT recommended for use in ornamental or turf settings.

Additional herbicide recommendations for other species can be found at:
www.colorado.gov/agconservation/CSUHerbicideRecommendations.pdf