# INFLUENCE OF PLANTING DATE ON THE GROWING SEASON OF THREE CRIMSON CLOVER VARIETIES

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**Background.** Crimson clover is the main cool-season annual clover grown in northeast Texas. It has good seedling vigor, the earliest forage production, and is the earliest maturing. These attributes make it the clover of choice for overseeding warm-season perennial grasses. The good seedling vigor helps crimson clover compete with the warm-season perennial grass in the fall. Because of its early maturity, crimson clover does not hinder spring recovery of the warm-season perennial grass as much as the other annual clovers. Most annual clovers mature and die several weeks after reaching full bloom. It is believed that the time of flowering in crimson clover is mainly regulated by increasing day length in the spring and to some extent, by temperature. If this is true, the growing season of crimson clover planted in September should be longer than if planted in October or November. Nor is it know if planting date would affect early, medium and late maturing varieties the same way.

A study was conducted at the Texas A&M University Agricultural Research and Extension Center at Overton to test this concept. Three crimson clover varieties, early maturing AU Robin, medium maturing Tibbee, and late maturing Columbus, were planted in a prepared seedbed at 19 lb pure live seed per acre on September 22, October 27, and November 23, 1998. Experimental design was a split plot arranged in a randomized complete block with four replications. Main plots were planting dates while subplots were varieties. Clovers were not defoliated during the study. Beginning in early February, plots were evaluated every other day to record when plots reached early bud, 50% bud, late bud, 10% bloom, 50% bloom, and 90% bloom growth stages.

**Research Findings.** Only the data when the crimson clover varieties reached the 50% bud and 50% bloom growth stages are reported. There were 5 weeks difference between the September and October planting dates and 4 weeks between the October and November planting dates for a total of 9 weeks from the earliest to latest planting date. However, there was only 30 days difference among the three planting dates in the date that early maturing AU Robin reached the 50% bud stage. The difference was just 17 days for the medium maturing Tibbee and only 11 days for the late maturing Columbus (Table 1). The later maturing the variety, the less difference there was among planting dates to reach the 50% bud stage. Because day length influences the change from vegetative to reproductive (buds and flowers) stage, the later a crimson clover variety was planted, the shorter the growing season from planting to reach the 50% bud stage.

The same trends occurred to reach the 50% flower stage (Table 2). But the number of days between the dates that the various planting dates reached the 50% flowering stage was less than for the 50% bud stage. The range was 20 days for early-maturing AU Robin, 7 days for medium-maturing Tibbee, and 5 days for late-maturing Columbus. The later maturing the variety, the differences among planting dates to reach the same reproductive stage decreased.

**Application.** Planting crimson clover early increases the growing season. The later maturing the variety the more effect early planting has. Because of risk to losing a early planted clover stand to high temperatures and drought, a late September planting date is recommended for prepared seedbed and mid-October for overseeding a warm-season perennial grass sod.

Table 1. Influence of planting date on reaching 50% bud stage for three maturities of crimson clover.

| Planting Date | AU Robin | | Tibbee | | Columbus | |
|---|---|---|---|---|---|---|
| | Date† (DOY) | DAP‡ | Date (DOY) | DAP | Date (DOY) | DAP |
| Sept. 22 | Feb. 21 (51) | 152 | Mar. 14 (73) | 173 | Apr. 19 (109) | 209 |
| Oct. 27 | Mar. 7 (66) | 131 | Mar. 22 (81) | 146 | Apr. 21 (111) | 176 |
| Nov. 23 | Mar. 22 (81) | 119 | Mar. 31 (90) | 128 | May 1 (121) | 159 |

†DOY - Day of year.
‡Days after planting.

Table 2. Influence of planting date on reaching 50% bloom for three maturities of crimson clover

| Planting Date | AU Robin | | Tibbee | | Columbus | |
|---|---|---|---|---|---|---|
| | Date (DOY)† | DAP‡ | Date (DOY) | DAP | Date (DOY) | DAP |
| Sept. 22 | Mar. 15 (74) | 174 | Apr. 3 (93) | 193 | May 9 (129) | 229 |
| Oct. 27 | Mar. 22 (81) | 146 | Apr. 3 (93 ) | 158 | May 10 (130 ) | 195 |
| Nov. 23 | Apr. 4 (94) | 132 | Apr. 10 ( 100) | 138 | May 14 (134 ) | 172 |

†DOY - Day of year.
‡DAP - Days after planting.