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OVERTON R18 ROSE CLOVER

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Background. Rose clover (*Trifolium hirtum* All.) is a cool-season annual legume with good reseeding characteristics and tolerance to a wide range of soil pH conditions. 'Kondinin' and 'Hykon' are the only rose clover cultivars currently available as certified seed. These early maturing cultivars were developed in Australia and generally flower in late March in the southeastern U.S. The early maturity of Kondinin and Hykon does not allow these cultivars to utilize the full growing season in which annual clovers are usually productive. Kondinin and Hykon can be productive in January and February under mild winter conditions but often winter kill at Dallas, Texas and can be severely damaged by cold temperatures at Overton, Texas. A rose clover cultivar with improved cold tolerance and late maturity was needed.

Research Findings. In 1983, a rose clover improvement program was initiated by the Texas Agricultural Experiment Station at Overton, Texas. Single plant selections were made from spaced planted, rose clover plant introduction lines. Selections were made based on cold tolerance, leaf percent, height, profuse tillering, and late maturity. Ten elite breeding lines were identified and evaluated for forage production at multiple locations in Texas each year from 1985 to 1989. All ten breeding lines were more productive than the early-flowering check varieties but TX-RH-18 was selected as the best of this group and given the cultivar name 'Overton R18'. Overton R18 rose clover was shown to have a longer, later, and more productive seasonal distribution of growth than Kondinin or Hykon rose clover. Overton R18 was slightly less productive than Kondinin or Hykon at the early season harvests, but often produced twice as much dry forage as these cultivars at the mid and late season harvests. Total season forage production of Overton R18 rose clover averaged 65 percent more than Kondinin over 14 location-year environments. Overton R18 rose clover was released as a public cultivar by the Texas Agricultural Experiment Station in 1991, in cooperation with the Soil Conservation Service. Foundation seed of Overton R18 was first offered to seed producers in September 1991.

Overton R18 rose clover is well adapted to defoliation by grazing animals. It develops many tillers and will flower under very heavy grazing pressure. Removal of animals from the pasture or reduction of stocking rate is recommended at full bloom for high seed production and subsequent reliable reseeding. Forage quality of Overton R18 is high, with protein consistently above 20% from plots harvested three times in each of three years at Overton, Texas. The average daily gain of steers grazing Overton R18 rose clover in 1989 was 3.5 lbs/day compared

to 3.2 and 3.3 lbs/day for crimson (*T. incarnatum* L.) and arrowleaf (*T. vesiculosum* Savi.) clover.

Overton R18 rose clover is a widely adapted, reseeding, winter annual forage legume. On sandy, acid soils this cultivar responds to lime application but has been productive on East Texas sites with pH as low as 5.5. Crimson, arrowleaf, and subterranean (*T. subterraneum* L.) clover are unadapted to alkaline soils due to susceptibility to iron deficiency chlorosis, but Overton R18 rose clover is highly productive on well-drained soils up to pH 8.0. This new rose clover will tolerate a wide soil pH range but is completely unadapted to wet, poorly drained sites.

In East Texas, Overton R18 rose clover will flower in early May and mature seed by mid June. Peak flowering of Overton R18 in East Texas is about three weeks later than 'Dixie' crimson clover, but earlier than arrowleaf clover. The forage production distribution of this new cultivar overlaps that of hybrid bermudagrasses, but because seed are mature by mid June, does not restrict bermudagrass forage production. Total season forage production of Overton R18 in East Texas is generally equal to Dixie crimson clover or 'Yuchi' arrowleaf clover. Overton R18 rose clover is not as productive in the early spring (late February to early March) as crimson clover.

Application. Overton R18 rose clover will be useful in overseeding warm-season perennial grass pastures on well-drained upland and prairie soils in the eastern one-half of Texas and across the U.S. Southern Region.

Soil samples from pastures to be overseeded should be tested in the summer months and lime should be applied according to soil test recommendation. Be careful to select only upland, well-drained sites for overseeding with rose clover. Inoculate Overton R18 rose clover seed with inoculum specific for rose clover. The inoculum packet should list rose clover as one of the clover species for which the inoculum is intended. Plant rose clover at 15 lbs/acre in October or after fall rains begin. Seed may be drilled or broadcast but good soil contact is required for germination and stand establishment. Perennial grasses should be short (<2 inches) with no heavy thatch for best establishment of overseeded clovers. Remove excess grass by grazing or haying prior to planting. Disturb layers of thatch by disking before planting if necessary. Do not make late (after June) applications of nitrogen fertilizer to pastures that you plan to overseed with clovers in the fall.

Overton R18 rose clover will provide the most grazing in March, April, and May. Remove cattle or reduce stocking rate from mid-May to mid-June to encourage reseeding.