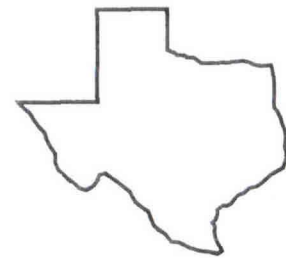
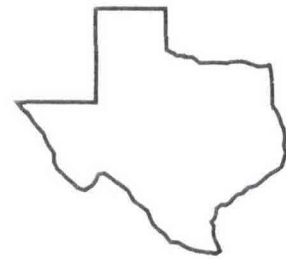
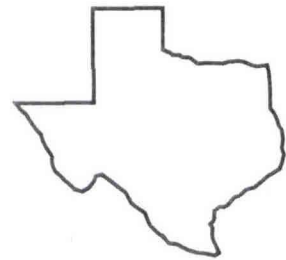
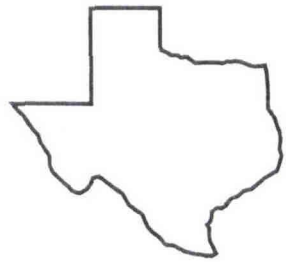
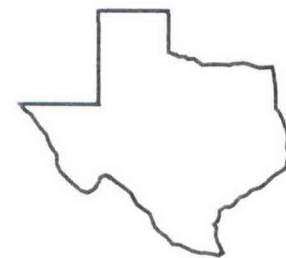




Texas Agricultural Experiment Station
Texas Agricultural Extension Service
The Texas A&M University System



Overton Field Day Report - 1994



**1994
Research Center
Technical
Report**

No. 94-1

SEEDING RATES AND PLANTING METHODS FOR ESTABLISHING ROSE CLOVER

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Background. 'Overton R18' rose clover was selected at Overton and released in 1991. Establishment information is not available for rose clover since it has not been used previously in Texas. Four planting methods of overseeding Overton R18 rose clover in 'Coastal' bermudagrass at six seeding rates were studied for 3 years at TAMU Agricultural Research and Extension Center at Overton.

Research Findings. Planting method had a significant effect on seedling density 2 out of 3 years (Table 1). In 1990-91, drilling into a short sod, with or without desiccation, resulted in the best seedling density. The heavy disk-drill method had the lowest seedling density. Attempted planting depth was 0.5 to 0.75 in. which apparently was too deep for good rose clover germination and emergence. The heavy disk-drill method was replaced with broadcasting the seed on an undisturbed short sod the next 2 years. In 1992-93 drilling rose clover seed in a sod, with or without desiccation, resulted in the highest seedling density. Light disk-broadcast method had a slightly lower seedling density and the broadcasting on an undisturbed sod the poorest seedling density. Seeding density increased with seeding rate.

Plots in the heavy disk-drill planting method were not harvested in 1990-91 because of very poor stands. All other planting methods, except broadcasting the rose clover seed on an undisturbed bermudagrass sod, produced satisfactory yields (Table 2). Influence of seeding rate on yield varied among years. In 1990-91 there were no significant yield increases above 16 lb/acre, while in 1991-92 there was a significant yield increase up to the maximum seeding rate of 24 lb/acre. With the favorable growing season in 1992-93, a planting rate of 12 lb/acre was satisfactory for maximum yields.

Application. Seed cost and the amount of forage needed will influence the optimum seeding rate. Overton R18 is a new variety with a limited seed supply and therefore the seed is more expensive than other clovers at this time. Seed rates of 6 to 8 lb/acre should be adequate if maximum forage production in the establishment year is not a critical factor. If allowed to produce a good seed crop, a satisfactory volunteer stand should develop the next autumn. If forage production is essential the establishment year, Overton R18 rose clover should be seeded at 12 lb/acre. Drilling seed into a short sod or broadcasting on a disked sod, followed by dragging for shallow seed burial will enhance seedling density and forage production. Do not plant rose clover seed deeper than 1/4 inch.

Table 1. Influence of planting method and seeding rate on Overton R18 rose clover seedling density for 3 years.

| Treatment | 1990-91 | 1991-92 | 1992-93 |
|-------------------------------|---|---------|---------|
| | -----seedlings/16 in ² ----- | | |
| <u>Planting method</u> | | | |
| Drill, undisturbed | 1.19 a† | 1.02 | 2.90 ab |
| Drill, desiccate | 1.33 a | 0.96 | 3.09 a |
| Light disk, broadcast | 0.88 b | 1.29 | 2.75 b |
| Heavy disk, drill | 0.35 c | | |
| Broadcast, undisturbed | | 1.07 | 2.07 c |
| <u>Seeding rate (lb/acre)</u> | | | |
| 4 | 0.38 d | 0.38 f | 0.83 f |
| 8 | 0.52 d | 0.60 e | 1.17 e |
| 12 | 0.73 c | 0.88 d | 2.28 d |
| 16 | 1.07 b | 1.17 c | 2.92 c |
| 20 | 1.25 b | 1.61 b | 4.01 b |
| 24 | 1.67 a | 1.86 a | 4.94 a |

†Seedling densities within a year followed by the same letter are not significantly different at 0.05 level, Waller-Duncan Multiple Range Test.

Table 2. Influence of planting method and seeding rate on Overton R18 rose clover forage production for 3 years.

| Treatment | 1990-91 | 1991-92 | 1992-93 |
|-------------------------------|--------------------------------------|---------|---------|
| | -----Dry matter yield (lb/acre)----- | | |
| <u>Planting method</u> | | | |
| Drill, undisturbed | 591 b† | 1618 b | 4208 a |
| Drill, desiccate | 830 ab | 1437 bc | 4094 ab |
| Light disk, broadcast | 881 a | 2168 a | 4012 ab |
| Broadcast, undisturbed | | 1170 c | 3390 b |
| <u>Seeding rate (lb/acre)</u> | | | |
| 4 | 435 c | 600 f | 2373 c |
| 8 | 543 bc | 1017 e | 3451 b |
| 12 | 676 b | 1643 d | 4309 a |
| 16 | 889 a | 1870 c | 4323 a |
| 20 | 1086 a | 2108 b | 4560 a |
| 24 | 973 a | 2352 a | 4541 a |

†Yields within year followed by the same letter are not significantly different at 0.05 level, Waller-Duncan Multiple Range Test.