

COMPARISON OF ARROWLEAF, CRIMSON, ROSE, AND SUBTERRANEAN CLOVER ACCUMULATED GROWTH IN EAST TEXAS

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Background. Cool-season annual clovers are used for overseeding warm-season perennial grasses in East Texas. They extend the grazing season, add nitrogen to the pasture system, produce forage with higher nutritive value than grasses, and provide some spring weed control. Growth of 'Yuchi' arrowleaf, 'Tibbee' crimson, 'Overton R18' rose, and 'Mt. Barker' subterranean clovers was compared over a 3-year period. Strips 4x100 ft were planted in September of 1990, 1991, and 1992 of each clover and replicated four times. The 100 ft strip was divided into 25 4x4 ft plots of which one was sampled at random every 2 weeks during the growing season.

Research Findings. The growth cycle of arrowleaf clover was the most consistent of the four clovers over the 3 year period (Fig. 1). Arrowleaf clover had poor fall and winter growth but then had a rapid increase in growth about 180 days after planting (DAP) which was about mid-March. Because of arrowleaf's tall, upright growth and longer growing season, it produced the highest yields of over 20,000 lb DM/acre by late May. Crimson clover had a steady growth increase beginning about mid-November (60 DAP) and peaking in mid to late April at 12,000 to 15,000 lb DM/acre except for 1990-91. The very cold temperatures in late December 1990 and January 1991 top killed about 50% of the crimson top growth which is shown by the decrease in accumulated growth from 80 to 160 DAP. Crimson clover never recovered to produce yields similar to the other years. Rose clover had a growth pattern like arrowleaf but began its spring growth peak about 15 days later. Peak yields of about 15,000 lb DM/acre occurred in late April except for 1990-91 when cold temperatures limited growth. Subterranean clover had fall and winter growth between that of crimson and the other two clovers with peak growth of 10,000 to 12,000 lb DM/acre in late April. Peak yields were lower because subterranean clover has a low growth habit in contrast to the upright growth of the other species.

Application. Crimson should be used when early forage production and maturity is important. Late maturing arrowleaf is best suited for extending the grazing of cool-season annual pastures. Low growing subterranean clover can tolerate close, frequent grazing and is ideal for sheep, goats, and deer. Rose clover has been more productive than the other clovers in the drier climates of central Oklahoma and north central Texas.

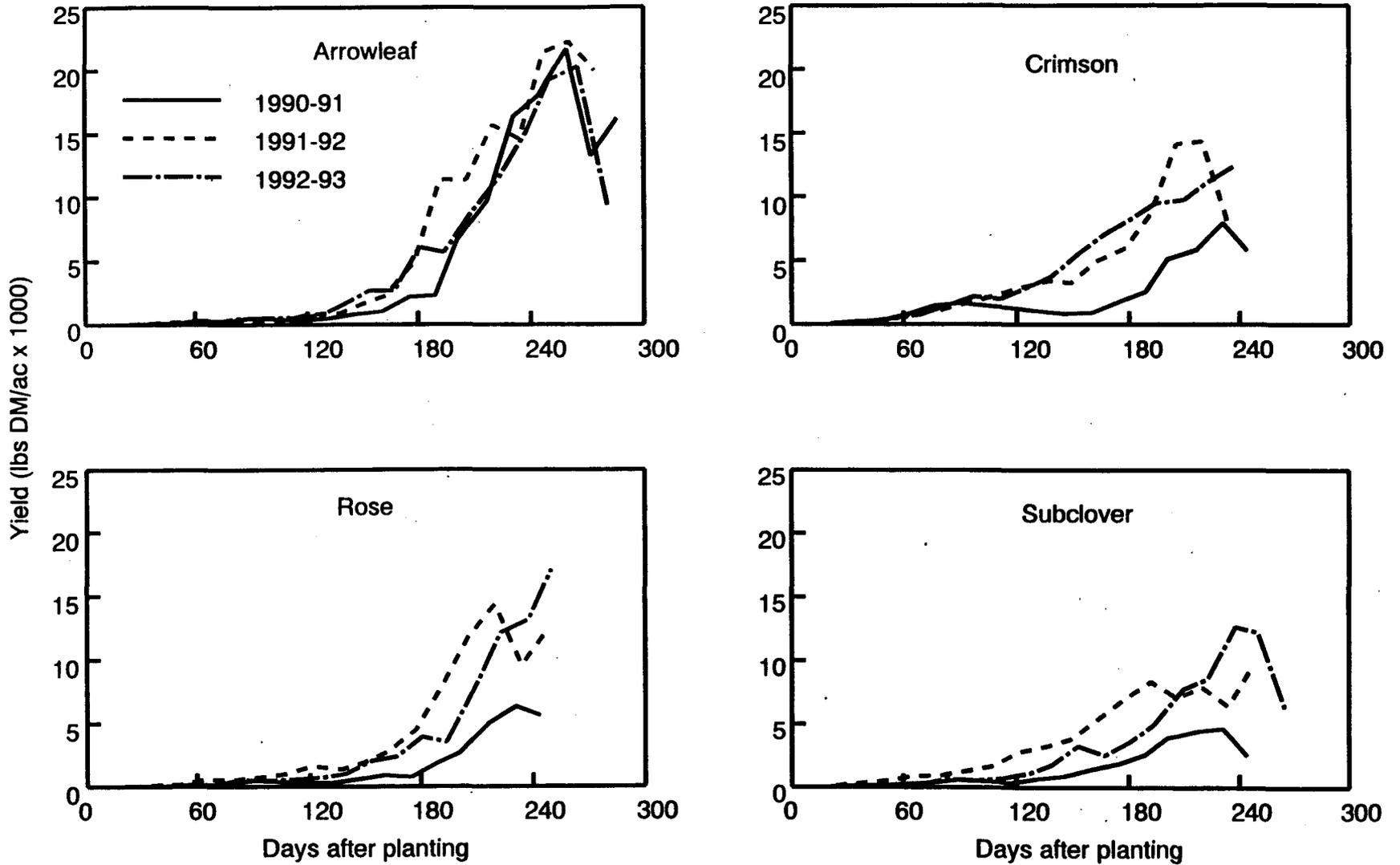


Fig. 1. Accumulated growth of arrowleaf, crimson, rose and subterranean clovers during the growing season for 3 years.