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Project Report No. 58, Observed Growth Trends, Average Total Height . . . Ten Tallest Trees, Loblolly and Slash Pine Plantations East Texas

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OBSERVED GROWTH TRENDS
AVERAGE TOTAL HEIGHT ... TEN TALLEST TREES

LOBLOLLY AND SLASH PINE PLANTATIONS
EAST TEXAS

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REPORT 58

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 average total height of ten tallest trees?

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 total height of the ten tallest trees 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 at about 12 years. The timing does not appear to be affected by site index.

Slash: In contrast, from examination of the last three graphs, it appears that maximum MAI occurs between 10-12 years, except for site index class 60', where MAI steadily decreases with increasing age.

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

For loblolly, the magnitude of MAI increases with increasing site index. However, that scenario is not evident for slash.

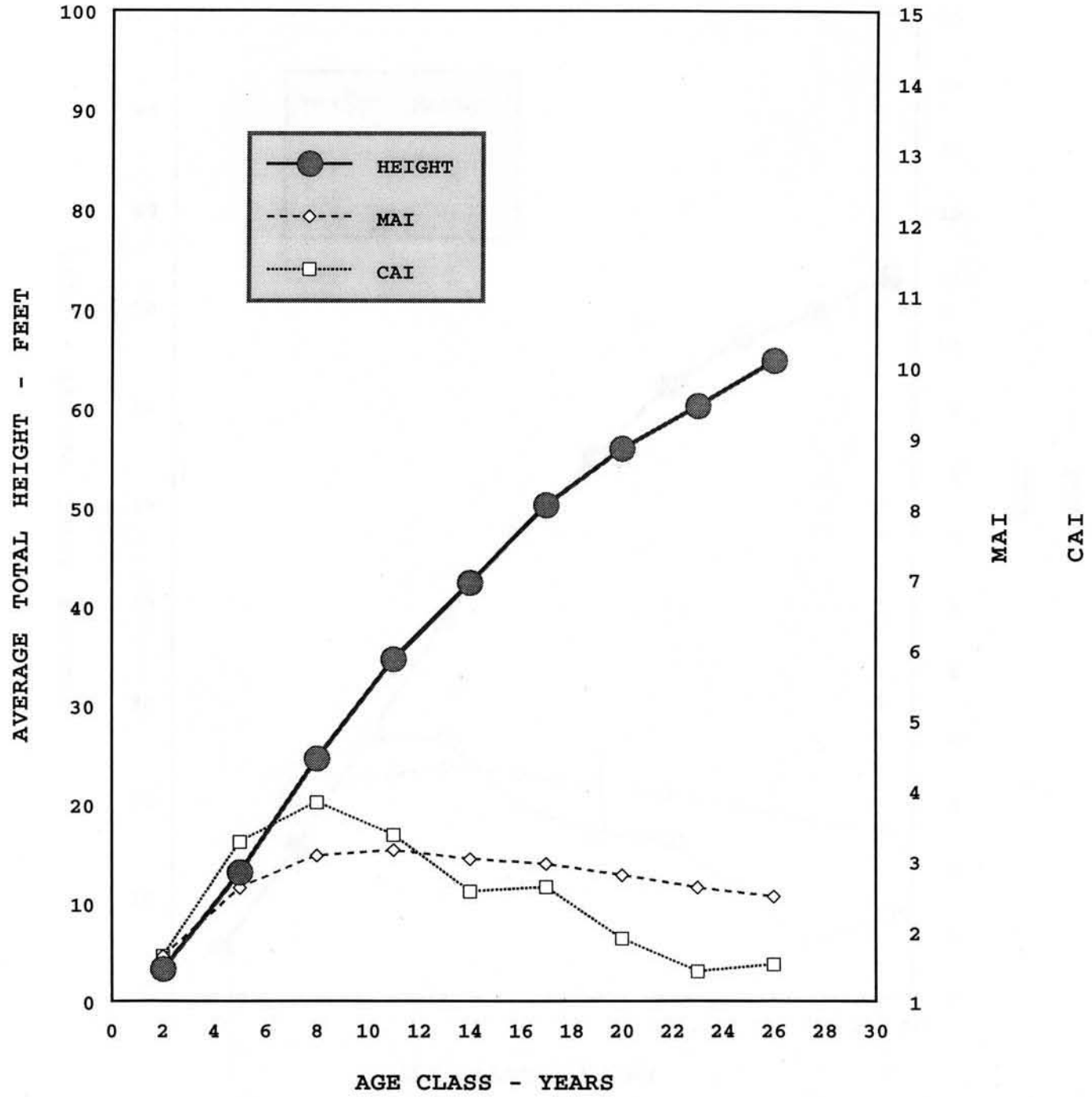
For both species, the character and nature of CAI is quite variable.

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

OBSERVED AVERAGE TOTAL HEIGHT ... TEN TALLEST TREES
LOBLOLLY PINE ... EAST TEXAS

SI 60 (BASE AGE 25 YEARS)

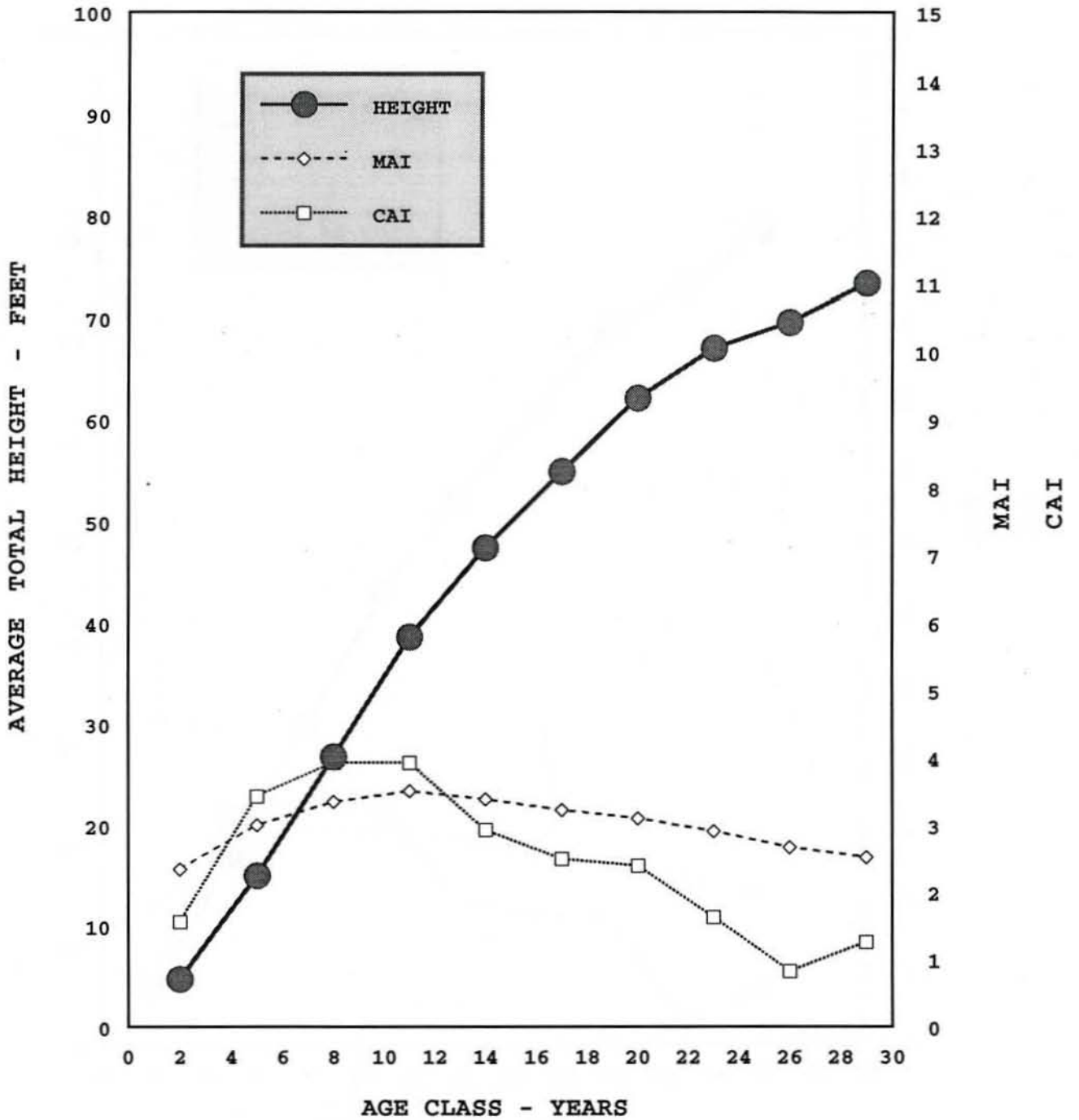
THREE OBSERVED PLANTATION PARAMETERS ARE PLOTTED.



OBSERVED AVERAGE TOTAL HEIGHT ... TEN TALLEST TREES
LOBLOLLY PINE ... EAST TEXAS

SI 70 (BASE AGE 25 YEARS)

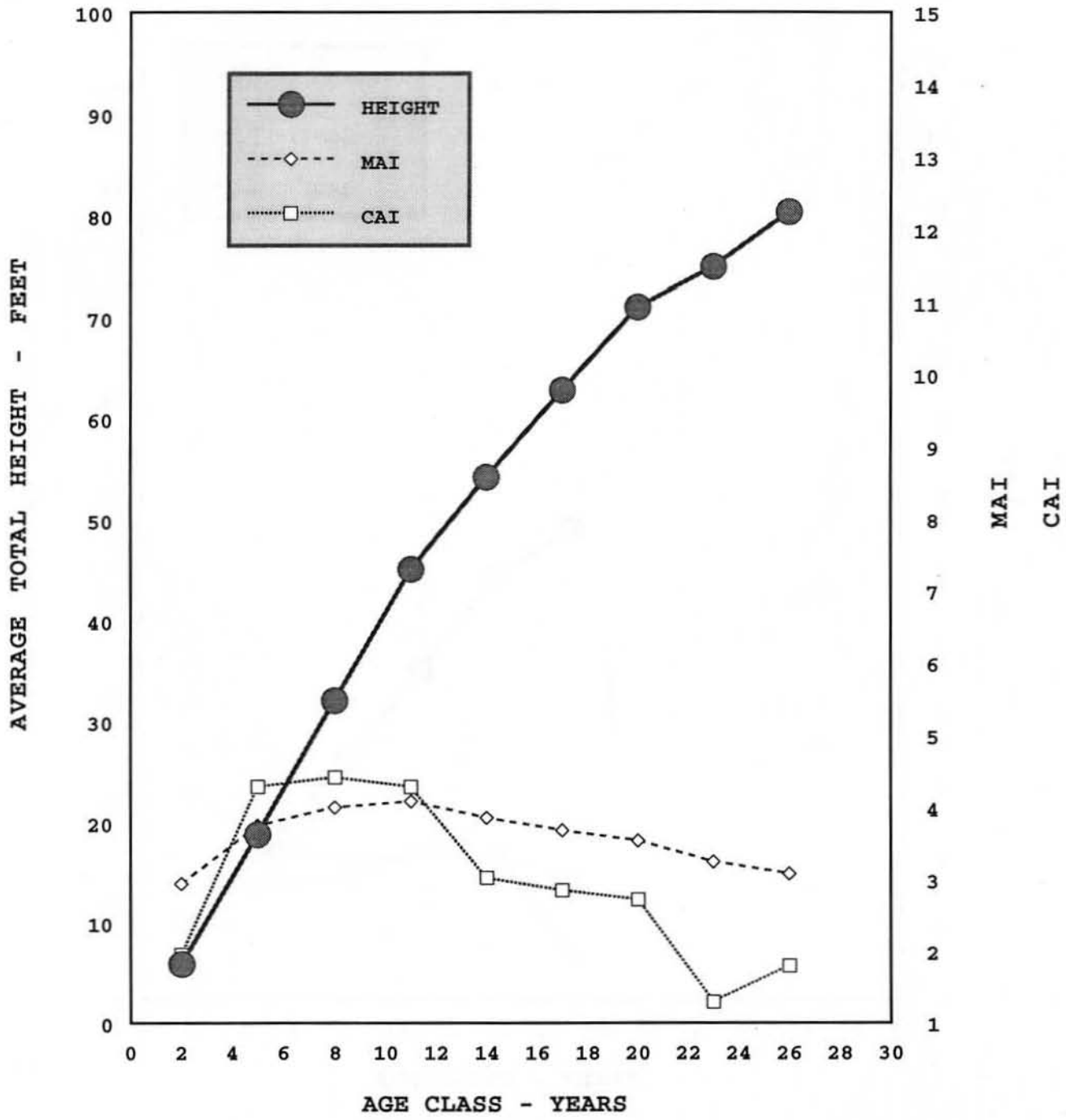
THREE OBSERVED PLANTATION PARAMETERS ARE PLOTTED.



OBSERVED AVERAGE TOTAL HEIGHT ... TEN TALLEST TREES
LOBLOLLY PINE ... EAST TEXAS

SI 80 (BASE AGE 25 YEARS)

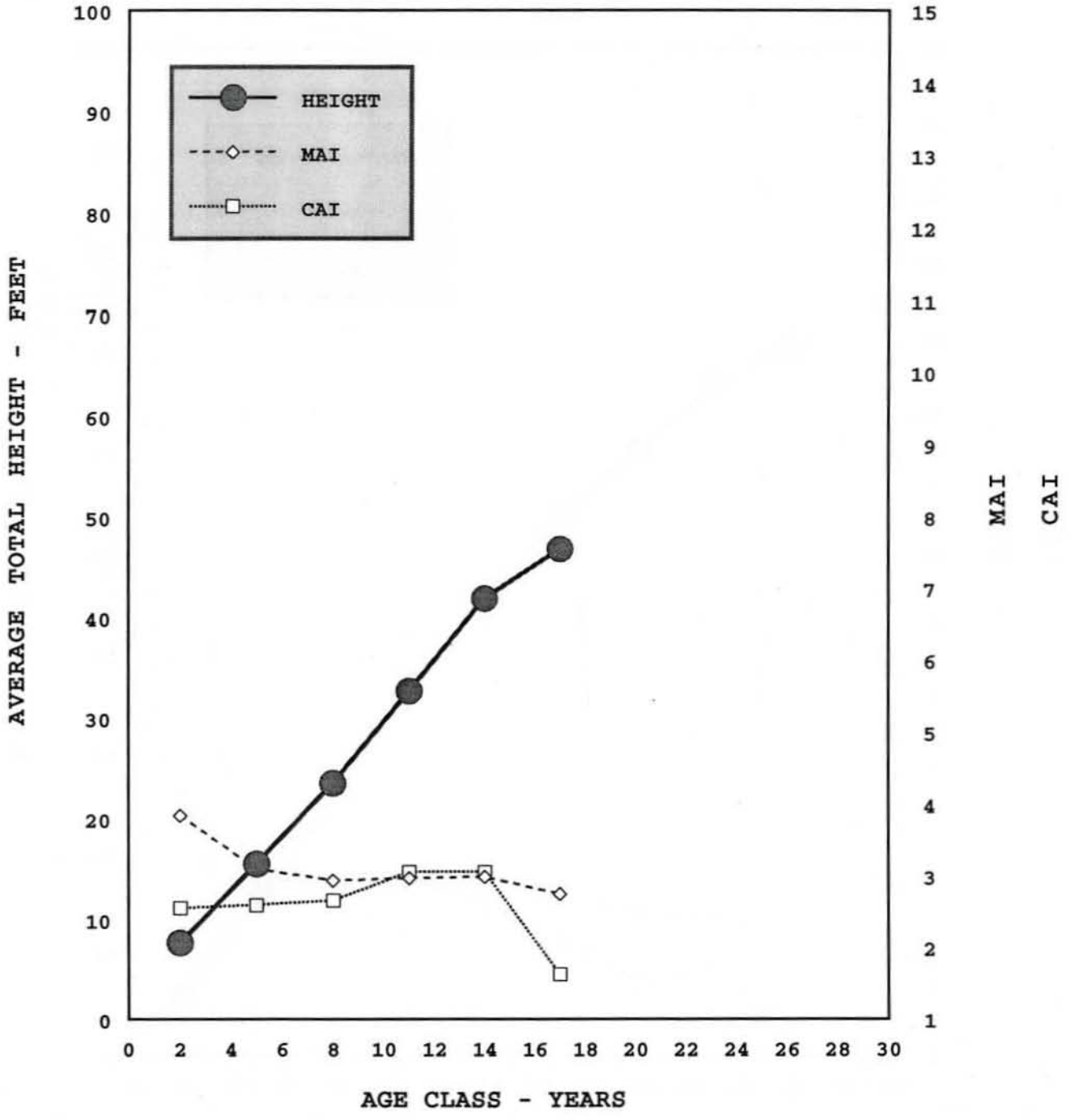
THREE OBSERVED PLANTATION PARAMETERS ARE PLOTTED.



OBSERVED AVERAGE TOTAL HEIGHT ... TEN TALLEST TREES
SLASH PINE ... EAST TEXAS

SI 60 (BASE AGE 25 YEARS)

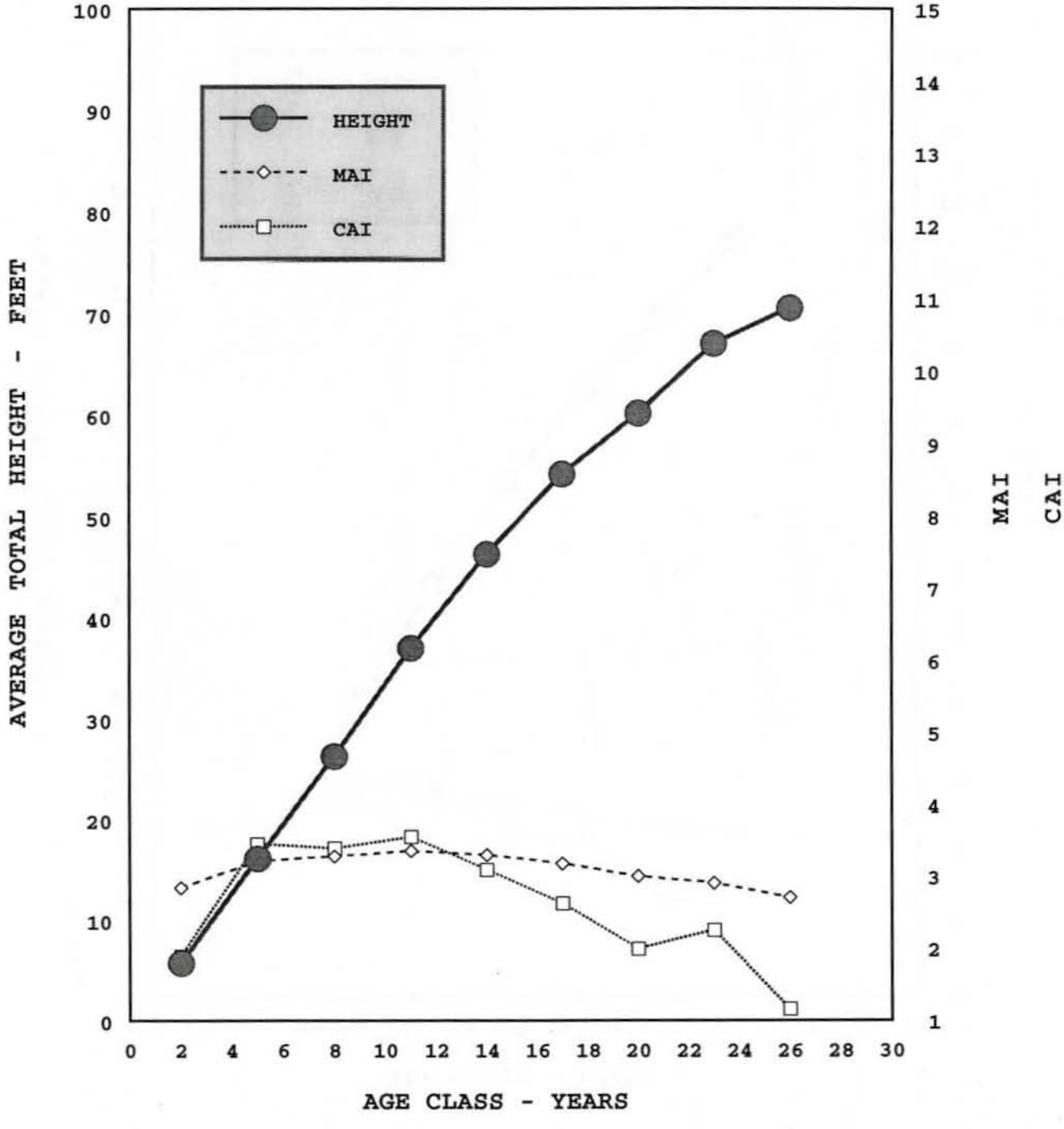
THREE OBSERVED PLANTATION PARAMETERS ARE PLOTTED.



OBSERVED AVERAGE TOTAL HEIGHT ... TEN TALLEST TREES
SLASH PINE ... EAST TEXAS

SI 70 (BASE AGE 25 YEARS)

THREE OBSERVED PLANTATION PARAMETERS ARE PLOTTED.



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SLASH PINE ... EAST TEXAS

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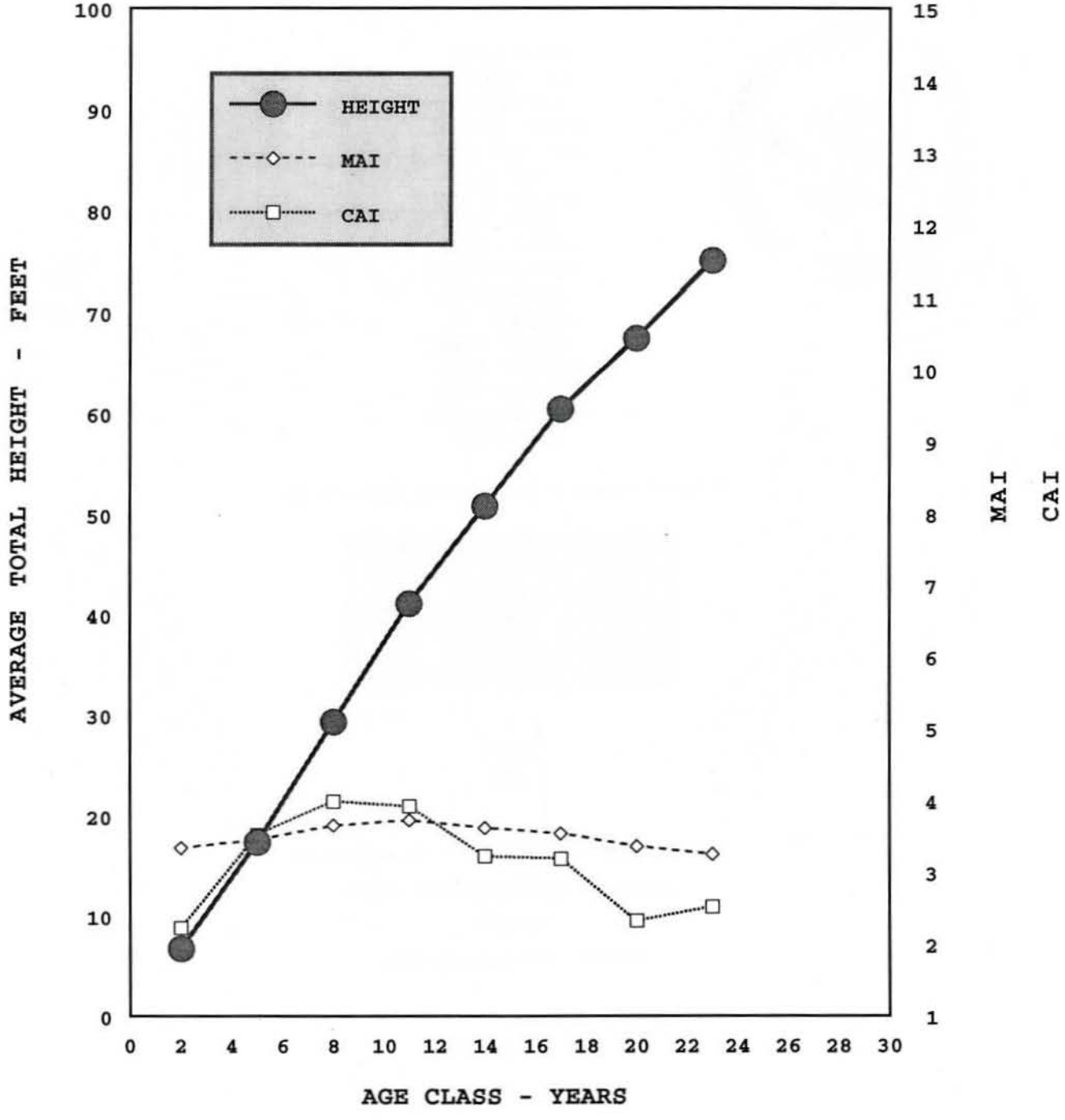

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