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Project Report No. 56, Observed Growth Trends, Basal Area Per Acre in Square Feet, Loblolly and Slash Pine Plantations East Texas

J. David Lenhart

Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University

Jennifer Allen

Stephen F. Austin State University

Young-Jin Lee

Stephen F. Austin State University

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OBSERVED GROWTH TRENDS
BASAL AREA PER ACRE IN SQUARE FEET
LOBLOLLY AND SLASH PINE PLANTATIONS
EAST TEXAS

J. David Lenhart
Professor and ETPPRP Director

Jennifer Allen
Student Assistant
and
Young-Jin Lee
Graduate Student

*all located at Arthur Temple College of Forestry
SFASU, Nacogdoches, TX, 75962*



REPORT 56

From
the
East Texas Pine Plantation Research Project
Arthur Temple College of Forestry
SFASU
Nacogdoches, TX 75962

September ... 1997

Two Research Questions

What is the age of maximum mean annual increment - as measured by basal area in square feet per acre?

Is the timing influenced by site index?

The Data/The Analysis/The Plottings

Observations from the East Texas Pine Plantation Research Project were available for analysis in this study. We limited the observations to site index classes 60, 70 and 80 feet. And age classes were set at three-year intervals.

For each combination of site index and age class, an average observed basal area in square feet per acre was calculated.

Based on these values, MAI (mean annual increment) and CAI (current annual increment) were calculated.

The values are depicted in graphs on the next six pages.

Conclusions

Loblolly: From examination of the first three graphs, it appears that maximum MAI tends to occur between 10-14 years. The timing appears to decrease with increasing site index.

Slash: From examination of the last three graphs, it appears that maximum MAI also tends to occur between 10-14 years. Difficult to ascertain the role of site index.

For both species, the magnitude of basal area increases with increasing site index.

For both species, the magnitude of MAI increases with increasing site index.

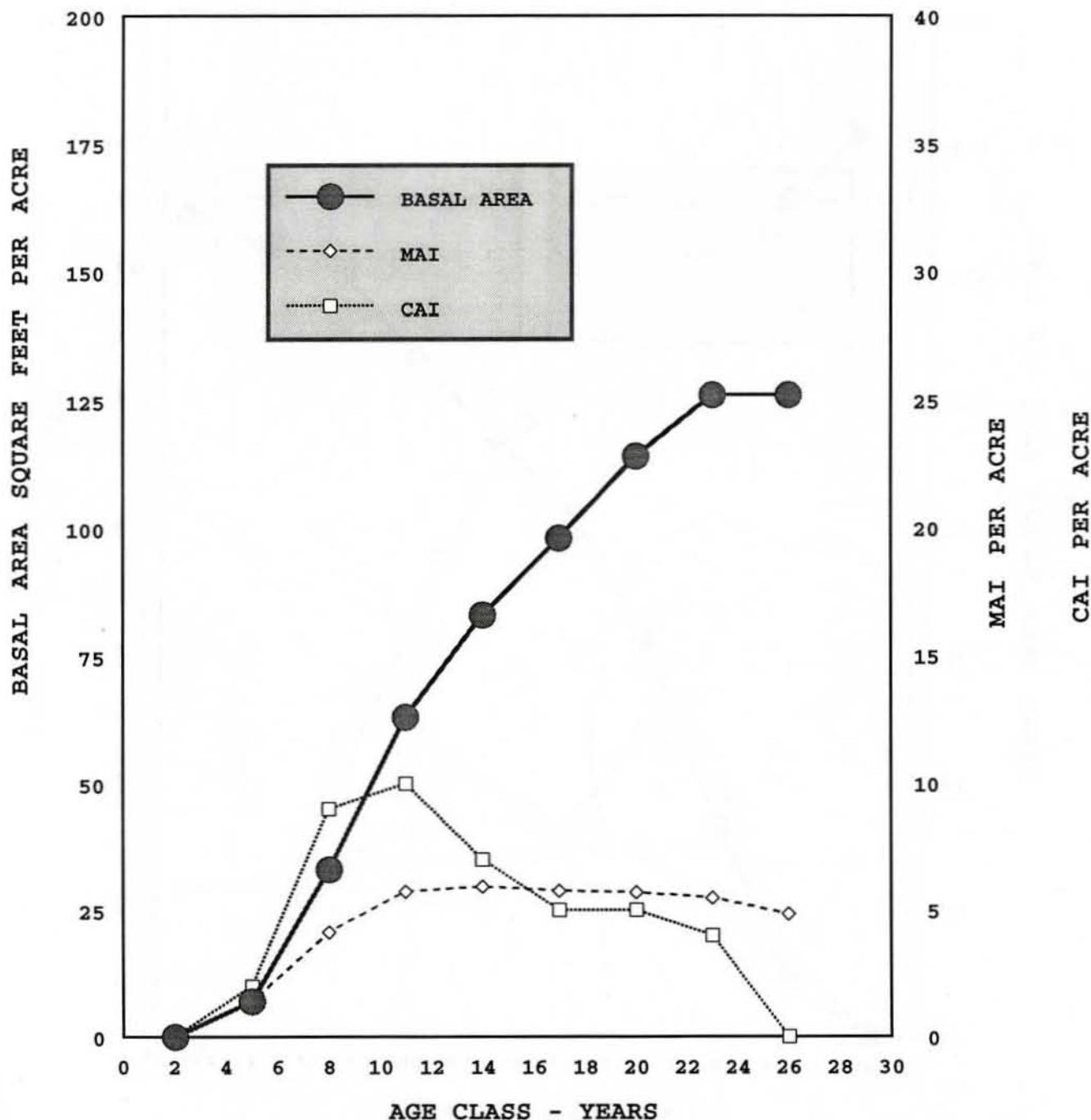
For both species, the character and nature of CAI is quite variable.

It may be concluded, after considering basal area growth trends, that site-specific management of planted pines in East Texas is probably useful to plantation managers.

OBSERVED AVERAGE BASAL AREA SQUARE FEET PER ACRE
LOBLOLLY PINE ... EAST TEXAS

SI 60 (BASE AGE 25 YEARS)

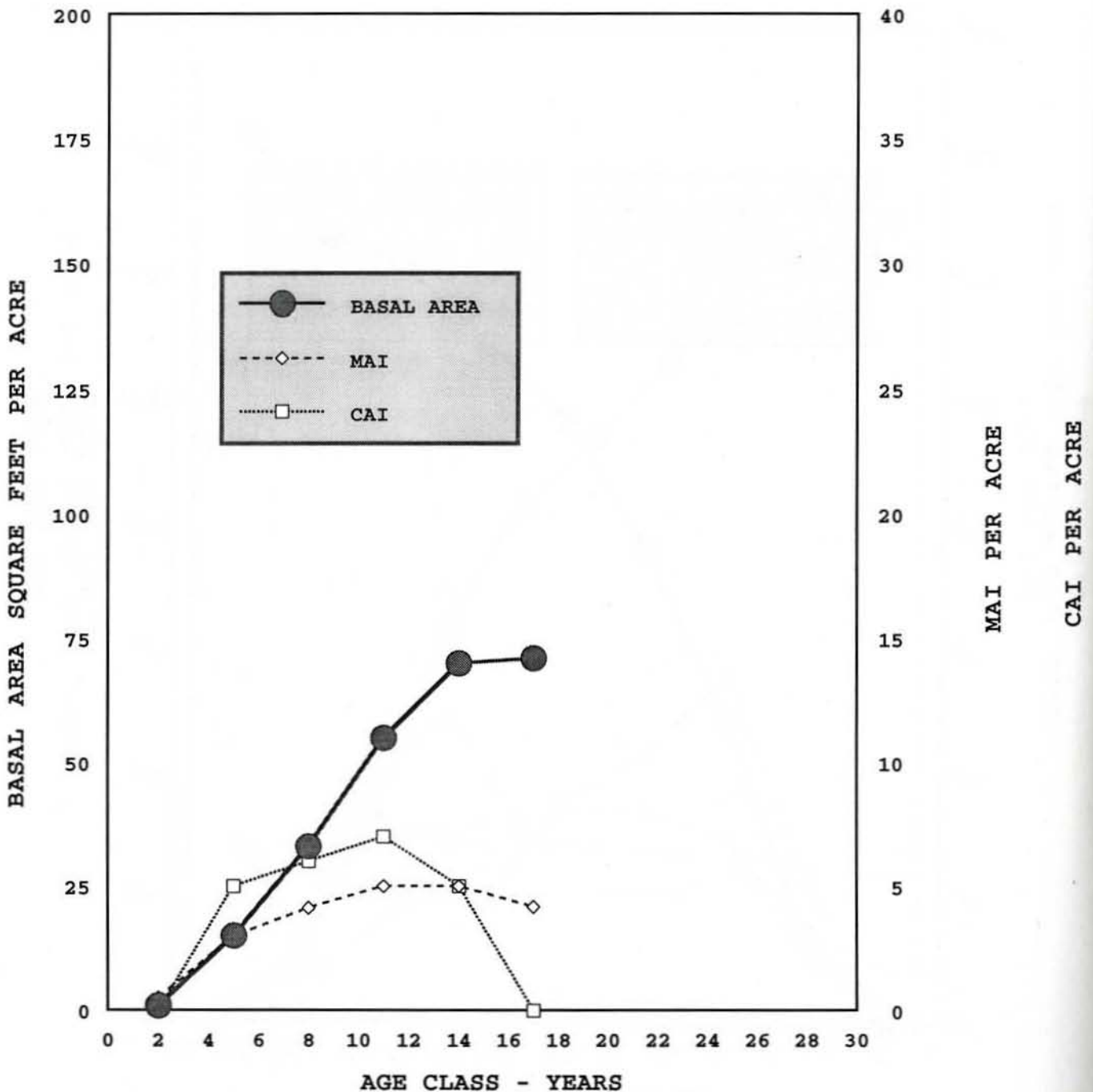
THREE OBSERVED PLANTATION PARAMETERS ARE PLOTTED.



OBSERVED AVERAGE BASAL AREA SQUARE FEET PER ACRE
SLASH PINE ... EAST TEXAS

SI 60 (BASE AGE 25 YEARS)

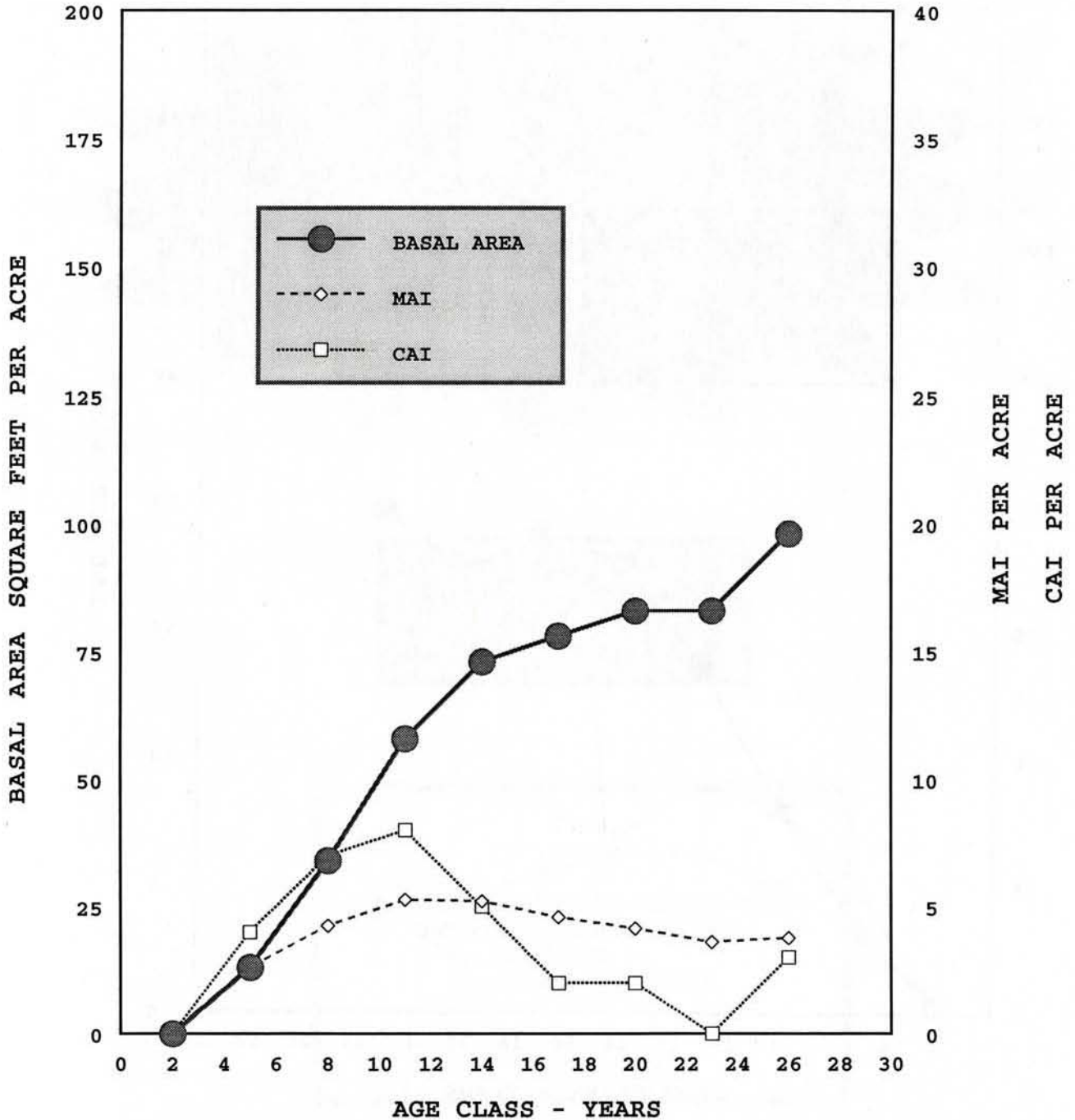
THREE OBSERVED PLANTATION PARAMETERS ARE PLOTTED.



OBSERVED AVERAGE BASAL AREA SQUARE FEET PER ACRE
SLASH PINE ... EAST TEXAS

SI 70 (BASE AGE 25 YEARS)

THREE OBSERVED PLANTATION PARAMETERS ARE PLOTTED.



OBSERVED AVERAGE BASAL SQUARE FEET PER ACRE
SLASH PINE ... EAST TEXAS

SI 80 ... (BASE AGE 25 YEARS)

THREE OBSERVED PLANTATION PARAMETERS ARE PLOTTED.

