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## Project Report No. 61, Observed Per-Acre Basal Area Growth Trends, 28 Individual Observations, Unthinned Loblolly Pine Plantations

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**OBSERVED  
PER-ACRE BASAL AREA GROWTH TRENDS  
28 INDIVIDUAL OBSERVATIONS  
UNTHINNED LOBLOLLY PINE PLANTATIONS  
EAST TEXAS**



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**REPORT 61**

From  
the

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

July ... 1998

### Three Research Questions

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

What is the influence of site index on the timing of maximum mean annual increment?

How are these observations useful to the forest manager?

### The Data/The Analysis/The Plottings

Individual plot data from the East Texas Pine Plantation Research Project were available for analysis in this study. Each plot consists of two subplots. Each subplot is considered an observation. The analysis was limited to individual observations ages 24 years and older. All observations are unthinned.

For each observation, basal area in square feet per acre was calculated.

Based on these values, MAI (mean annual increment) was calculated.

The values are depicted in graphs on the next twenty eight pages.

### Conclusions

From examination of the twenty eight graphs, it appears that maximum MAI tends to occur between 12-17 years.

Site index appears to have no influence on the timing of maximum mean annual increment.

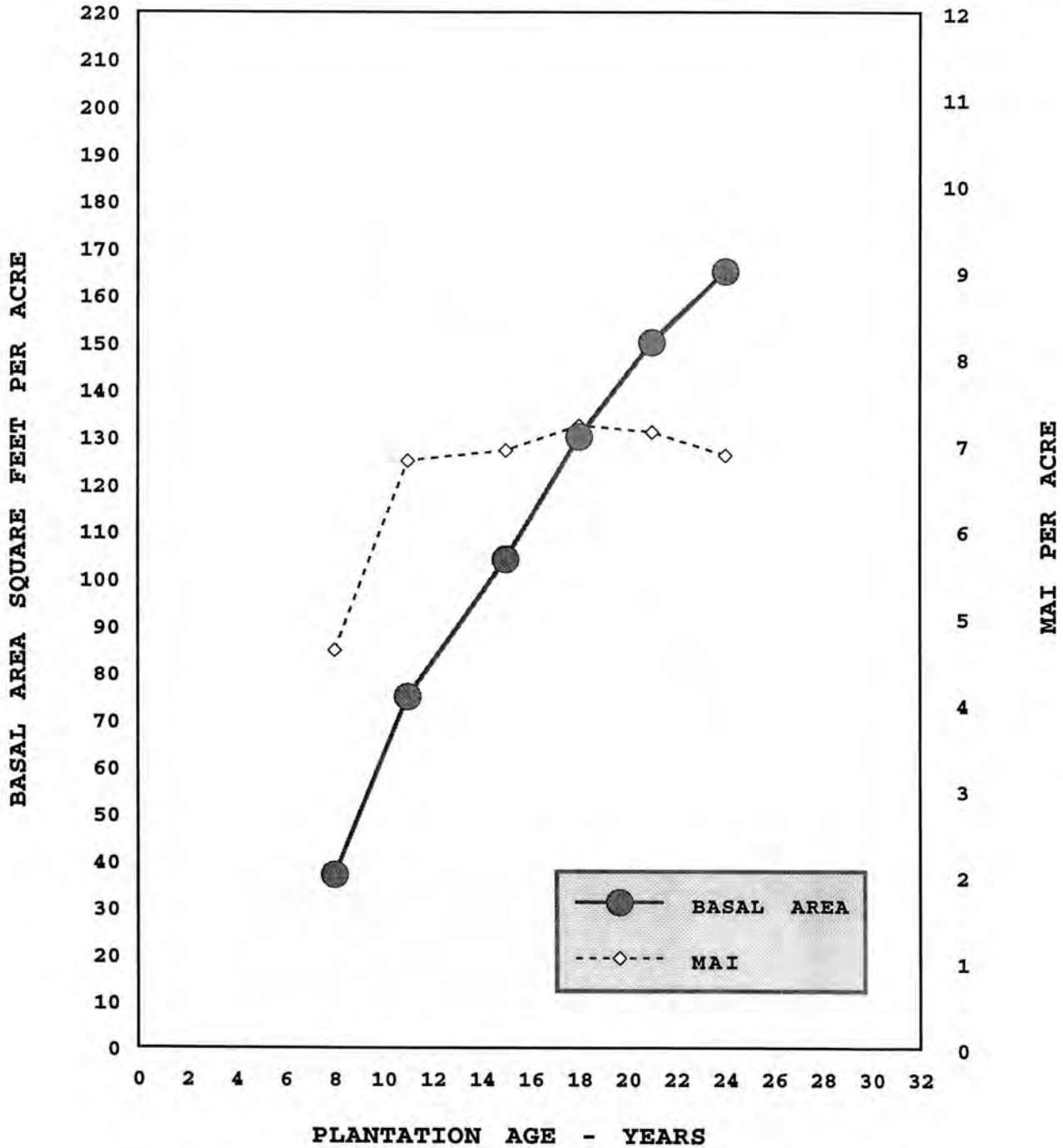
And these observations are useful to the forest manager...The above range of maximum MAI values could be used as possible guidelines for a first thinning, or a possible harvest schedule if short rotations with no thinnings are the management objective.



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 006/SUBPLOT 1 -

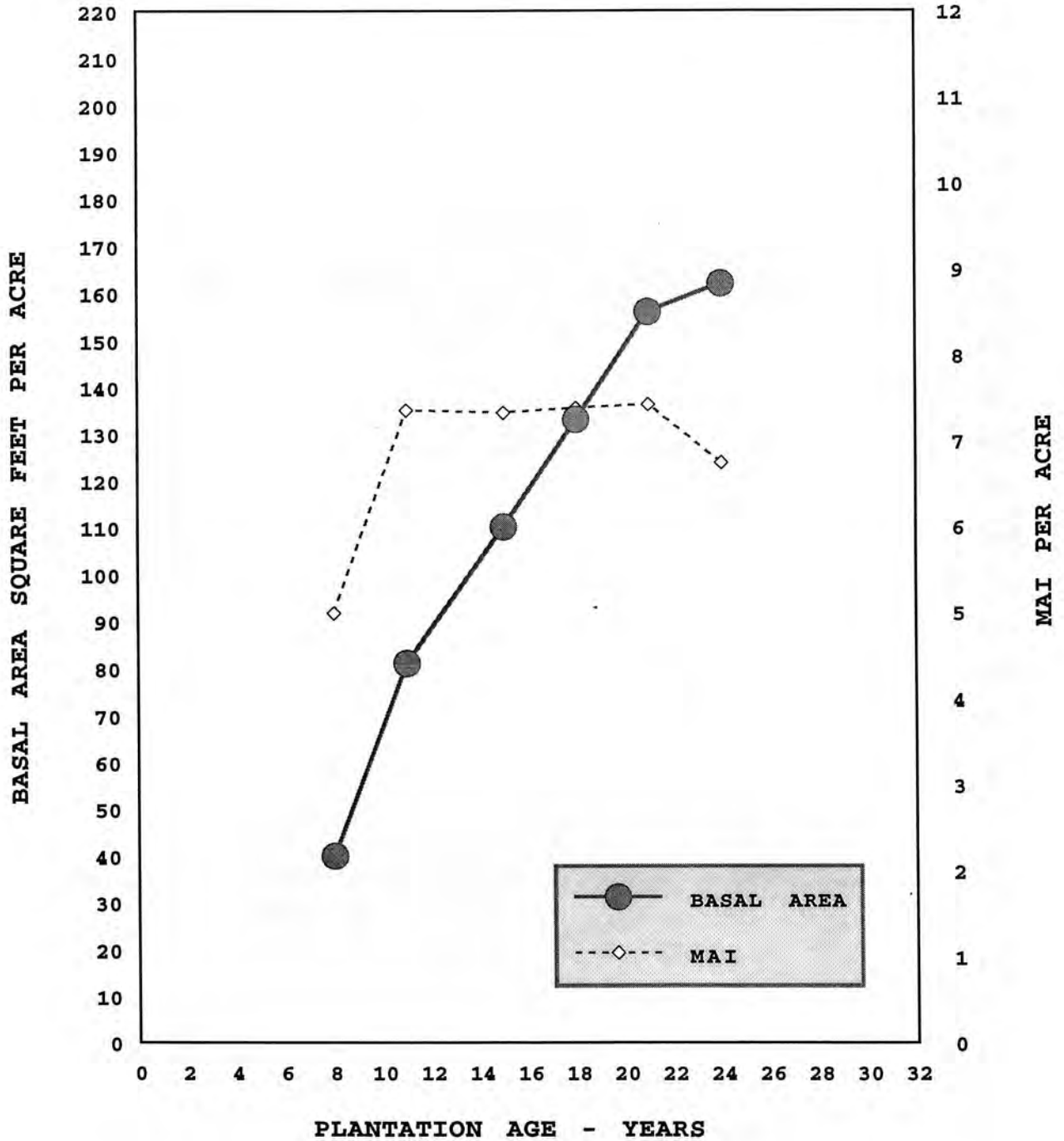
AGE = 24 YEARS, SITE INDEX = 72 FEET & TREES PER ACRE = 409



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 006/SUBPLOT 2 -

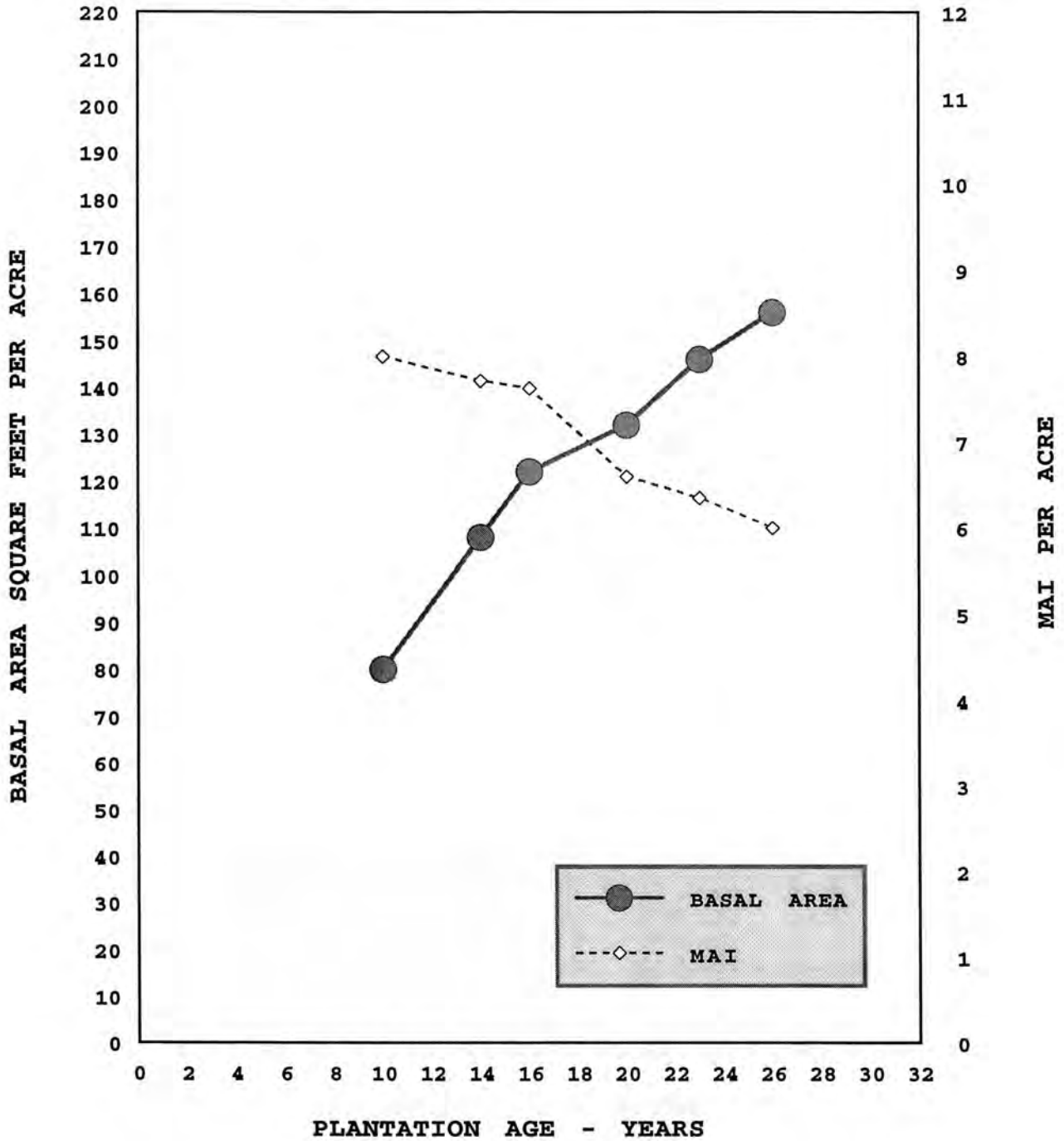
AGE = 24 YEARS, SITE INDEX = 67 FEET & TREES PER ACRE = 444



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPRP

- PLOT 009/SUBPLOT 1 -

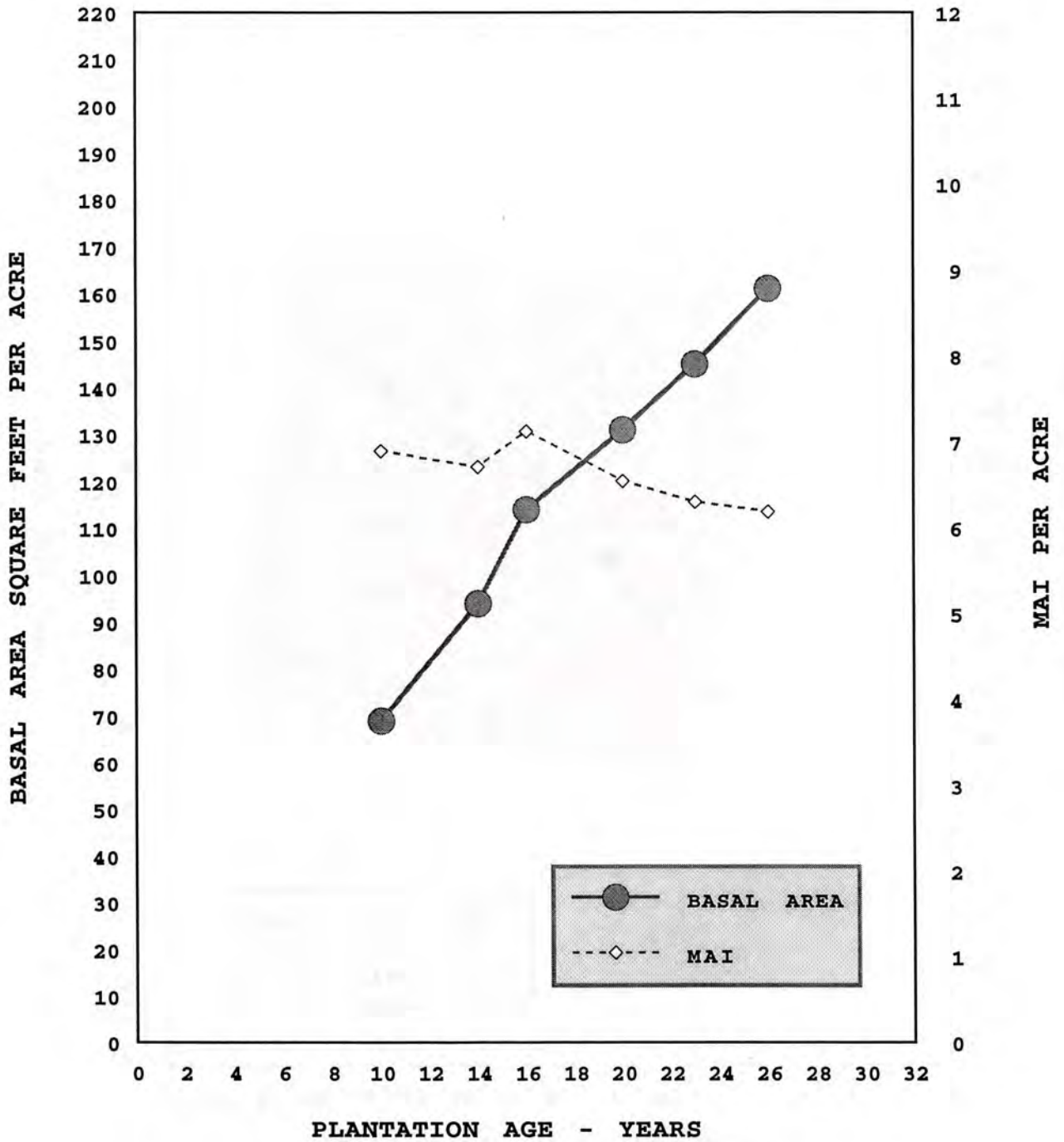
AGE = 26 YEARS, SITE INDEX = 76 FEET & TREES PER ACRE = 423



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 009/SUBPLOT 2 -

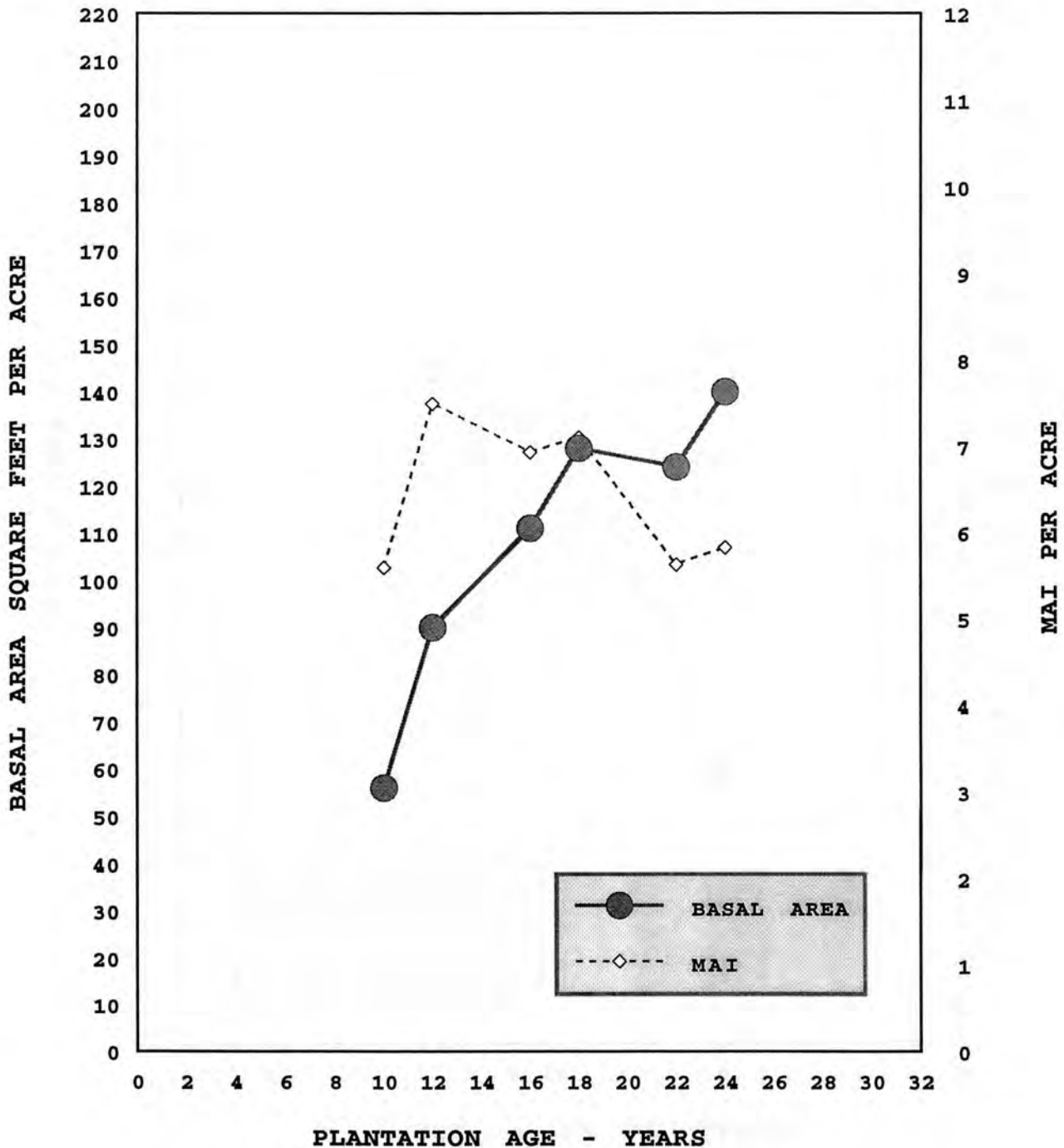
AGE = 26 YEARS, SITE INDEX = 73 FEET & TREES PER ACRE = 375



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPRP

- PLOT 010/SUBPLOT 1 -

AGE = 24 YEARS, SITE INDEX = 77 FEET & TREES PER ACRE = 292

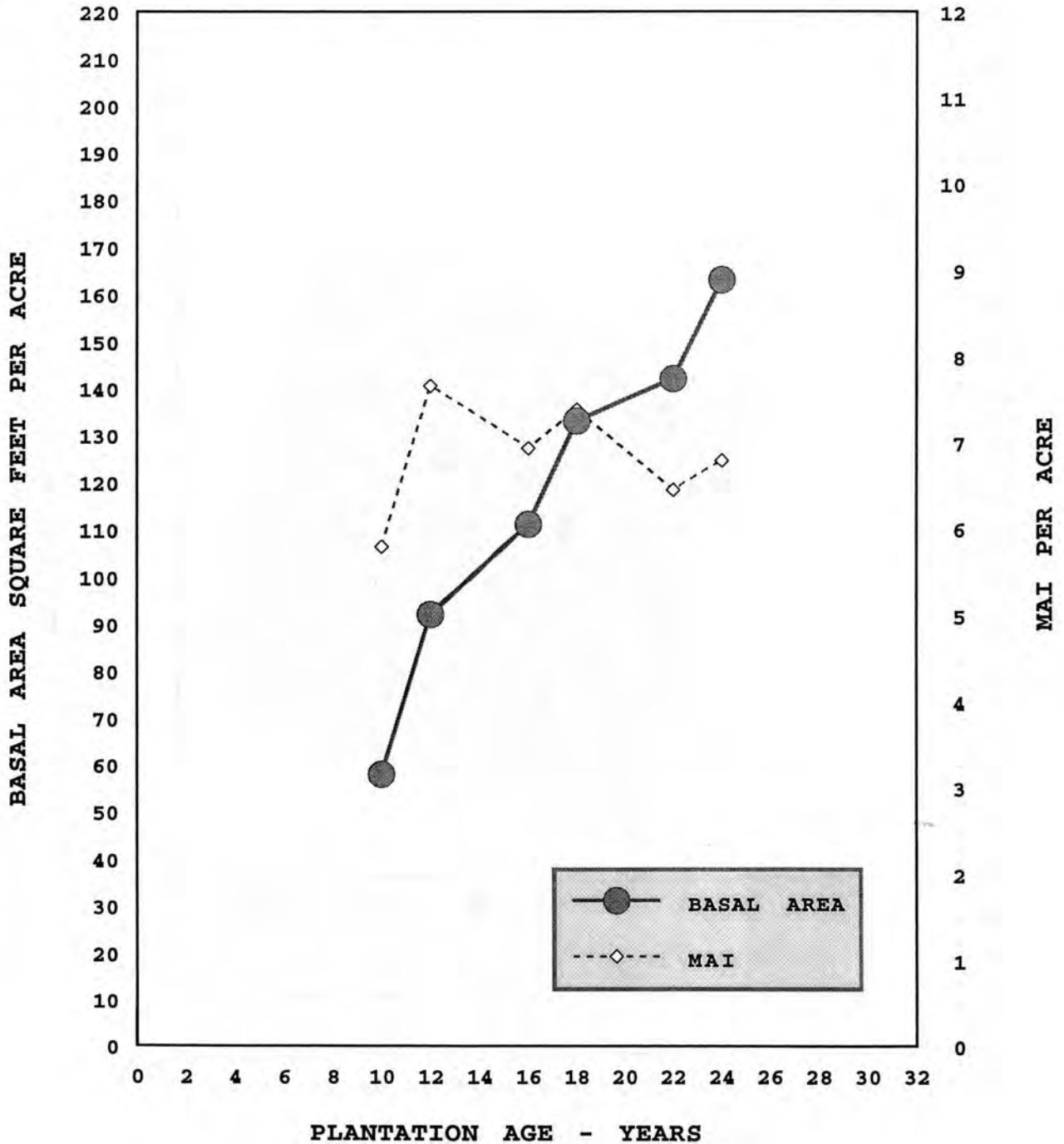




OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPRP

- PLOT 010/SUBPLOT 2 -

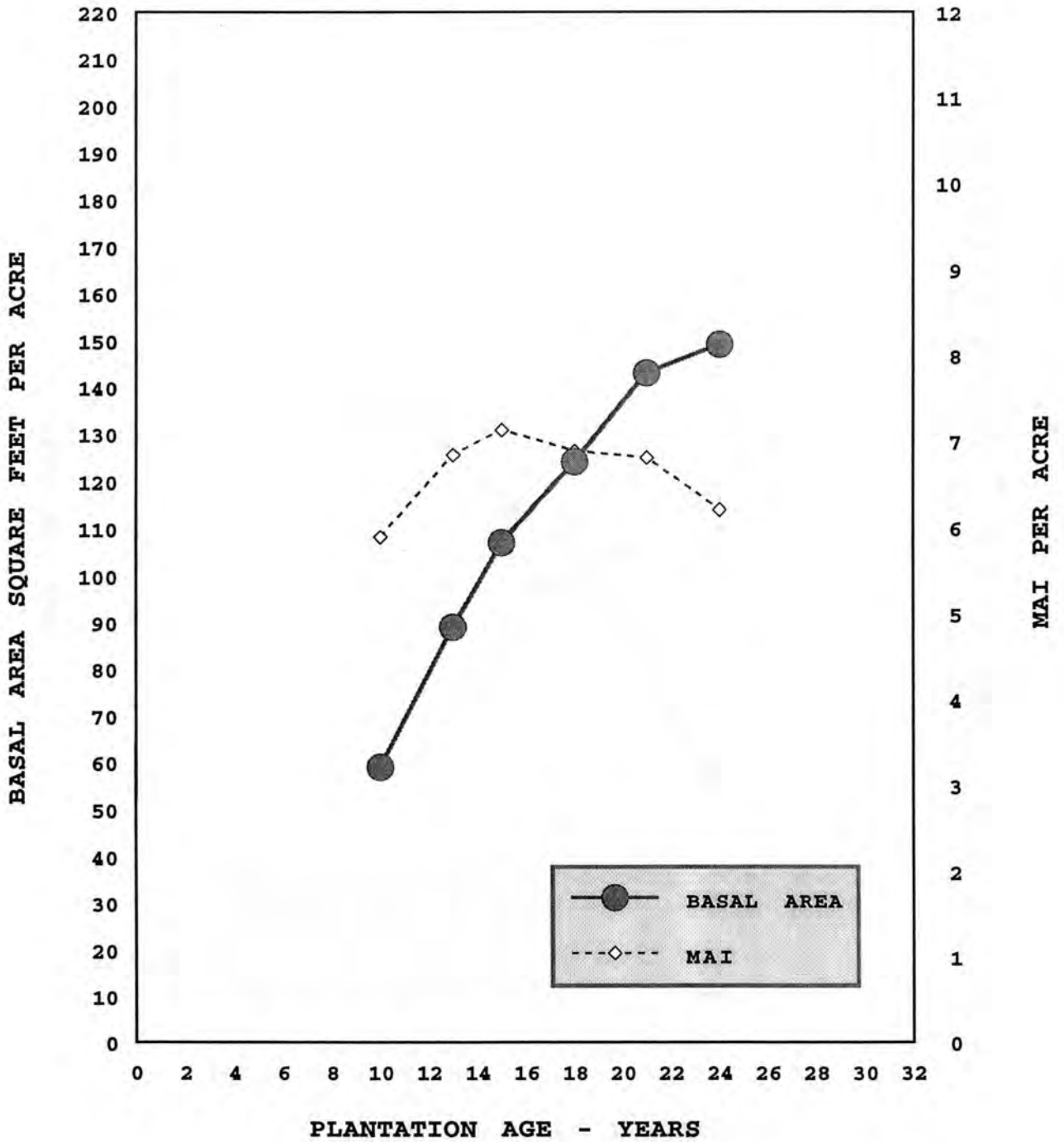
AGE = 24 YEARS, SITE INDEX = 76 FEET & TREES PER ACRE = 370



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 013/SUBPLOT 1 -

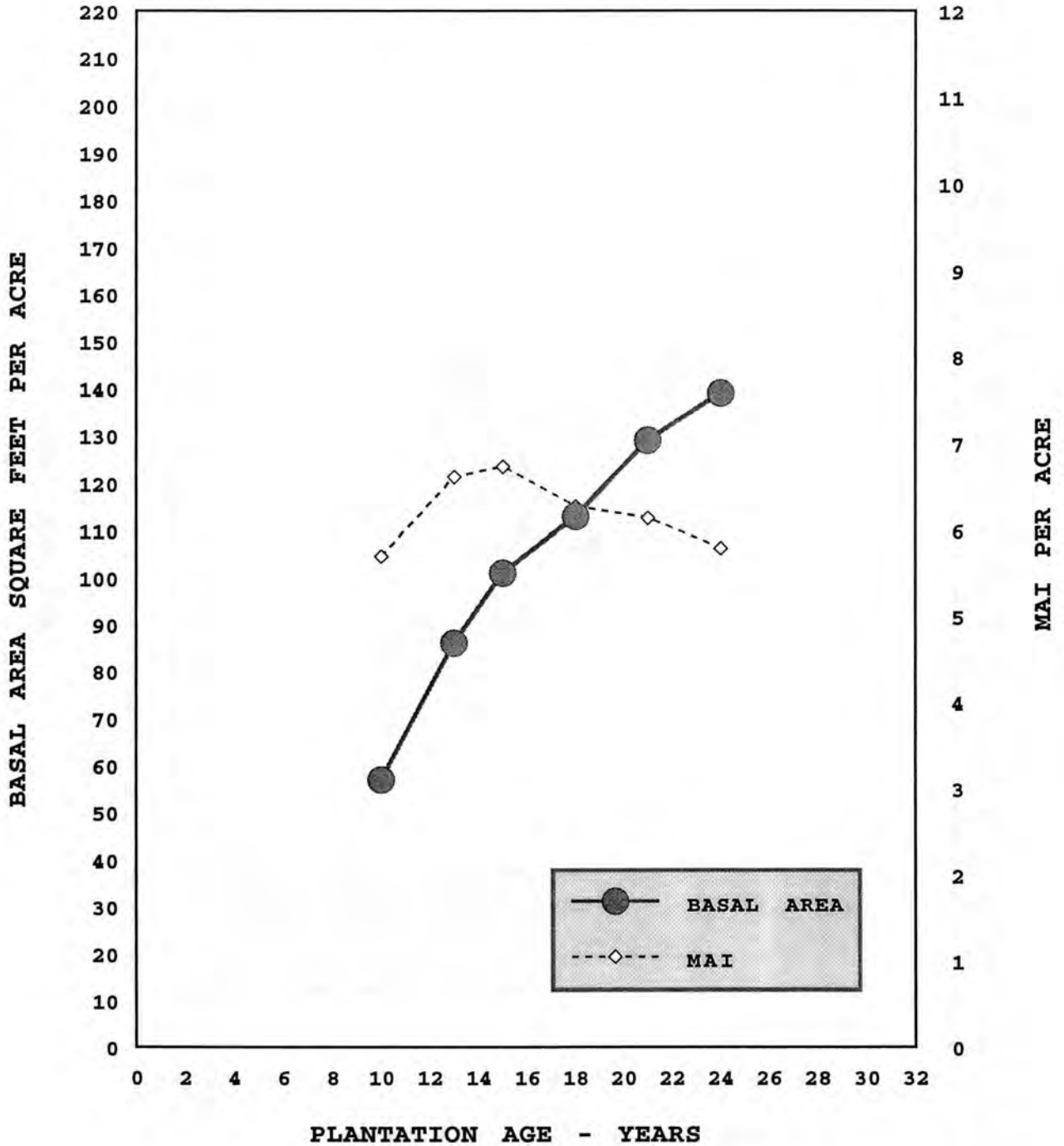
AGE = 24 YEARS, SITE INDEX = 66 FEET & TREES PER ACRE = 536



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 013/SUBPLOT 2 -

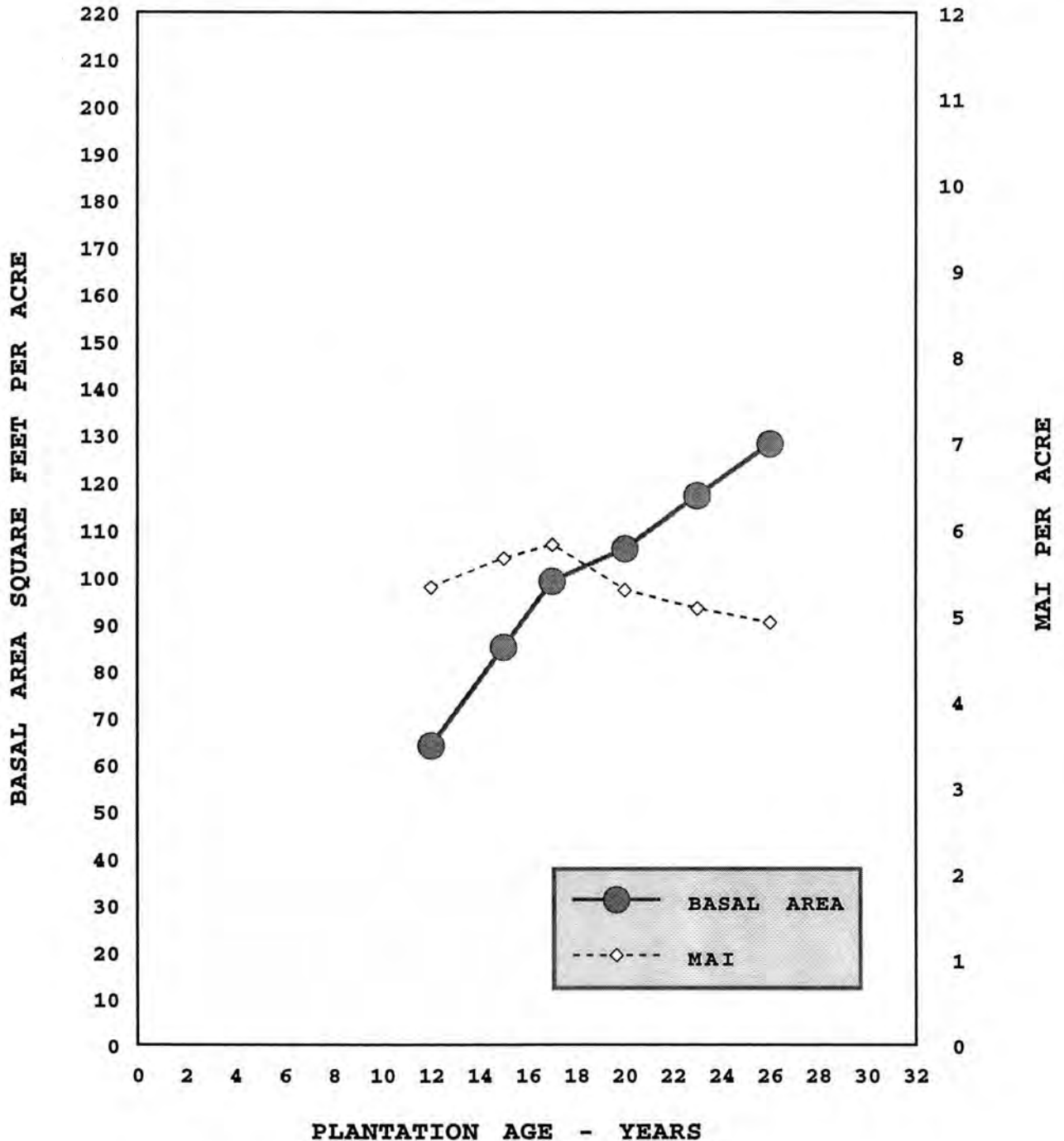
AGE = 24 YEARS, SITE INDEX = 66 FEET & TREES PER ACRE = 475



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPRP

- PLOT 014/SUBPLOT 1 -

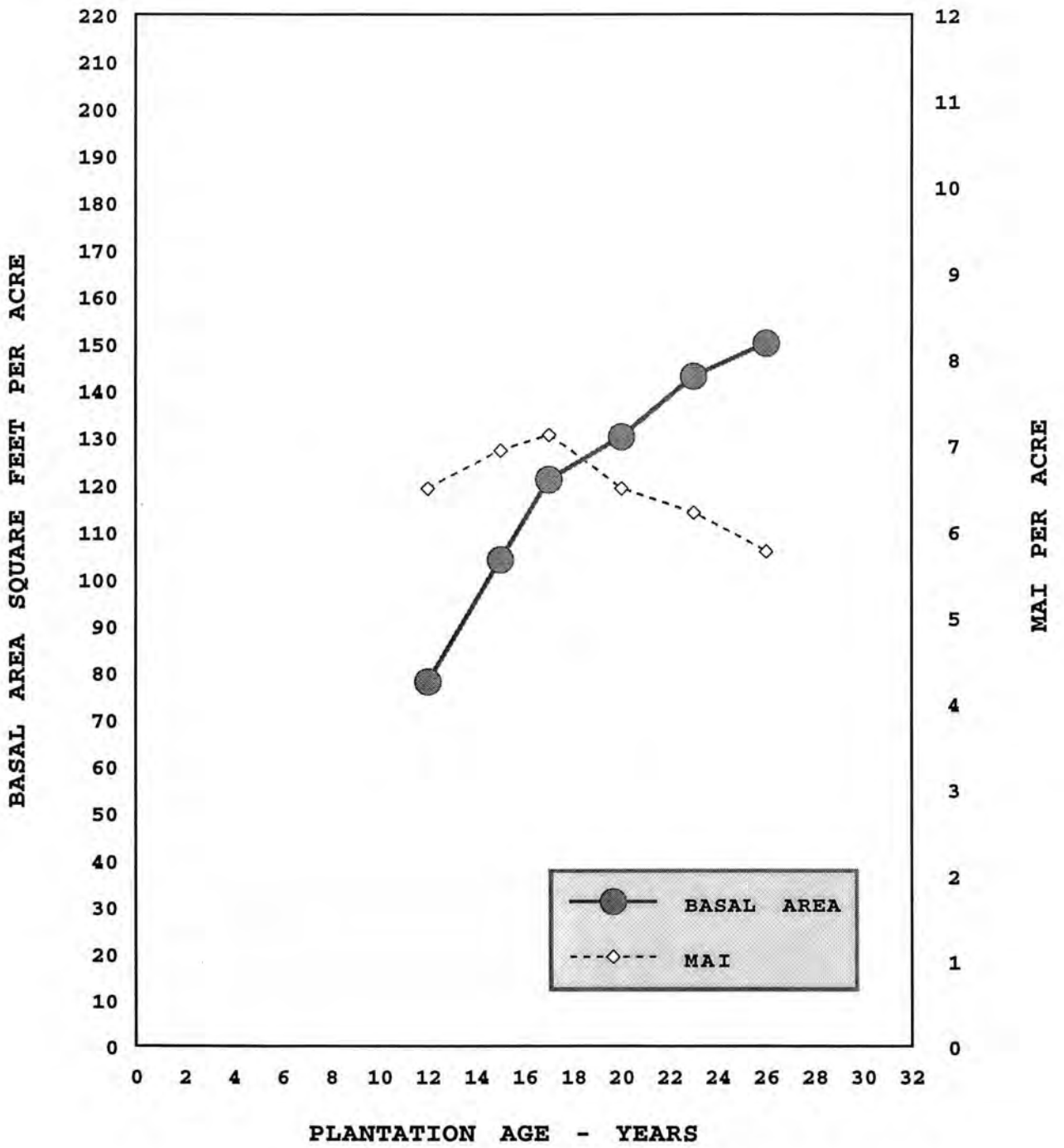
AGE = 26 YEARS, SITE INDEX = 64 FEET & TREES PER ACRE = 466



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 014/SUBPLOT 2 -

AGE = 26 YEARS, SITE INDEX = 59 FEET & TREES PER ACRE = 488

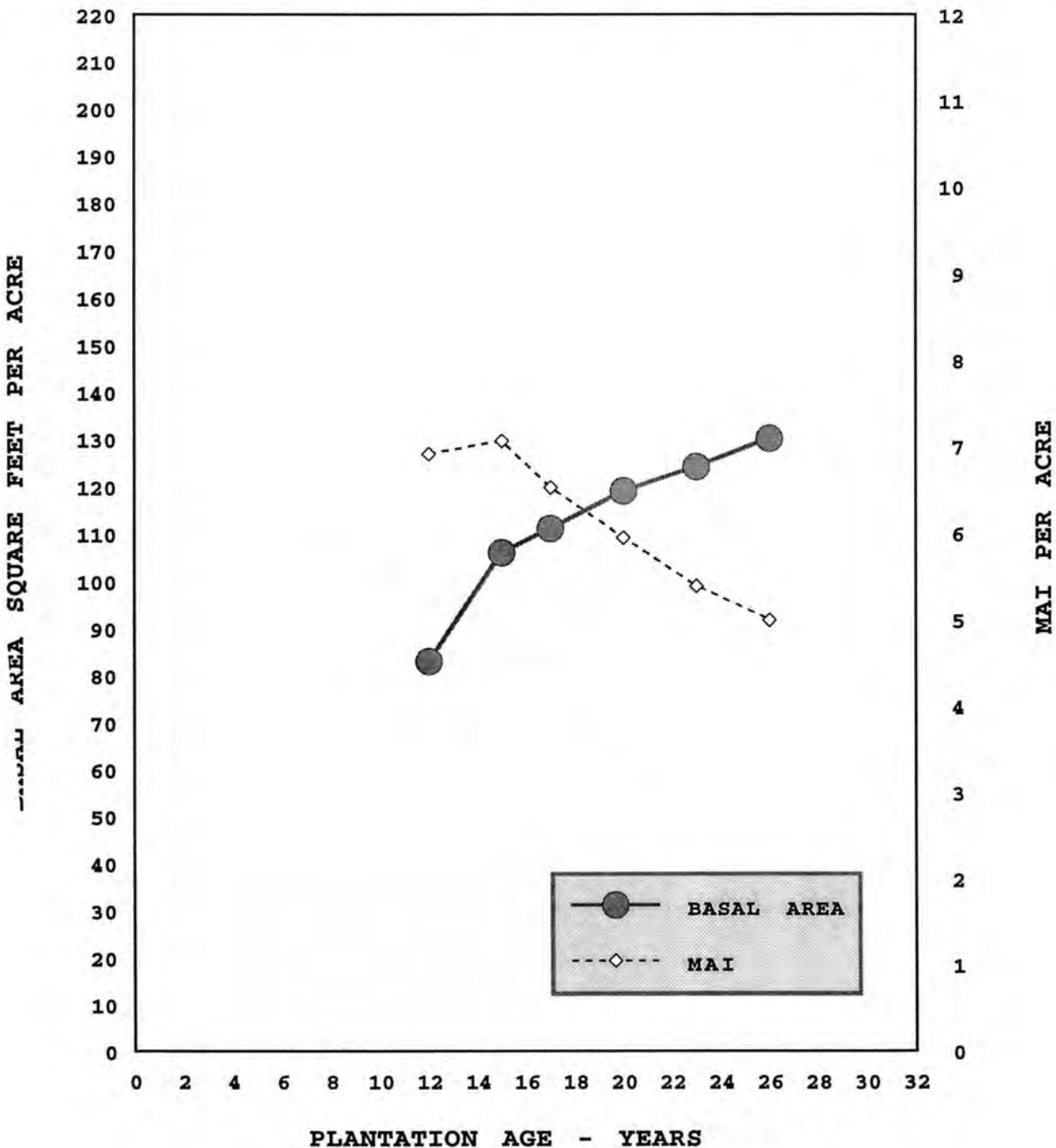




OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 016/SUBPLOT 1 -

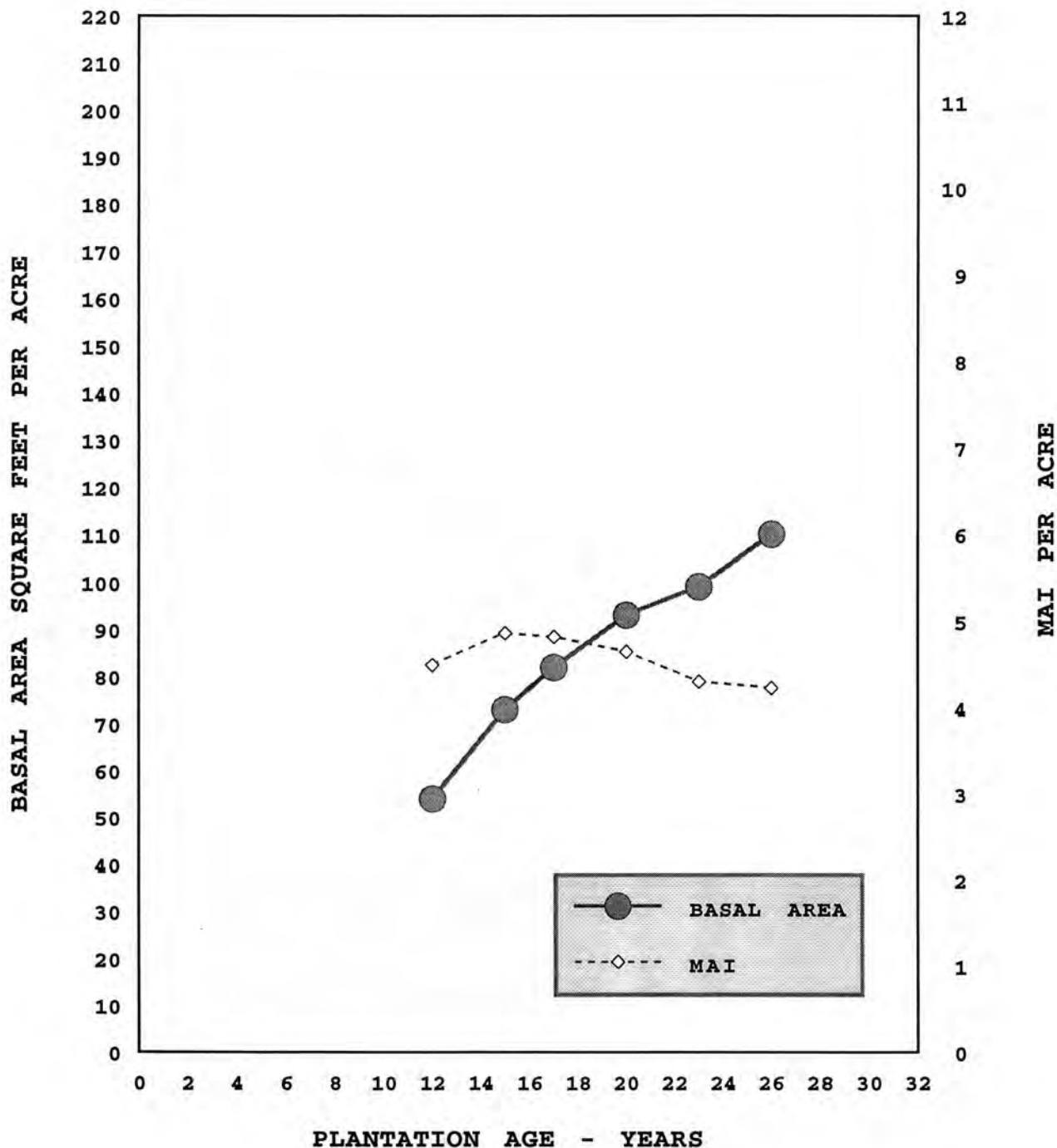
AGE = 26 YEARS, SITE INDEX = 64 FEET & TREES PER ACRE = 457



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 016/SUBPLOT 2 -

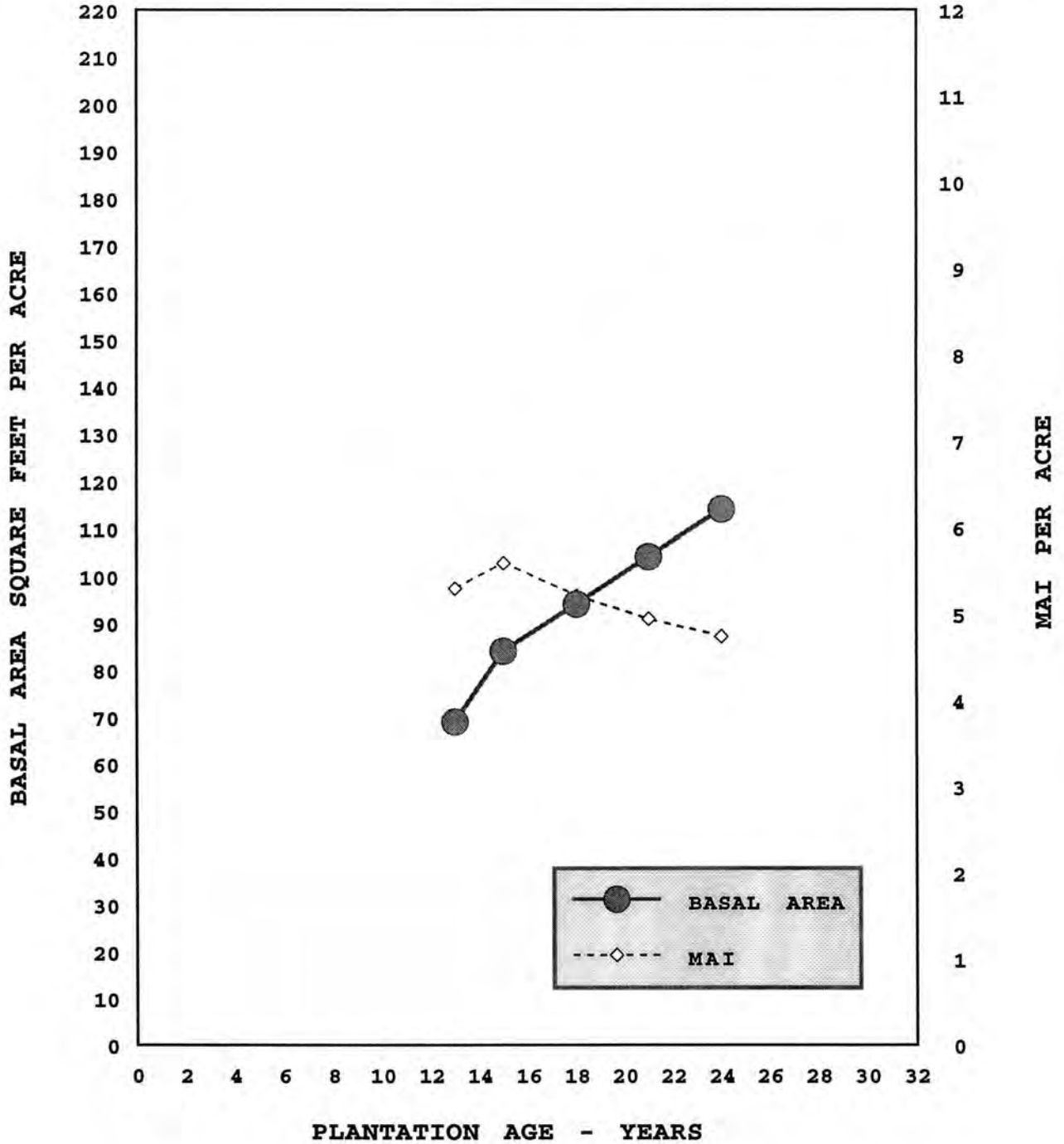
AGE = 26 YEARS, SITE INDEX = 55 FEET & TREES PER ACRE = 479



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 047/SUBPLOT 1 -

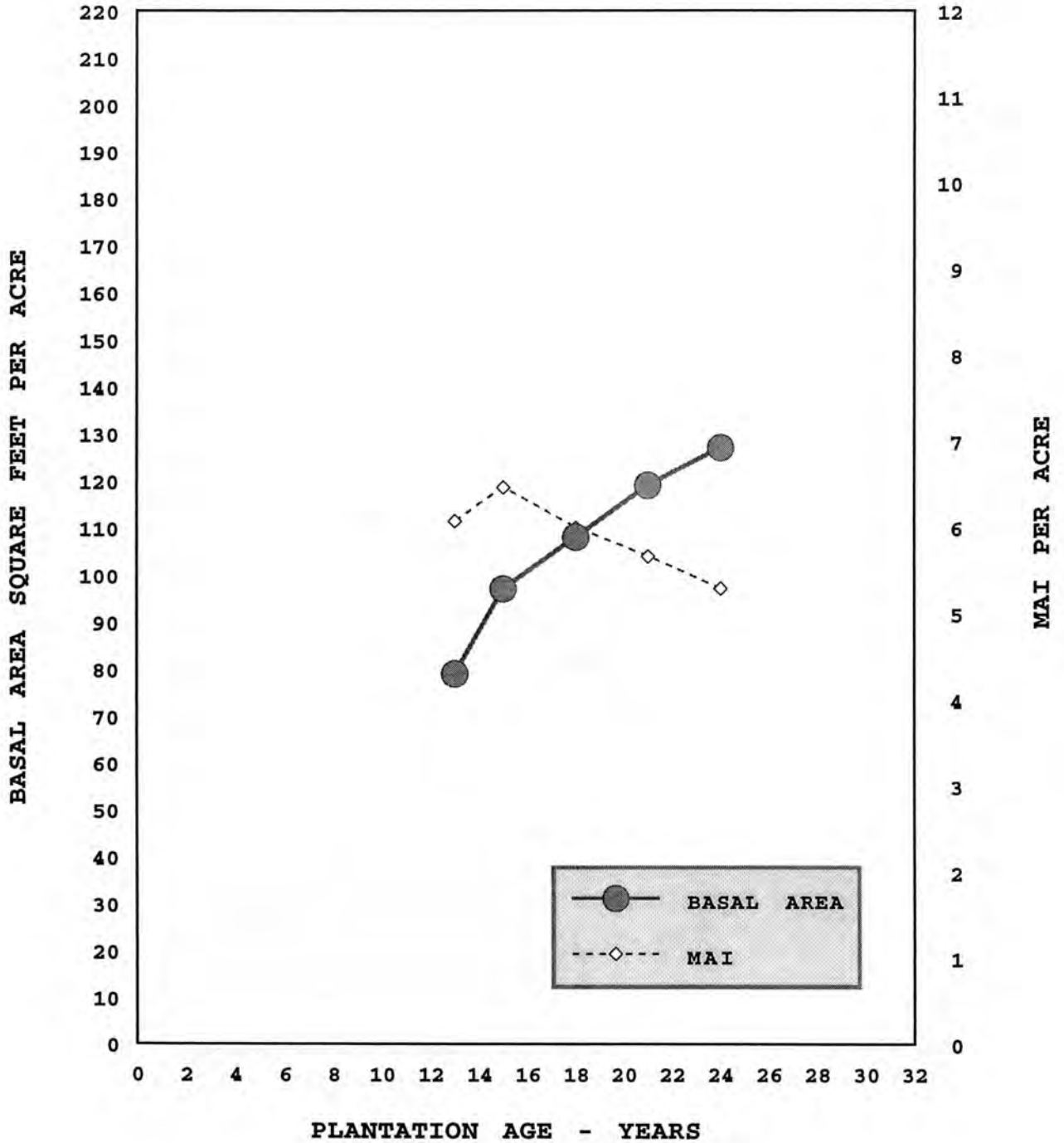
AGE = 24 YEARS, SITE INDEX = 68 FEET & TREES PER ACRE = 314



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 047/SUBPLOT 2 -

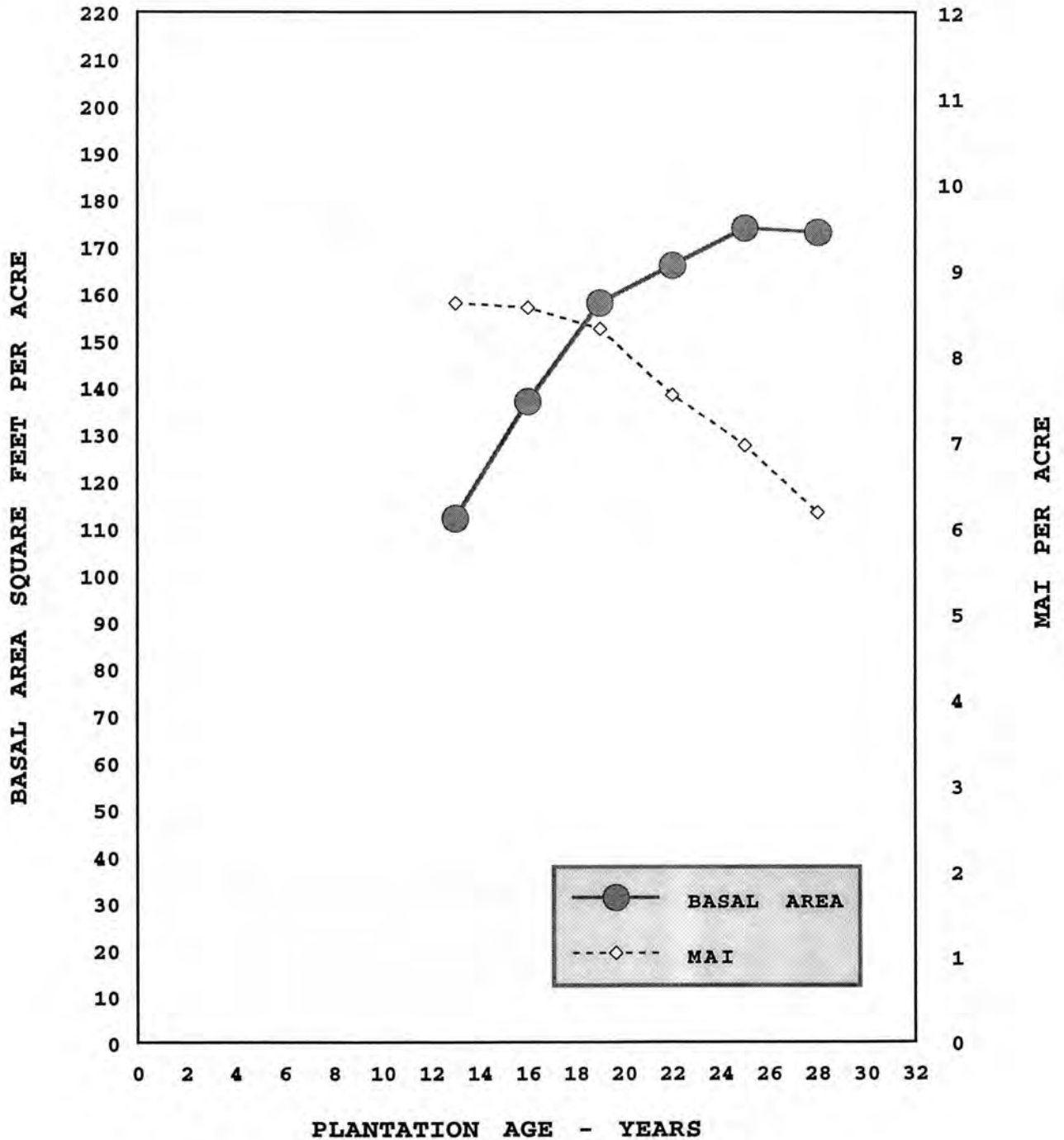
AGE = 24 YEARS, SITE INDEX = 65 FEET & TREES PER ACRE = 357



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 050/SUBPLOT 1 -

AGE = 28 YEARS, SITE INDEX = 73 FEET & TREES PER ACRE = 322

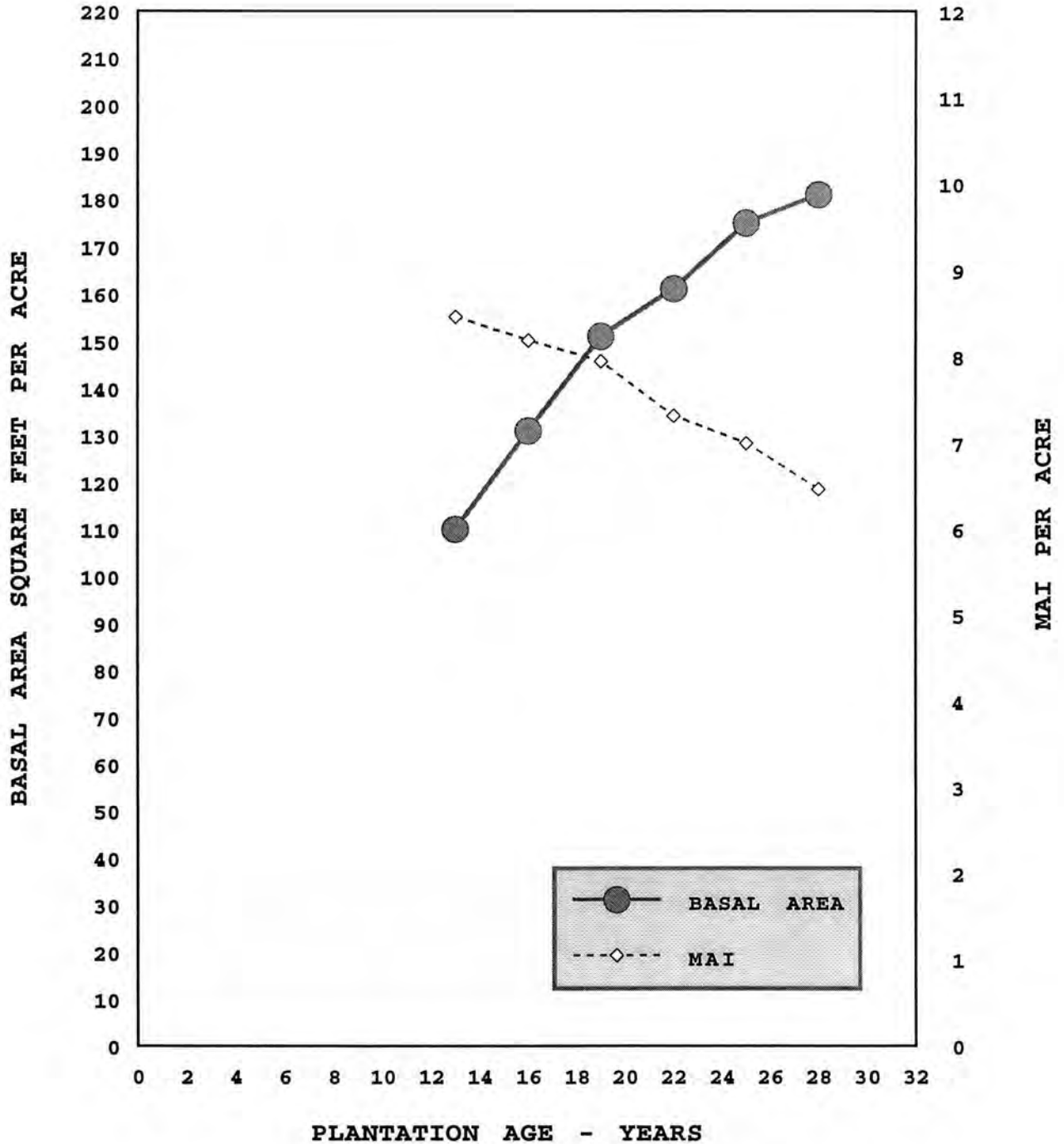




OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 050/SUBPLOT 2 -

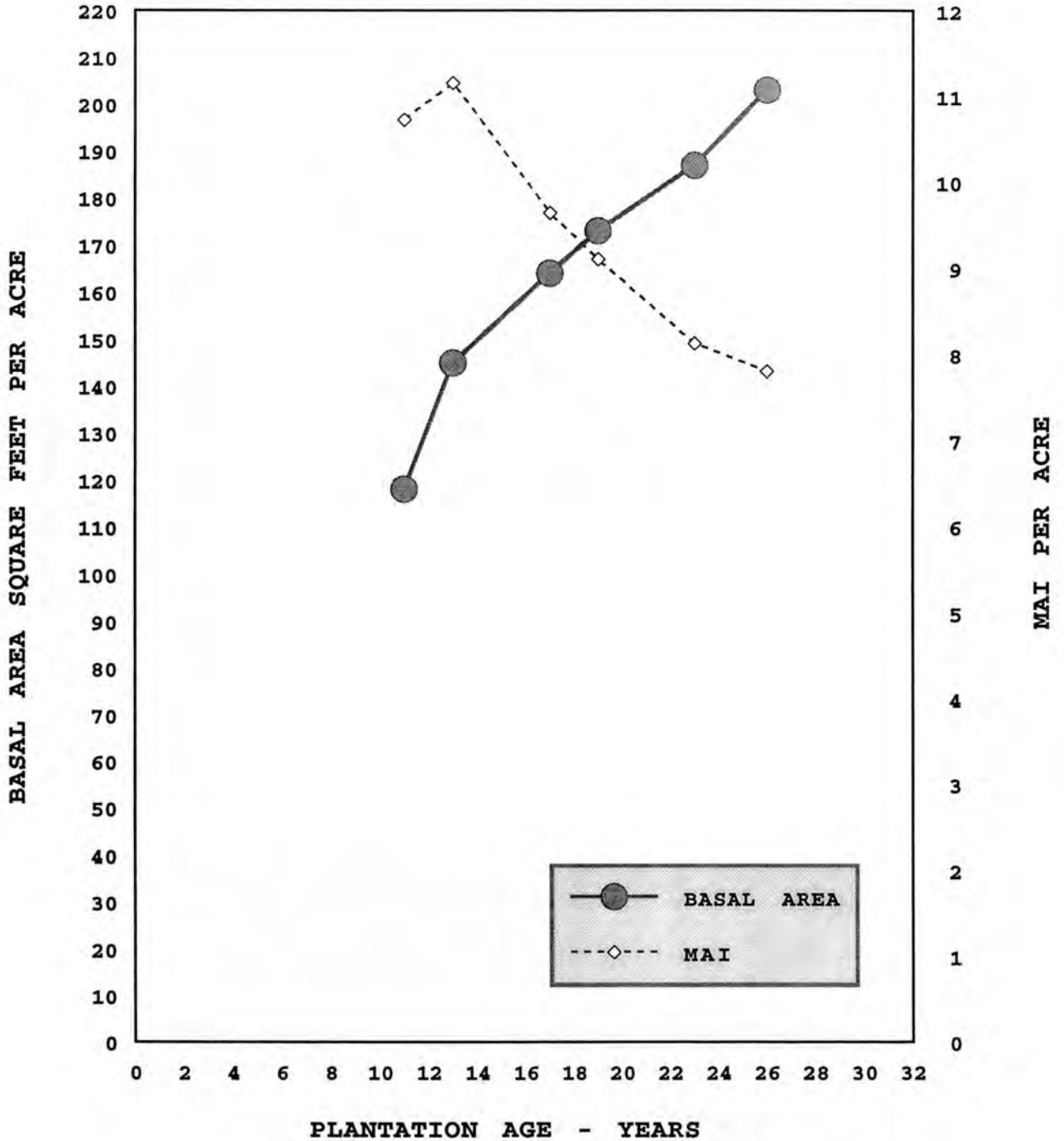
AGE = 28 YEARS, SITE INDEX = 69 FEET & TREES PER ACRE = 392



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPRP

- PLOT 075/SUBPLOT 1 -

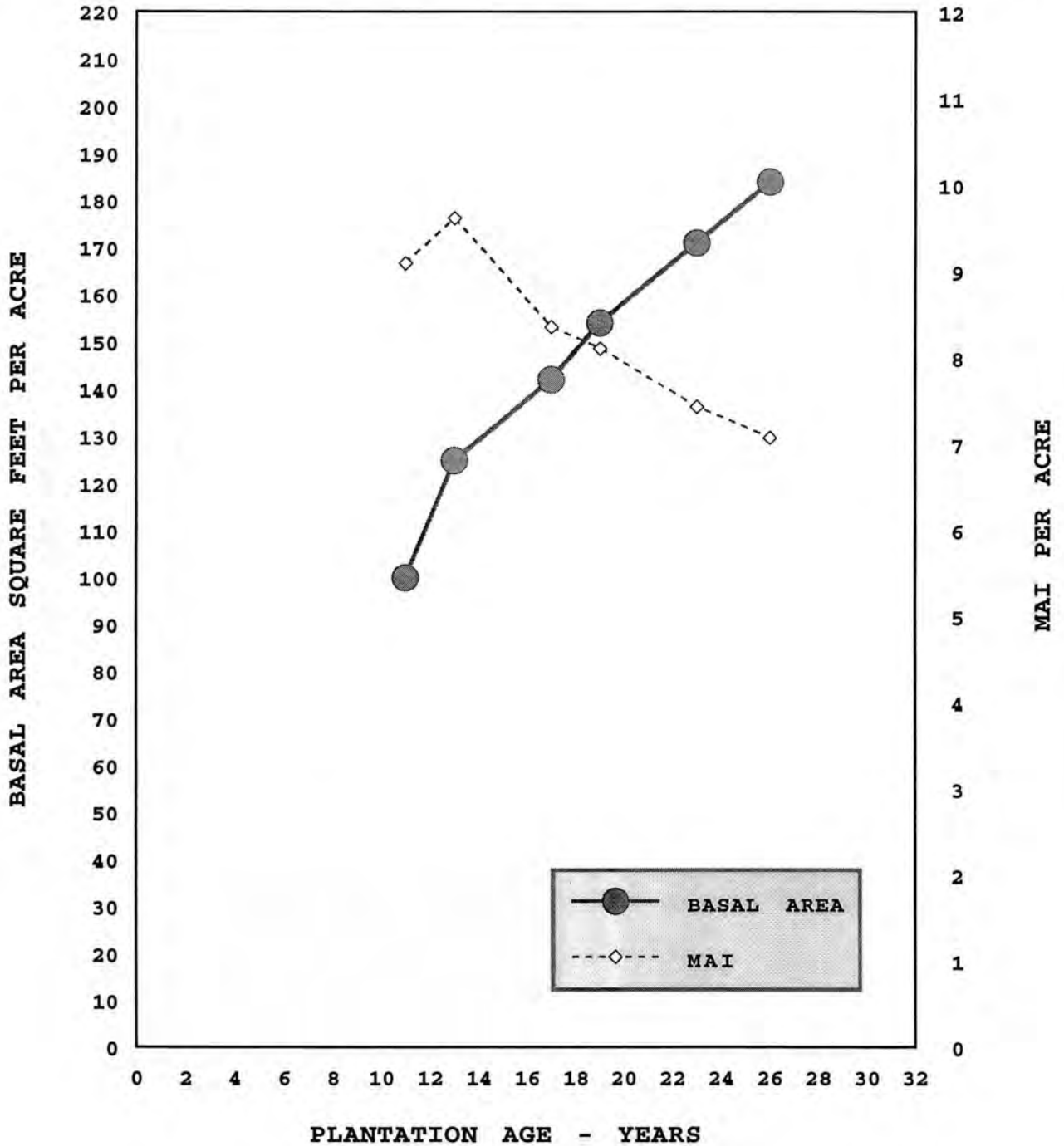
AGE = 26 YEARS, SITE INDEX = 83 FEET & TREES PER ACRE = 348



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 075/SUBPLOT 2 -

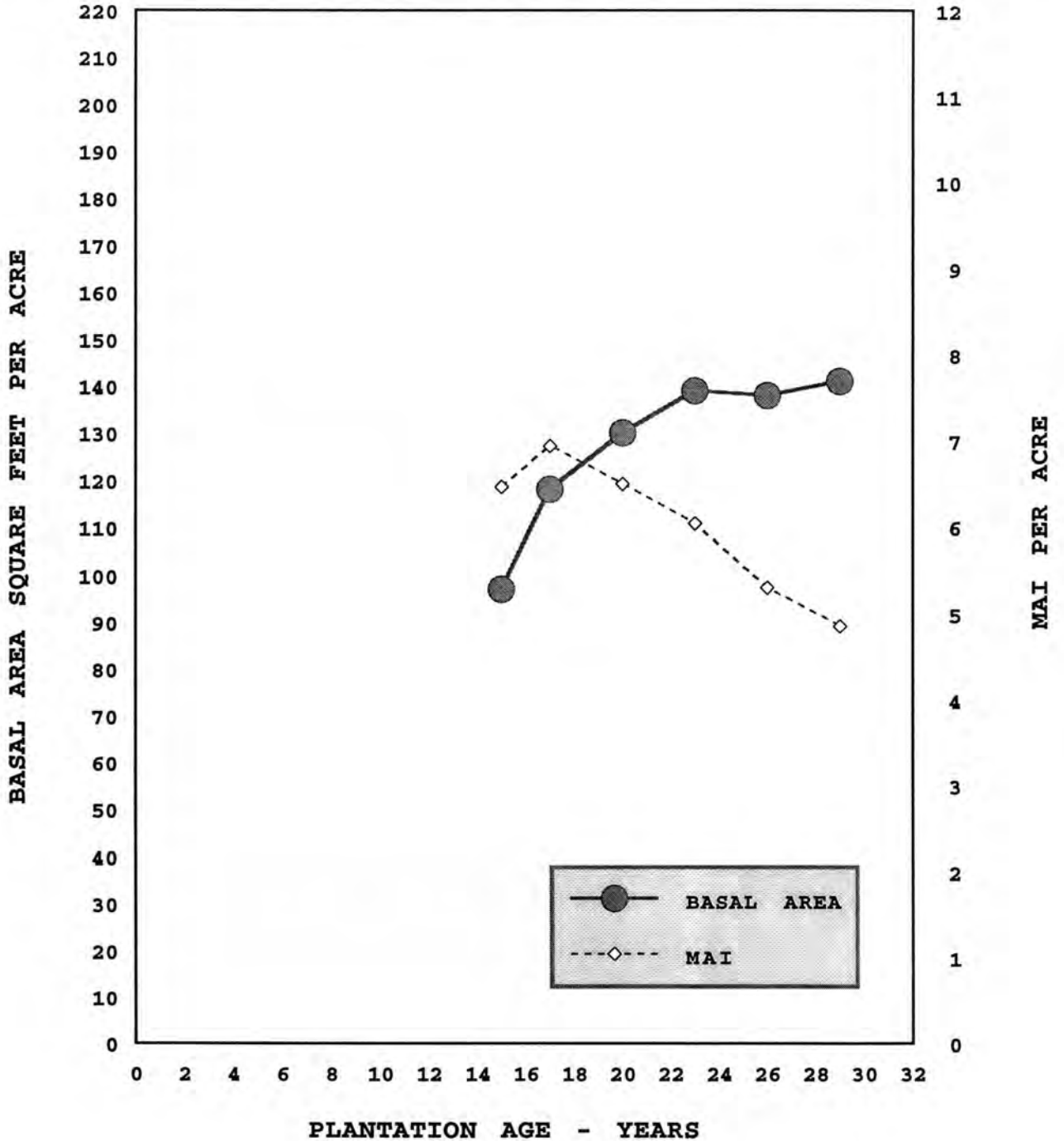
AGE = 26 YEARS, SITE INDEX = 77 FEET & TREES PER ACRE = 375



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPRP

- PLOT 104/SUBPLOT 1 -

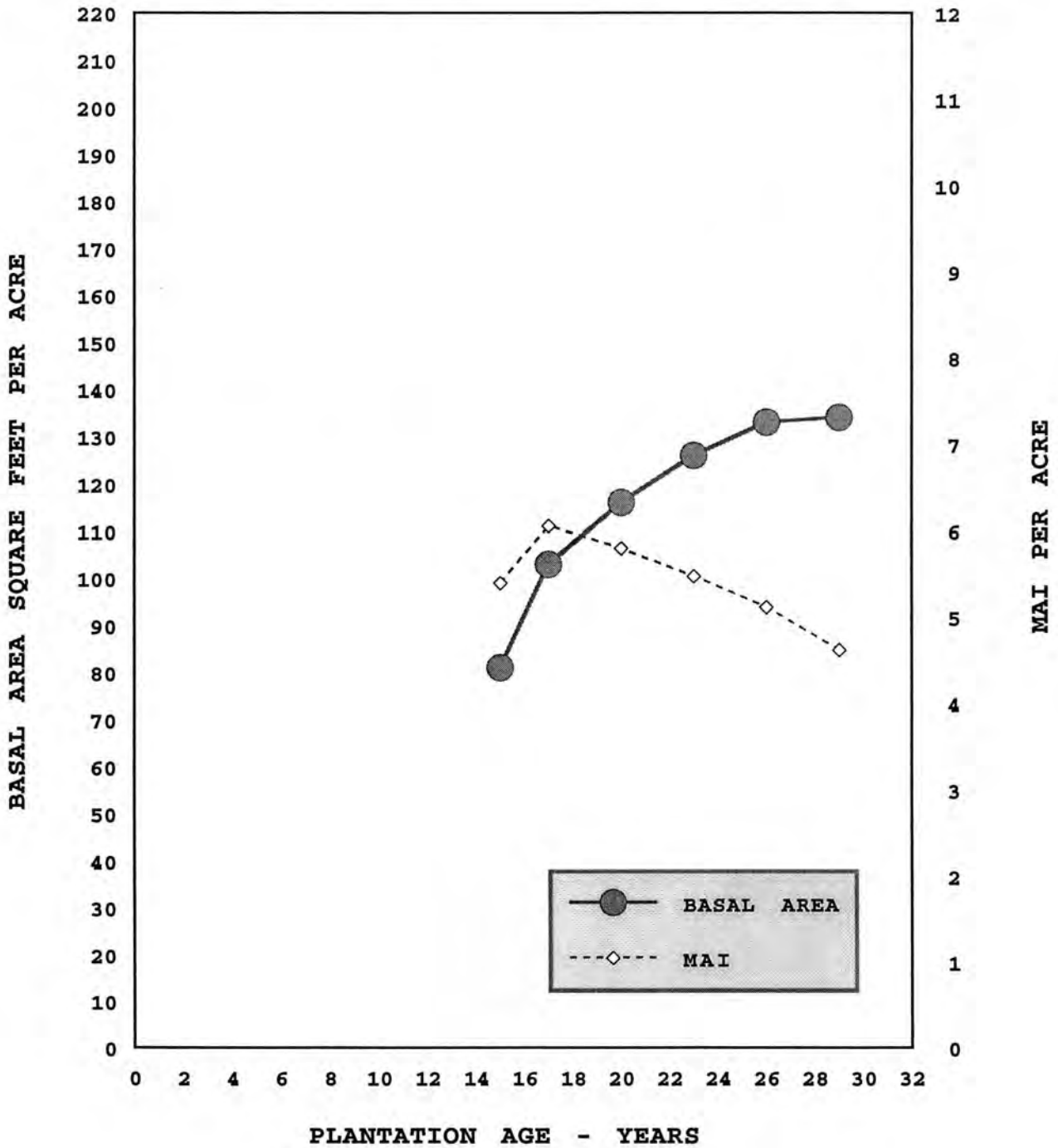
AGE = 29 YEARS, SITE INDEX = 74 FEET & TREES PER ACRE = 431



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPRP

- PLOT 104/SUBPLOT 2 -

AGE = 29 YEARS, SITE INDEX = 68 FEET & TREES PER ACRE = 453

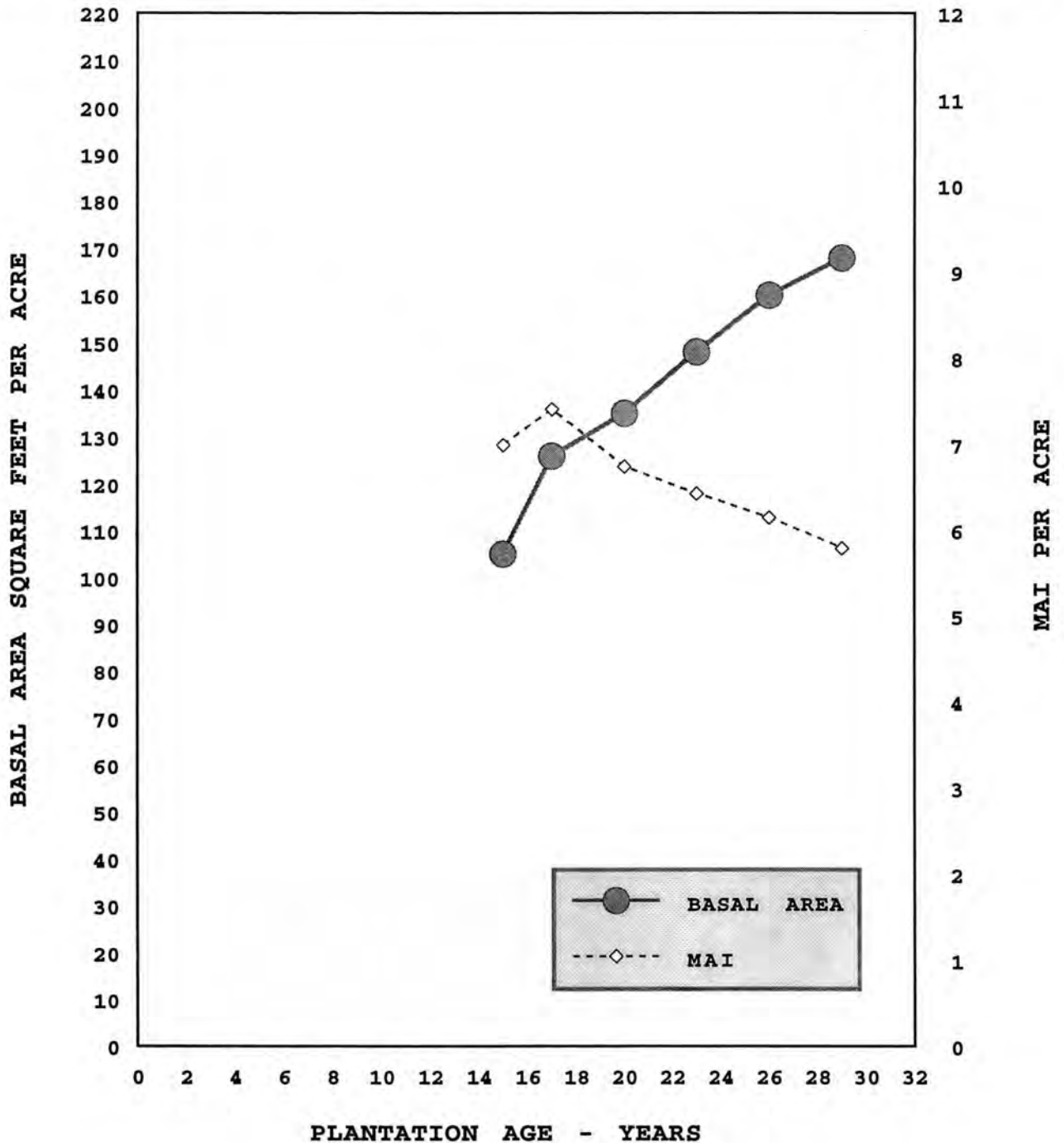




OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPRP

- PLOT 105/SUBPLOT 1 -

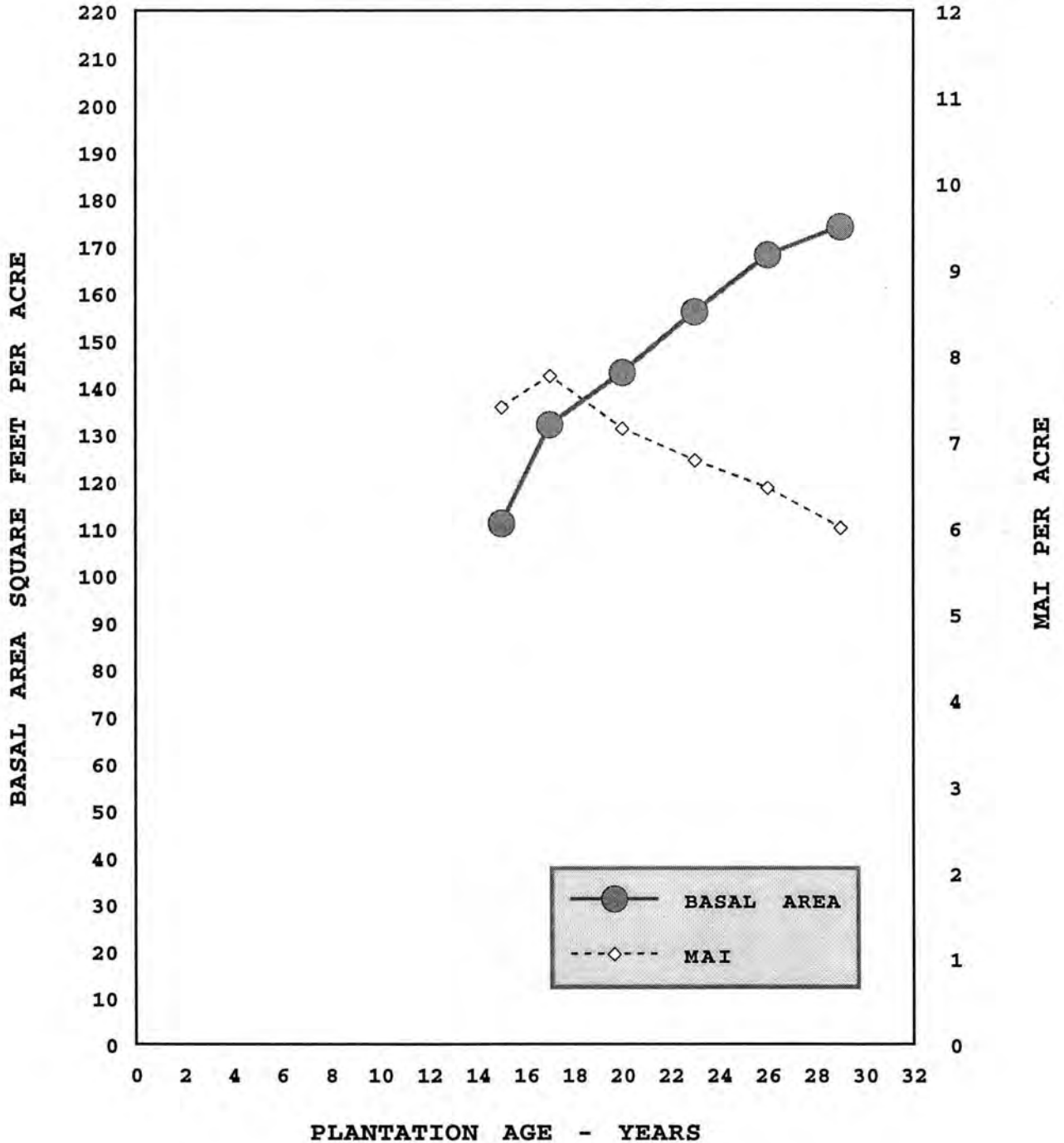
AGE = 29 YEARS, SITE INDEX = 72 FEET & TREES PER ACRE = 409



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 105/SUBPLOT 2 -

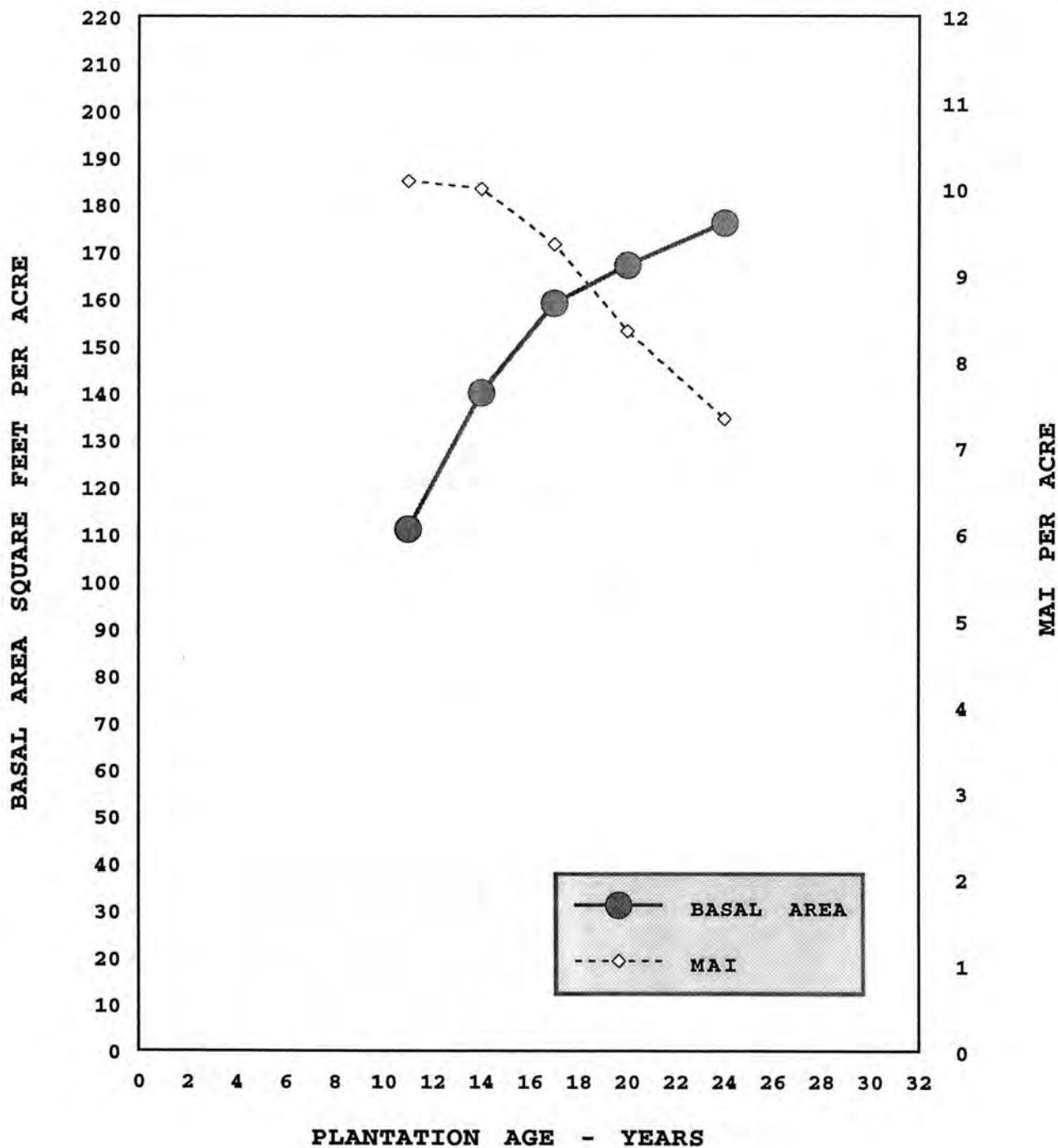
AGE = 29 YEARS, SITE INDEX = 71 FEET & TREES PER ACRE = 427



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPRP

- PLOT 145/SUBPLOT 1 -

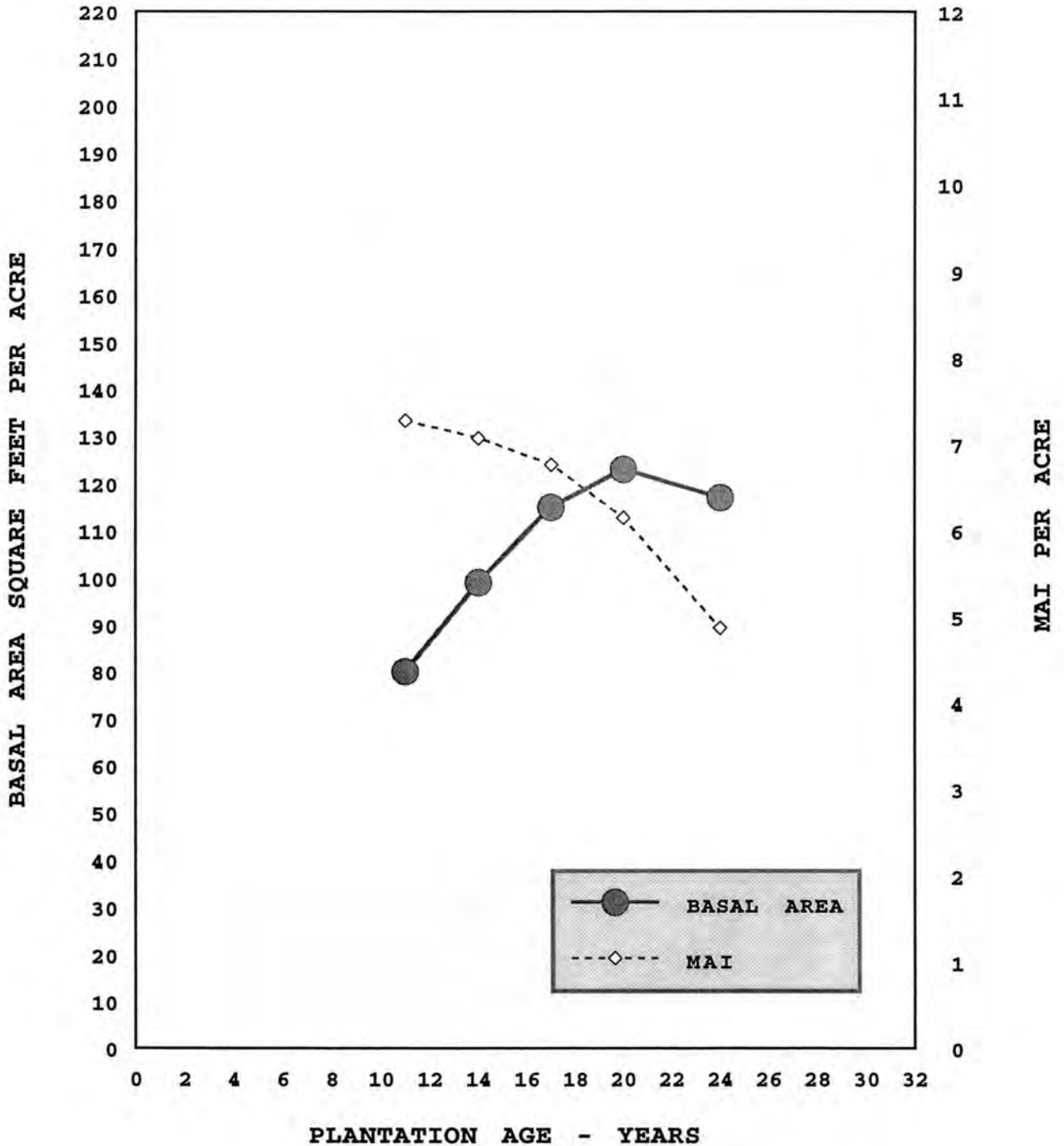
AGE = 24 YEARS, SITE INDEX = 89 FEET & TREES PER ACRE = 322



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPRP

- PLOT 145/SUBPLOT 2 -

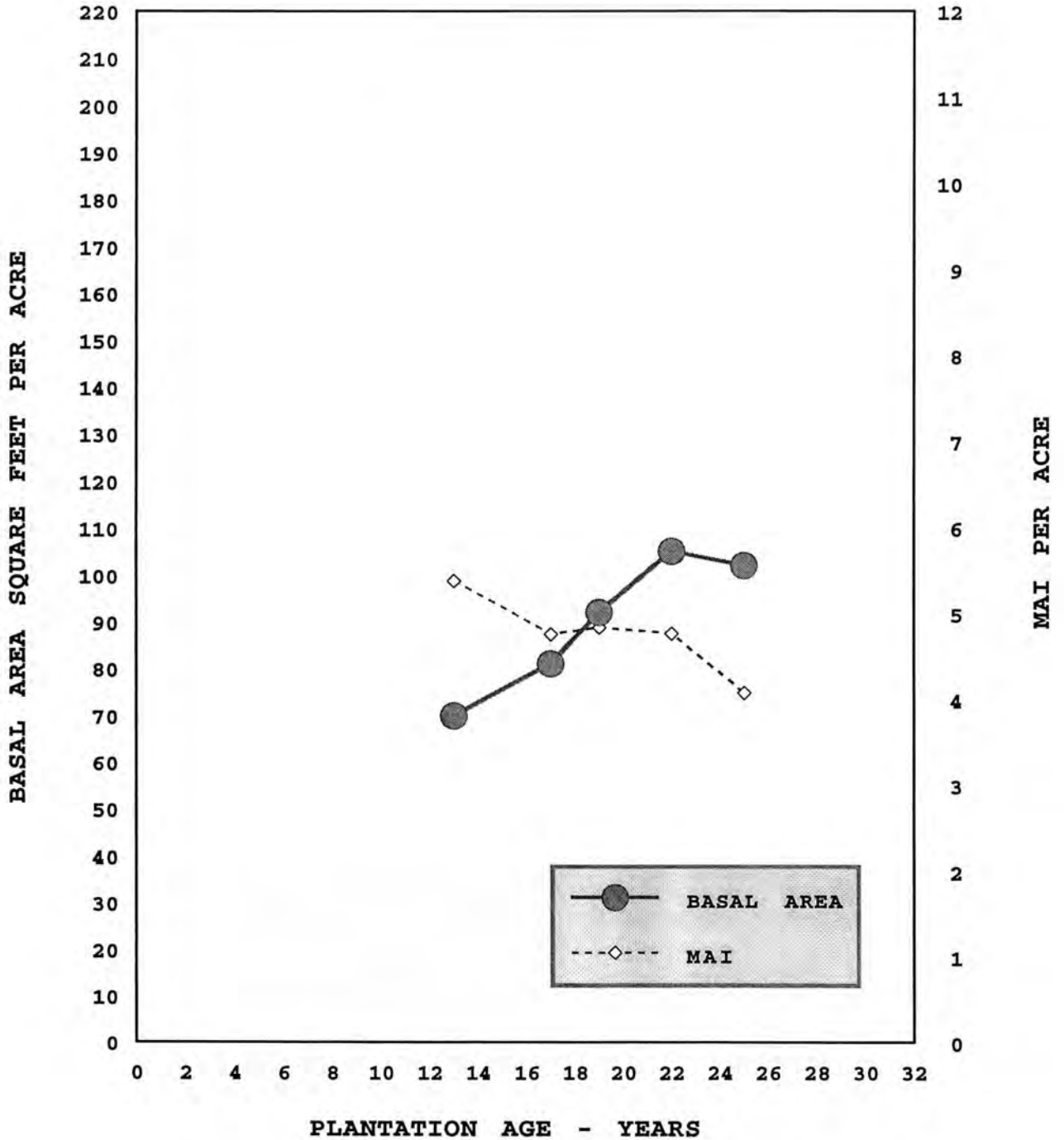
AGE = 24 YEARS, SITE INDEX = 86 FEET & TREES PER ACRE = 170



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 185/SUBPLOT 1 -

AGE = 25 YEARS, SITE INDEX = 64 FEET & TREES PER ACRE = 327

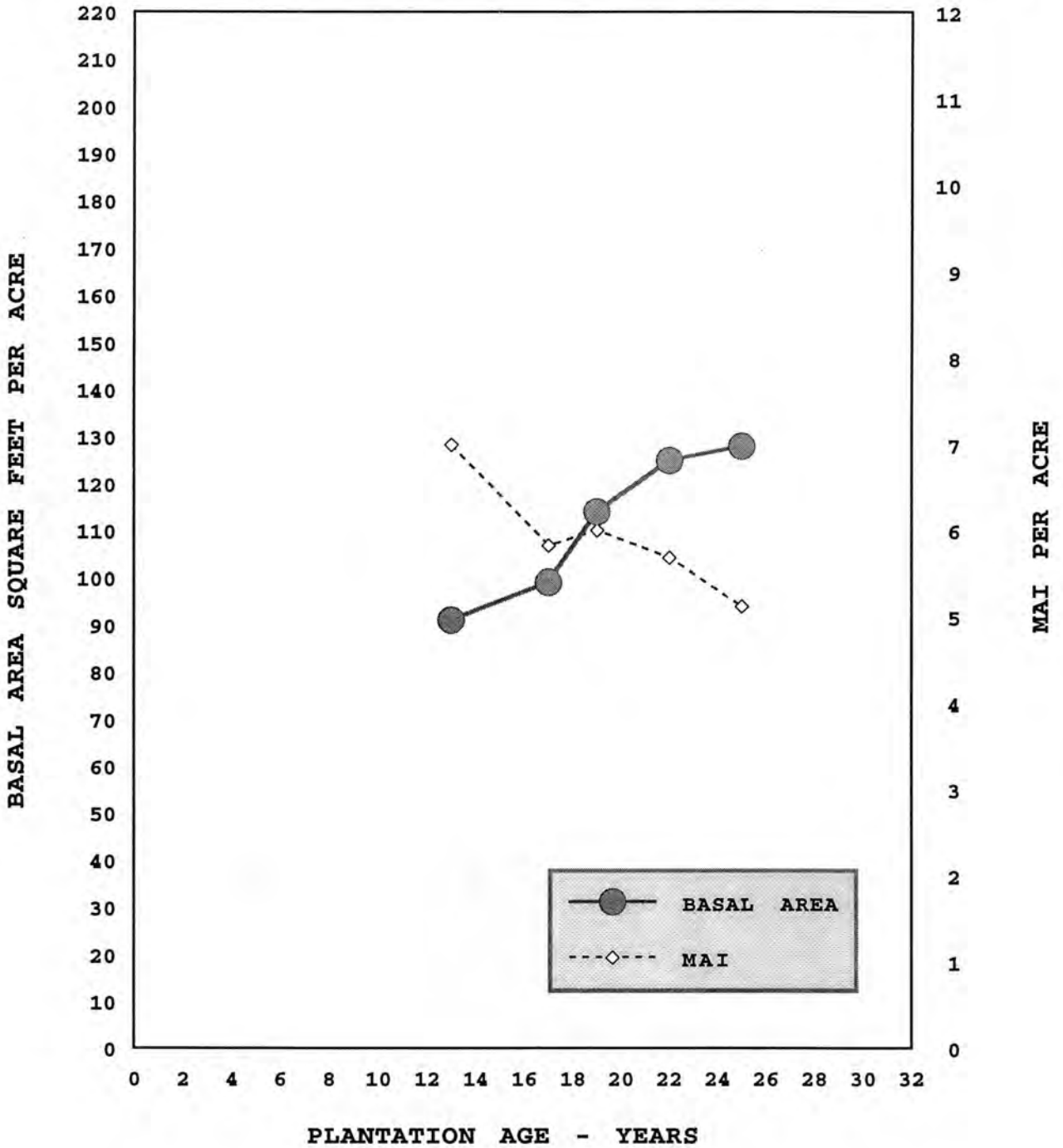




OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 185/SUBPLOT 2 -

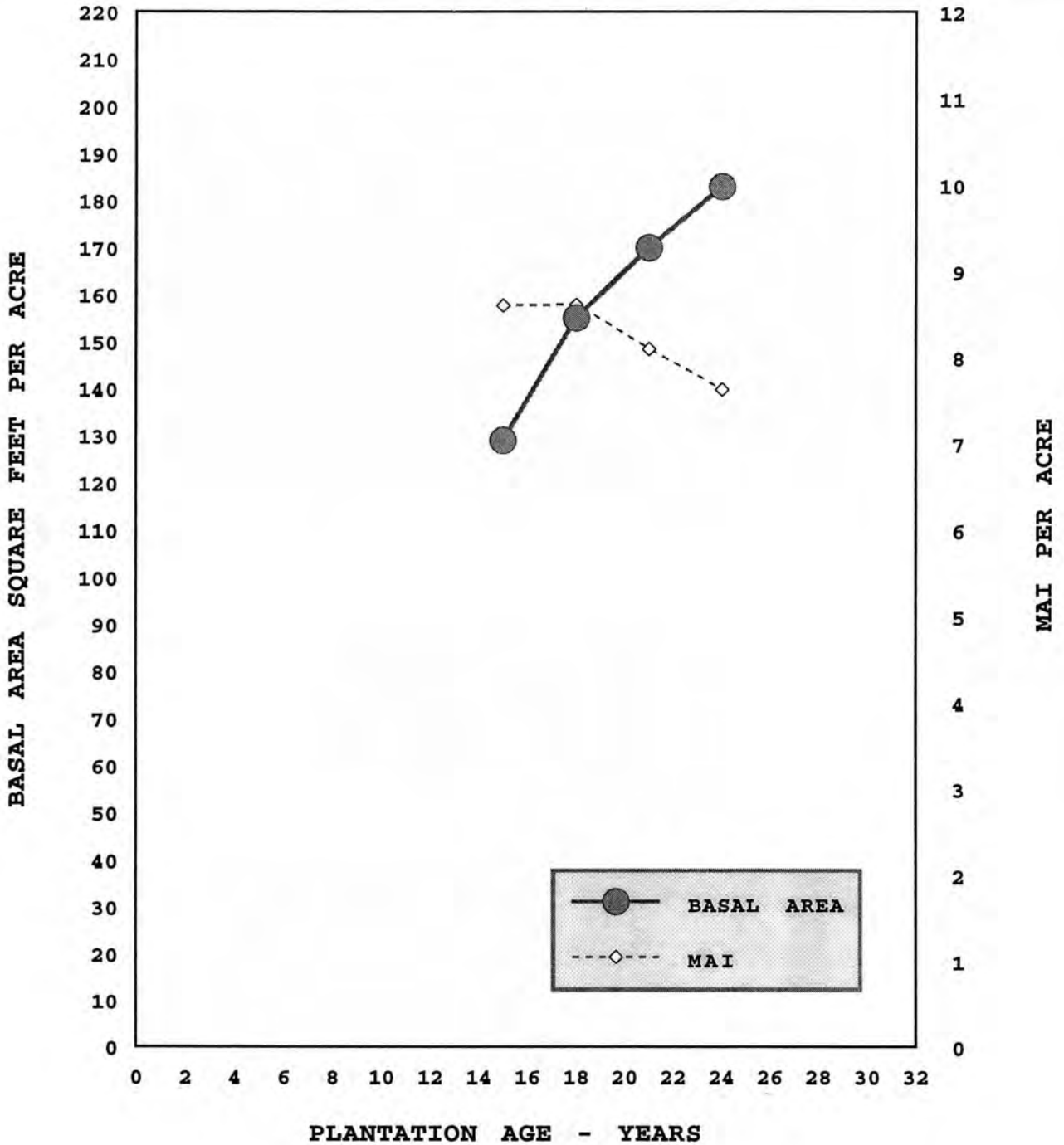
AGE = 25 YEARS, SITE INDEX = 63 FEET & TREES PER ACRE = 409



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPRP

- PLOT 194/SUBPLOT 1 -

AGE = 24 YEARS, SITE INDEX = 70 FEET & TREES PER ACRE = 501



OBSERVED BASAL AREA PER ACRE  
LOBLOLLY PINE ... ETPPRP

- PLOT 194/SUBPLOT 2 -

AGE = 24 YEARS, SITE INDEX = 68 FEET & TREES PER ACRE = 470

