

# Phytoplankton Primary Production, Chlorophyll, Biomass and Suspended Carbon in the Experimental Lakes Area - 1982 Data



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Canadian Data Report of  
Fisheries and Aquatic Sciences 438

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PHYTOPLANKTON PRIMARY PRODUCTION, CHLOROPHYLL, BIOMASS  
AND SUSPENDED CARBON IN THE EXPERIMENTAL LAKES AREA - 1982 DATA

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## ABSTRACT

DeBruyn, E. R., J. A. Shearer, and D. L. Findlay. 1984. Phytoplankton primary production, chlorophyll, biomass and suspended carbon in the Experimental Lakes Area - 1982 data. Can. Data Rep. Fish. Aquat. Sci. 438: iv + 110 p.

Incubator measurements of photosynthetic carbon uptake by phytoplankton were conducted for twenty eight lake basins in the Experimental Lakes Area. Corresponding chlorophyll, suspended carbon and algal cell counts converted to biomass are also given. The methodology is briefly described with the resultant data tabulated and graphically presented.

Key words: photosynthesis; incubation; suspended matter.

## RESUME

DeBruyn, E. R., J. A. Shearer, and D. L. Findlay. 1984. Phytoplankton primary production, chlorophyll, biomass and suspended carbon in the Experimental Lakes Area - 1982 data. Can. Data Rep. Fish. Aquat. Sci. 438: iv + 110 p.

On a effectué l'analyse en incubateur du phytoplancton des vingt-huit lacs de la Région des Lacs Expérimentaux pour en mesurer l'absorption de carbone photosynthétique. Ce rapport renferme les données connexes sur la chlorophylle, le carbone en suspension et le nombre de cellules algaires converties en biomasse. En outre, il traite brièvement de la méthodologie employée et présente les résultats de l'étude sous forme de tableaux et de graphiques.

Mots clés: photosynthèse; incubation; matières en suspension.

## INTRODUCTION

Phytoplankton primary production was measured in twenty eight lake basins in the Experimental Lakes Area during 1982 using a light incubator technique. This technique has been described in detail in a manual on phytoplankton primary production Shearer et al. (in prep.) as well as in previous reports of this series (see DeBruyn et al. 1982). Measurements of chlorophyll *a*, suspended carbon and biomass were also made for each of the lake basins studied.

This report outlines changes made to the light incubator methodology during the year. The accumulated data for carbon uptake versus irradiance, chlorophyll, suspended carbon and biomass are presented in either graphic or tabular form.

## FIELD PROCEDURES

Phytoplankton primary production studies were conducted on two groups of lake basins"

## PRESENT SITE LAKES

|       |         |
|-------|---------|
| 114   | 302N    |
| 222   | 302S    |
| 223   | 303     |
| 224   | 304     |
| 226NE | 305     |
| 226SW | 382     |
| 227   | 382 Bay |
| 239   | 661     |

## NEW SITE LAKES

|     |     |
|-----|-----|
| 93  | 421 |
| 110 | 428 |
| 111 | 430 |
| 373 | 622 |
| 375 | 629 |
| 377 | 658 |

Both groups of lake basins studied are located in the Experimental Lakes Area, north-western Ontario described by Brunskill and Schindler (1971) and Cleugh and Hauser (1971) (see also Johnson and Vallentyne 1971).

Lake basins 114 and 223 were again undergoing a controlled acidification program with additions of H<sub>2</sub>SO<sub>4</sub> (Schindler et al. 1980). Lake 227 was in its fourteenth year of a nutrient enhanced eutrophication program. Basins 226NE and 226SW were in their second year of recovery following eight years of nutrient additions (Schindler 1975; Schindler and Fee 1974). A reinforced plastic "sea curtain" was maintained between the two basins of Lake 225. The "sea curtain" installed between basins 302N and 302S in 1981 was maintained through 1982. 1982 was the first year of an acidification program for Lake 302, whereby 302N was receiving nitric acid additions and 302S sulfuric acid additions. A "sea curtain" was also in place between basin 382 and 382 Bay but no experimental perturbations were ongoing in either basin. All other basins were not being experimentally perturbed.

Except for lakes 661 and 303, "present site" lake basins were sampled in a manner similar to that described by DeClercq and Shearer (1978). An integrating sampler (Shearer 1978) was used to collect either 2.5 or 4.4 L of epilimnion, metalimnion or hypolimnion water from the euphotic zone of each basin at 2, 3 or 4 week intervals. Concurrent light attenuation measurements (Shearer and DeBruyn 1983) were used to determine euphotic zone depth and subsequent integral production rate calculations (Fee 1977). As both 661 and 303 are shallow lakes and mixed to the bottom only surface samples were taken from these lakes. All of the "new site" basins were sampled from a helicopter allowing only surface samples to be taken from the epilimnion. All samples were returned as quickly as possible to the laboratory in light-tight insulated containers.

## LABORATORY PROCEDURES

The methodology described by DeBruyn et al. (1982) and DeClercq and Shearer (1980) for processing field samples in the laboratory was unchanged through 1982. Subsamples were retained, prior to incubation, for dissolved inorganic carbon (DIC), chlorophyll and suspended carbon analyses. Subsamples preserved with Lugol's solution were taken for algal cell counts, species identification and biomass calculations (Findlay and Saesura 1980).

A new incubator design was implemented in 1982. The new incubator features a single metal halide light source with high irradiance output and low heat generation as compared to previously used old type incubator's quartz-halogen light source. Less water for subsampling is needed from each lake because the new incubator uses 60 mL incubation bottles. This reduces both field and laboratory handling time. A flow-through refrigeration unit, together with minimal heat output from the light source makes constant temperature maintenance simpler in the single water bath incubator. A more detailed description of the new incubator design is given in Shearer et al. (in prep.). A comparison of daily depth integrals calculated from both the old and new incubator results for the first six weeks of 1982 showed a strong correlation ( $r = .979$ ,  $n = 38$ ) between the two incubators with a slope of .85 and an intercept of 5.79. A paired sample test showed a significant difference between the two incubators with the old incubator results generally giving higher calculated integrals.

Using a repeating injections system, 0.3cc of approximately  $2.0 \times 10^5$  becquerels of Na<sup>24</sup>CO<sub>3</sub> stock solution was injected into each 60 mL bottle to be incubated. Because the level of radioactivity added each day may vary, the activity of the "labelled" stock solution was measured daily by direct measurement as described by DeClercq and Shearer (1980).

All incubated samples were acidified and bubbled in a manner similar to that described by DeBruyn et al. (1982) and Shearer et al. (in prep.). After acidification and bubbling, PCS (Amersham/Searle) scintillation fluor was added

to each vial. All vials were counted on either a Beckman LS8000 or LS7500 liquid scintillation counter.

Light as scalar quantum irradiance was measured in each of the incubator chambers using either a Biospherical Instruments QSL 100 or a Biospherical Instruments QSR 200 spherical sensor.

#### PRESENTATION OF DATA

Appendix 1 contains the physical, chemical and biological parameters collected in this study for "Present site" lake basins.

Appendix 2 graphically presents carbon uptake versus irradiance data resulting from the incubator experiments on "Present site" lake basins.

Appendices 3 and 4 present information for "New Site" lakes corresponding to appendices 1 and 2, respectively.

#### ACKNOWLEDGMENTS

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## APPENDIX 1

## "PRESENT SITE" LAKE BASINS

Data relevant to each sampling time are listed chronologically according to lake basin.

"Inc Typ" refers to type of light incubator used for incubations. 0 - represents old incubator, 1 - represents new incubator.

The date stated is that of sample collection and incubation. The time of actual field collection is reported as Central Daylight Time.

The depth is the range from which the integrated water sample was taken.

Temperature is that at which the incubation was carried out and may vary  $\pm 1^{\circ}\text{C}$ . Dissolved inorganic carbon (DIC) analysis was done on pre-incubation water samples. Units reported are micromoles  $\text{L}^{-1}$ . Values for suspended carbon and chlorophyll are in micrograms  $\text{L}^{-1}$ .

Values I1 through I4 are incubator irradiances in microeinsteins  $\text{m}^{-2} \text{sec}^{-1}$ .

Values P1 through P4 are rates of inorganic carbon uptake at the four separate incubator irradiances in units of milligrams carbon  $\text{m}^{-2} \text{h}^{-1}$ . The two given values at each irradiance are those of replicate samples.

The mean coefficient of variation (C.V.) of the four sets of replicates are given. \$\$\$\$ occurs when negative values appear under P4 and P3 causing the C.V. value to exceed the field width of 999.9. See Note: 1 and 2.

Live biomass is calculated from algal cell counts and approximated cell volumes of the species encountered in the sample. Values are reported in grams  $\text{m}^{-3}$ .

## Notes:

1. Production values are unusually erratic or differ from expected results and should be considered with caution.

2. Missing values are denoted with -10.00. The sample may have been lost during the incubation or not processed.
3.  $\text{NaHCO}_3$  was added to the sample prior to incubation.
4. HCL was added to the sample prior to incubation.
5. Samples were incubated at a temperature other than from which the lake sample was taken.

## LAKE 114

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4          | I3                 | P3           | I2  | P2             | I1   | P1             | C.V.<br>(%) | BIO-<br>MASS | NCTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|-------------|--------------------|--------------|-----|----------------|------|----------------|-------------|--------------|------|
| 0          | 4 MAY  | 0.0- 1.5    | 0835        | 8.0        | 118 | 290          | .6         | 10 | .10<br>.11  | 41                 | 1.03<br>1.16 | 153 | 3.36<br>2.26   | 733  | 2.23<br>3.60   | 19.01       | .66          |      |
| 1          | 4 MAY  | 0.0- 1.5    | 0835        | 8.0        | 118 | 290          | .6         | 2  | .06<br>.05  | 29                 | .34<br>.27   | 307 | 2.48<br>2.31   | 548  | 2.53<br>3.14   | 12.34       | .66          |      |
| 0          | 10 MAY | 0.0- 4.0    | 0905        | 10.0       | 66  | 490          | 1.3        | 13 | .18<br>.16  | 40                 | .83<br>.60   | 159 | 2.98<br>2.97   | 830  | 3.27<br>3.37   | 8.11        | .85          |      |
| 1          | 10 MAY | 0.0- 4.0    | 0905        | 10.0       | 66  | 490          | 1.3        | 3  | .01<br>.03  | 36-10.00<br>-10.00 |              | 374 | 3.77<br>3.62   | 913  | 3.66<br>3.41   | 18.30       | .85          | 1,2  |
| 0          | 24 MAY | 0.0- 4.0    | 0815        | 15.5       | 38  | 580          | 3.0        | 13 | .30<br>.31  | 43                 | 1.52<br>1.49 | 158 | 6.70<br>6.76   | 913  | 8.81<br>9.87   | 3.24        | 2.14         |      |
| 1          | 24 MAY | 0.0- 4.0    | 0815        | 15.5       | 38  | 580          | 3.0        | 5  | .01<br>0.00 | 21                 | .30<br>.21   | 208 | 4.47<br>5.36   | 847  | 5.60<br>6.92   | 48.44       | 2.14         |      |
| 0          | 7 JUN  | 0.0- 4.0    | 0900        | 17.0       | 86  | 860          | 5.9        | 10 | .56<br>.54  | 35                 | 3.06<br>3.27 | 135 | 15.38<br>15.94 | 830  | 24.36<br>23.65 | 3.03        | 1.85         |      |
| 1          | 7 JUN  | 0.0- 4.0    | 0900        | 17.0       | 86  | 860          | 5.9        | 6  | .04<br>.13  | 37                 | 2.43<br>2.27 | 183 | 16.68<br>15.52 | 863  | 18.96<br>17.05 | 22.34       | 1.85         |      |
| 1          | 21 JUN | 0.0- 4.0    | 0945        | 17.0       | 29  | 700          | 2.7        | 12 | -.04<br>.03 | 47                 | .52<br>.48   | 257 | 5.15<br>5.28   | 1095 | 6.09<br>6.70   | 4.72        | 2.18         |      |
| 1          | 5 JUL  | 0.0- 4.0    | 0805        | 19.5       | 49  | 1730         | 7.6        | 7  | .32<br>.28  | 28                 | 2.15<br>2.25 | 90  | 7.64<br>10.01  | 349  | 11.73<br>12.73 | 9.35        | 2.33         |      |
| 1          | 19 JUL | 0.0- 4.0    | 0910        | 20.5       | 41  | 1410         | 6.0        | 13 | .21<br>.25  | 53                 | 2.29<br>1.98 | 208 | 9.78<br>9.72   | 913  | 11.84<br>13.85 | 8.44        | 4.79         |      |
| 1          | 2 AUG  | 0.0- 4.0    | 0915        | 20.5       | 39  | 1420         | 7.4        | 16 | .29<br>.12  | 70                 | 4.30<br>4.16 | 254 | 13.40<br>12.35 | 1117 | 21.64<br>21.03 | 17.26       | 5.32         |      |
| 1          | 16 AUG | 0.0- 4.0    | 0840        | 22.0       | 37  | 2220         | 8.0        | 18 | 1.15<br>.41 | 71                 | 3.80<br>4.29 | 242 | 15.84<br>15.94 | 896  | 24.33<br>22.19 | 20.72       | 8.38         | 1    |
| 1          | 30 AUG | 0.0- 4.0    | 0905        | 16.0       | 34  | 1830         | 8.3        | 11 | .23<br>.25  | 46                 | 2.30<br>2.10 | 160 | 9.88<br>9.46   | 707  | 16.41<br>17.78 | 5.48        | 5.65         |      |
| 1          | 13 SEP | 0.0- 4.0    | 0850        | 17.5       | 34  | 780          | 11.8       | 13 | .35<br>.39  | 47                 | 3.82<br>3.29 | 161 | 15.04<br>14.71 | 633  | 26.02<br>25.63 | 5.64        | 1.93         |      |
| 1          | 27 SEP | 0.0- 4.0    | 1000        | 13.0       | 28  | 1690         | 8.1        | 7  | .02<br>.06  | 29                 | .79<br>.83   | 103 | 5.01<br>5.09   | 412  | 11.76<br>11.97 | 20.63       | 4.54         |      |
| 1          | 11 OCT | 0.0- 4.0    | 0905        | 9.8        | 33  | 1290         | 12.3       | 8  | .16<br>.12  | 29                 | 1.13<br>1.21 | 105 | 5.43<br>5.55   | 420  | 10.81<br>11.46 | 6.95        | 6.14         |      |
| 1          | 26 OCT | 0.0- 4.0    | 0930        | 7.5        | 37  | 1440         | 7.4        | 12 | .18<br>.21  | 48                 | 1.45<br>1.60 | 171 | 5.08<br>5.46   | 729  | 6.36<br>6.35   | 5.80        | 4.23         |      |

## LAKE 222

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4           | I3 | P3           | I2  | P2           | I1   | P1           | C.V.<br>(%) | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|--------------|----|--------------|-----|--------------|------|--------------|-------------|--------------|------|
| 0          | 17 MAY | 0.0- 2.0    | 0935        | 10.0       | 210 | 510          | 2.8        | 11 | .55<br>.71   | 38 | 2.00<br>2.16 | 141 | 7.57<br>7.78 | 847  | 8.67<br>7.51 | 8.70        | 1.08         |      |
| 1          | 17 MAY | 0.0- 2.0    | 0935        | 10.0       | 210 | 510          | 2.8        | 1  | .13<br>.08   | 14 | .94<br>.68   | 128 | 4.71<br>7.37 | 589  | 8.29<br>5.78 | 28.58       | 1.08         |      |
| 0          | 18 MAY | 2.0- 4.0    | 0900        | 8.5        | 286 | 520          | 2.9        | 10 | .39<br>.45   | 34 | 1.81<br>2.30 | 161 | 4.94<br>5.07 | 863  | 5.71<br>5.43 | 7.90        | .64          |      |
| 1          | 18 MAY | 2.0- 4.0    | 0900        | 8.5        | 286 | 520          | 2.9        | 3  | -.03<br>.06  | 12 | .37<br>.32   | 98  | 3.10<br>3.28 | 407  | 4.02<br>4.63 | 8.44        | .64          |      |
| 0          | 14 JUN | 0.0- 1.5    | 0940        | 16.0       | 171 | 820          | 2.7        | 13 | .03<br>-.04  | 45 | .57<br>.61   | 173 | 3.48<br>3.18 | 1029 | 4.56<br>2.95 | 55555       | .89          |      |
| 1          | 14 JUN | 0.0- 1.5    | 0940        | 16.0       | 171 | 820          | 2.7        | 9  | .14<br>-.12  | 43 | .72<br>.28   | 241 | 2.42<br>2.90 | 1029 | 3.40<br>3.72 | 434.98      | .89          |      |
| 0          | 15 JUN | 1.5- 4.3    | 0930        | 12.0       | 309 | 300          | 2.4        | 10 | 1.27<br>.02  | 32 | .89<br>1.01  | 118 | 2.11<br>5.04 | 697  | 4.67<br>2.89 | 59.17       | .59          | 1    |
| 1          | 15 JUN | 1.5- 4.3    | 0930        | 12.0       | 309 | 300          | 2.4        | 7  | -.14<br>-.05 | 25 | .41<br>.12   | 146 | 1.64<br>1.58 | 647  | 2.83<br>1.85 | 36.12       | .59          |      |
| 1          | 12 JUL | 0.0- 1.3    | 0900        | 21.0       | 170 | 460          | 1.7        | 15 | .04<br>.04   | 66 | 1.50<br>1.27 | 232 | 6.70<br>5.92 | 963  | 7.42<br>6.60 | 9.18        | 1.31         |      |
| 1          | 12 JUL | 1.3- 4.0    | 0905        | 14.0       | 295 | 480          | 4.0        | 6  | .04<br>.08   | 24 | .46<br>.57   | 78  | 2.49<br>1.24 | 297  | 4.49<br>5.86 | 31.73       | .89          |      |
| 1          | 9 AUG  | 0.0- 3.0    | 0840        | 19.5       | 180 | 420          | 5.0        | 14 | .15<br>.14   | 61 | 1.26<br>1.18 | 211 | 3.77<br>4.32 | 896  | 6.78<br>5.98 | 6.46        | .83          |      |
| 1          | 9 AUG  | 3.0- 4.0    | 0850        | 13.5       | 522 | 520          | 7.7        | 9  | .13<br>.16   | 32 | 1.23<br>1.54 | 109 | 4.97<br>6.26 | 432  | 8.59<br>6.50 | 15.51       | .33          |      |
| 1          | 6 SEP  | 0.0- 3.0    | 0955        | 15.0       | 201 | 500          | 5.1        | 15 | .12<br>.21   | 60 | 1.44<br>1.79 | 208 | 4.13<br>5.01 | 855  | 5.38<br>6.10 | 18.30       | 1.00         |      |
| 1          | 6 SEP  | 3.0- 3.8    | 1000        | 13.0       | 250 | 540          | 5.7        | 6  | .09<br>.14   | 23 | .59<br>.47   | 78  | 2.01<br>1.69 | 324  | 3.03<br>7.28 | 30.48       | .70          |      |
| 1          | 12 OCT | 0.0- 3.0    | 1030        | 9.5        | 244 | 510          | 7.5        | 7  | .01<br>-.05  | 28 | .71<br>.63   | 96  | 2.12<br>2.99 | 385  | 6.15<br>6.81 | 41.35       | .80          |      |

## LAKE 223

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4           | I3 | P3           | I2  | P2             | I1   | P1             | C.V.<br>(%) | BIO-<br>MASS | NCTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|--------------|----|--------------|-----|----------------|------|----------------|-------------|--------------|------|
| 0          | 5 MAY  | 0.0-11.0    | 0855        | 8.0        | 143 | 470          | 1.1        | 11 | .06<br>-.08  | 37 | .69<br>.69   | 139 | 2.24<br>2.08   | 697  | 2.43<br>2.45   | \$\$\$\$\$  | .60          |      |
| 1          | 5 MAY  | 0.0-11.0    | 0855        | 8.0        | 143 | 470          | 1.1        | 2  | 1.74<br>.02  | 27 | .40<br>.32   | 295 | 2.43<br>2.43   | 614  | 4.89<br>3.42   | 44.67       | .60          | 1    |
| 0          | 17 MAY | 0.0- 5.0    | 0845        | 10.0       | 46  | 370          | 1.7        | 11 | .19<br>.19   | 38 | 1.27<br>1.29 | 141 | 3.89<br>3.67   | 847  | 3.83<br>3.85   | 2.06        | .83          |      |
| 1          | 17 MAY | 0.0- 5.0    | 0845        | 10.0       | 46  | 370          | 1.7        | 1  | .00<br>.00   | 14 | .15<br>.17   | 128 | 2.67<br>2.63   | 589  | 3.58<br>3.34   | 5.74        | .83          |      |
| 0          | 18 MAY | 5.0-11.0    | 0820        | 8.5        | 290 | 450          | 1.9        | 10 | .76<br>.84   | 34 | 2.89<br>2.90 | 161 | 7.09<br>7.75   | 863  | 7.33<br>8.27   | 5.55        | .72          |      |
| 1          | 18 MAY | 5.0-11.0    | 0820        | 8.5        | 290 | 450          | 1.9        | 3  | .24<br>.07   | 12 | -.29<br>.45  | 98  | 5.31<br>5.02   | 407  | 8.73<br>6.30   | 35.64       | .72          | 1    |
| 0          | 31 MAY | 0.0- 2.0    | 0825        | 18.0       | 23  | 390          | 1.1        | 12 | .09<br>.07   | 41 | .67<br>.60   | 158 | 3.46<br>1.56   | 946  | 4.94<br>4.67   | 8.81        | 1.05         |      |
| 1          | 31 MAY | 0.0- 2.0    | 0825        | 18.0       | 23  | 390          | 1.1        | 10 | .00<br>-.01  | 23 | .05<br>.10   | 224 | 2.24<br>2.57   | 1062 | 5.58<br>6.25   | 22.73       | 1.05         |      |
| 0          | 2 JUN  | 2.0- 7.5    | 0815        | 12.0       | 50  | 600          | 4.8        | 8  | .39<br>.52   | 27 | 1.64<br>1.78 | 105 | 6.93<br>8.00   | 581  | 7.31<br>7.33   | 9.23        | 1.50         |      |
| 1          | 2 JUN  | 2.0- 7.5    | 0815        | 12.0       | 50  | 600          | 4.8        | 3  | .03<br>.05   | 21 | 1.15<br>.94  | 106 | 5.06<br>4.63   | 531  | 5.46<br>5.64   | 15.00       | 1.50         |      |
| 0          | 3 JUN  | 7.5-11.5    | 0810        | 8.5        | 207 | 850          | 8.0        | 6  | .37<br>.40   | 19 | 1.85<br>1.67 | 75  | 7.81<br>7.96   | 432  | 11.03<br>9.72  | 5.88        | 2.60         |      |
| 1          | 3 JUN  | 7.5-11.5    | 0810        | 8.5        | 207 | 850          | 8.0        | 3  | .03<br>.02   | 15 | 1.23<br>1.38 | 81  | 6.83<br>7.88   | 398  | 8.22<br>9.81   | 13.62       | 2.60         |      |
| 0          | 15 JUN | 5.0- 8.0    | 0835        | 12.0       | 54  | 530          | 3.1        | 10 | .18<br>.21   | 32 | 1.12<br>1.06 | 118 | 3.20<br>3.68   | 697  | 4.59<br>4.61   | 5.82        | 1.53         |      |
| 1          | 15 JUN | 5.0- 8.0    | 0835        | 12.0       | 54  | 530          | 3.1        | 7  | .04<br>.05   | 25 | .46<br>.50   | 146 | 2.69<br>3.39   | 647  | 4.51<br>4.24   | 9.47        | 1.53         |      |
| 0          | 14 JUN | 0.0- 5.0    | 0845        | 16.0       | 23  | 400          | .8         | 13 | .06<br>.07   | 45 | .39<br>.54   | 173 | 2.01<br>2.33   | 1029 | 3.22<br>3.36   | 11.13       | 1.31         |      |
| 1          | 14 JUN | 0.0- 5.0    | 0845        | 16.0       | 23  | 400          | .8         | 9  | .06<br>.06   | 43 | .26<br>.30   | 241 | 2.21<br>2.00   | 1029 | .74<br>.80     | 6.87        | 1.31         | 1    |
| 0          | 16 JUN | 8.0-12.0    | 0840        | 8.0        | 229 | 1080         | 8.0        | 6  | .36<br>.33   | 16 | 2.20<br>1.55 | 73  | 6.61<br>8.93   | 481  | 7.68<br>8.25   | 13.84       | 2.27         |      |
| 1          | 16 JUN | 8.0-12.0    | 0840        | 8.0        | 229 | 1080         | 8.0        | 5  | .00<br>.02   | 18 | .74<br>.87   | 100 | 5.24<br>5.02   | 415  | 7.23<br>6.93   | 5.93        | 2.27         |      |
| 1          | 29 JUN | 0.0- 5.0    | 0855        | 18.5       | 16  | 470          | .8         | 12 | .01<br>.01   | 43 | .16<br>.15   | 251 | 1.35<br>-10.00 | 963  | 2.25<br>2.05   | 5.91        | 1.42         | 2    |
| 1          | 29 JUN | 0.0- 5.0    | 0855        | 18.5       | 81  | 470          | .8         | 12 | -.02<br>-.01 | 43 | .17<br>.17   | 251 | 1.43<br>1.38   | 963  | 2.06<br>2.44   | 5.45        | 1.42         | 3    |
| 1          | 29 JUN | 5.0- 9.0    | 0900        | 13.5       | 56  | 600          | 2.7        | 7  | .01<br>.00   | 26 | .19<br>.19   | 136 | 2.30<br>2.32   | 432  | 4.19<br>4.85   | 55.83       | 2.21         |      |
| 1          | 30 JUN | 9.0-12.3    | 0840        | 7.0        | 322 | 2230         | 31.2       | 6  | .52<br>.43   | 20 | 1.55<br>1.63 | 98  | 12.24<br>12.63 | 349  | 15.39<br>27.85 | 14.94       | 4.36         |      |
| 1          | 30 JUN | 9.0-12.3    | 0840        | 17.0       | 322 | 2230         | 31.2       | 5  | .21<br>.15   | 17 | 1.69<br>1.25 | 93  | 20.09<br>10.59 | 349  | 38.58<br>45.12 | 25.25       | 4.36         | 5    |
| 1          | 13 JUL | 0.0- 5.0    | 0910        | 20.5       | 23  | 370          | 2.3        | 15 | .04<br>.05   | 63 | .50<br>.50   | 221 | 2.04<br>2.10   | 979  | 3.93<br>4.23   | 7.82        | 1.68         |      |

## LAKE 223

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4           | I3 | P3           | I2  | P2             | I1   | P1             | C.V.<br>(%) | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|--------------|----|--------------|-----|----------------|------|----------------|-------------|--------------|------|
| 1          | 13 JUL | 0.0- 5.0    | 0910        | 20.5       | 102 | 370          | 2.3        | 15 | -.01<br>.03  | 63 | .54<br>.56   | 221 | 2.56<br>2.39   | 979  | 2.52<br>2.55   | 2.76        | 1.68         | 3    |
| 1          | 13 JUL | 5.0-10.0    | 0915        | 14.0       | 82  | 590          | 3.3        | 6  | .01<br>.04   | 23 | .54<br>.56   | 77  | 4.47<br>3.20   | 415  | 16.47<br>11.43 | 40.29       | 3.29         |      |
| 1          | 14 JUL | 10.0-12.0   | 0850        | 7.5        | 164 | 1500         | 29.3       | 6  | 4.91<br>4.29 | 23 | .56<br>.79   | 77  | 8.35<br>8.04   | 291  | 12.14<br>16.91 | 14.84       | 3.98         |      |
| 1          | 27 JUL | 0.0- 5.3    | 0845        | 23.0       | 15  | 500          | 2.8        | 16 | .08<br>.11   | 73 | .93<br>1.16  | 256 | 3.12<br>3.28   | 1096 | 4.41<br>4.74   | 12.74       | 1.97         |      |
| 1          | 27 JUL | 5.3-10.3    | 0840        | 14.5       | 168 | 1370         | 25.8       | 6  | .25<br>.30   | 27 | 2.87<br>2.83 | 93  | 12.89<br>13.91 | 395  | 20.62<br>22.18 | 6.54        | 2.99         |      |
| 1          | 28 JUL | 10.3-11.0   | 1000        | 9.0        | 370 | 2450         | 51.6       | 5  | .66<br>.84   | 22 | 4.90<br>3.12 | 75  | 30.99<br>24.01 | 289  | 35.62<br>54.23 | 23.72       | 6.83         |      |
| 1          | 10 AUG | 0.0- 6.5    | 0910        | 20.0       | 13  | 530          | 3.9        | 16 | .09<br>.10   | 71 | 1.11<br>1.22 | 251 | 3.26<br>3.96   | 1021 | 6.83<br>6.39   | 8.20        | 2.80         |      |
| 1          | 10 AUG | 6.5-10.0    | 0915        | 14.5       | 108 | 1220         | 11.4       | 10 | .45<br>.38   | 38 | 4.57<br>3.38 | 121 | 18.28<br>16.72 | 515  | 25.83<br>34.07 | 14.44       | 3.77         |      |
| 1          | 24 AUG | 0.0- 6.8    | 0935        | 20.0       | 14  | 490          | 8.0        | 21 | .15<br>.16   | 87 | 1.86<br>1.45 | 270 | 6.20<br>5.49   | 1062 | 9.11<br>7.62   | 10.59       | 1.53         |      |
| 1          | 24 AUG | 6.8- 9.5    | 0940        | 15.5       | 139 | 1050         | 48.8       | 6  | .10<br>.13   | 26 | 2.15<br>3.05 | 89  | 6.21<br>12.06  | 372  | 26.33<br>19.90 | 28.13       | 3.12         |      |
| 1          | 7 SEP  | 0.0- 8.0    | 0920        | 16.5       | 23  | 590          | 3.9        | 17 | .15<br>.19   | 65 | 1.69<br>2.41 | 211 | 8.76<br>3.32   | 848  | 8.19<br>6.41   | 30.88       | 1.40         | 1    |
| 1          | 7 SEP  | 8.0-10.0    | 0925        | 12.5       | 250 | 930          | 9.8        | 6  | .03<br>.12   | 23 | 1.39<br>2.11 | 74  | 5.02<br>4.88   | 314  | 5.86<br>9.05   | 38.36       | 1.64         |      |
| 1          | 21 SEP | 0.0- 9.0    | 0940        | 14.0       | 36  | 690          | 5.1        | 13 | .16<br>.16   | 54 | 1.85<br>1.63 | 184 | 7.35<br>7.66   | 702  | 9.78<br>10.33  | 4.46        | 1.35         |      |
| 1          | 21 SEP | 9.0-10.0    | 0945        | 11.0       | 253 | 1300         | 12.2       | 6  | .37<br>.05   | 23 | 2.06<br>1.64 | 76  | 5.92<br>9.28   | 309  | 6.71<br>14.36  | 52.24       | 2.48         |      |
| 1          | 28 SEP | 0.0-10.0    | 1150        | 12.0       | 46  | 680          | 6.8        | 5  | .04<br>.04   | 22 | .82<br>.71   | 89  | 3.99<br>3.70   | 387  | 7.51<br>8.07   | 4.95        | 1.37         |      |
| 1          | 12 OCT | 0.0- 8.0    | 0915        | 9.5        | 51  | 630          | 8.1        | 7  | .09<br>.11   | 28 | 1.09<br>1.25 | 96  | 4.65<br>4.19   | 385  | 8.89<br>8.29   | 9.16        | 1.24         |      |
| 1          | 27 OCT | 0.0- 8.0    | 0930        | 7.8        | 41  | 780          | 6.8        | 8  | .24<br>.27   | 34 | 1.37<br>1.41 | 120 | 4.59<br>4.69   | 480  | 6.49<br>6.06   | 4.16        | 1.15         |      |

## LAKE 224

| INC<br>TYP | DATE   | DEPTH<br>H. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4           | I3 | P3           | I2  | P2           | I1   | P1           | C.V.<br>(%) | BIG-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|--------------|----|--------------|-----|--------------|------|--------------|-------------|--------------|------|
| 0          | 17 MAY | 0.0- 6.0    | 0910        | 10.0       | 97  | 430          | 1.1        | 11 | .07<br>.07   | 38 | .71<br>.71   | 141 | 2.27<br>2.35 | 847  | 2.63<br>2.69 | 1.01        |              | .77  |
| 1          | 17 MAY | 0.0- 6.0    | 0910        | 10.0       | 97  | 430          | 1.1        | 1  | -.02<br>.00  | 14 | .06<br>.09   | 128 | 1.80<br>1.99 | 589  | 1.89<br>2.19 | 14.58       |              | .77  |
| 0          | 18 MAY | 6.0-20.0    | 0840        | 8.5        | 164 | 500          | 2.7        | 10 | .39<br>.37   | 34 | 2.15<br>1.79 | 161 | 4.72<br>4.59 | 863  | 4.73<br>4.91 | 5.41        |              | 1.08 |
| 1          | 18 MAY | 6.0-20.0    | 0840        | 8.5        | 164 | 500          | 2.7        | 3  | .00<br>.02   | 12 | .31<br>.38   | 98  | 3.50<br>3.73 | 407  | 4.71<br>4.37 | 37.26       |              | 1.08 |
| 0          | 14 JUN | 0.0- 5.5    | 0915        | 16.0       | 79  | 450          | 1.2        | 13 | .03<br>.06   | 45 | .56<br>.45   | 173 | 1.97<br>2.10 | 1029 | 2.52<br>2.28 | 16.78       |              | 1.25 |
| 1          | 14 JUN | 0.0- 5.5    | 0915        | 16.0       | 79  | 450          | 1.2        | 9  | .00<br>.00   | 43 | .26<br>.32   | 241 | 1.56<br>1.73 | 1029 | 1.79<br>2.09 | 15.00       |              | 1.25 |
| 0          | 15 JUN | 5.5- 9.0    | 0855        | 12.0       | 86  | 490          | 2.1        | 10 | .06<br>.05   | 32 | .46<br>.47   | 118 | 2.23<br>1.92 | 697  | 2.52<br>2.45 | 6.14        |              | 1.51 |
| 1          | 15 JUN | 5.5- 9.0    | 0855        | 12.0       | 86  | 490          | 2.1        | 7  | .00<br>.02   | 25 | .29<br>.23   | 146 | 1.83<br>1.90 | 647  | 2.22<br>2.31 | 30.58       |              | 1.51 |
| 0          | 16 JUN | 9.0-20.0    | 0820        | 8.0        | 168 | 620          | 4.9        | 6  | .40<br>.33   | 16 | 1.03<br>.94  | 73  | 2.75<br>2.73 | 481  | 3.18<br>3.33 | 6.04        |              | 1.57 |
| 1          | 16 JUN | 9.0-20.0    | 0820        | 8.0        | 168 | 620          | 4.9        | 5  | .09<br>.10   | 18 | .61<br>.55   | 100 | 2.16<br>2.70 | 415  | 2.96<br>3.11 | 8.95        |              | 1.57 |
| 1          | 13 JUL | 0.0- 5.5    | 0945        | 20.5       | 83  | 420          | 1.3        | 15 | -.02<br>.00  | 63 | .21<br>.26   | 221 | 1.45<br>1.50 | 979  | 2.46<br>2.59 | 7.22        |              | 1.05 |
| 1          | 13 JUL | 5.5-11.0    | 0950        | 14.0       | 90  | 450          | 1.9        | 6  | .02<br>-.01  | 23 | .20<br>.10   | 77  | .75<br>.75   | 415  | 2.30<br>2.30 | 147.86      |              | .94  |
| 1          | 14 JUL | 11.0-19.0   | 0915        | 7.5        | 176 | 670          | 6.4        | 6  | .07<br>.08   | 23 | .86<br>.93   | 77  | 2.74<br>3.00 | 291  | 3.82<br>3.96 | 5.29        |              | 7.41 |
| 1          | 10 AUG | 0.0- 7.0    | 1000        | 20.0       | 82  | 470          | 1.5        | 16 | .02<br>.08   | 71 | .33<br>.24   | 251 | 1.71<br>1.84 | 1021 | 1.26<br>2.38 | 38.03       |              | .89  |
| 1          | 10 AUG | 7.0-11.0    | 1005        | 14.5       | 84  | 550          | 2.4        | 10 | .03<br>.01   | 38 | .42<br>.31   | 121 | .56<br>1.63  | 515  | 2.78<br>2.59 | 48.62       |              | .93  |
| 1          | 11 AUG | 11.0-18.0   | 0830        | 18.0       | 178 | 870          | 5.3        | 6  | .19<br>.25   | 23 | 1.00<br>1.41 | 82  | 3.45<br>2.98 | 349  | 8.15<br>7.27 | 15.96       |              | .91  |
| 1          | 11 AUG | 11.0-18.0   | 0830        | 8.0        | 178 | 870          | 5.3        | 7  | .08<br>.00   | 26 | 1.25<br>1.27 | 89  | 4.00<br>3.93 | 349  | 3.97<br>3.03 | 37.46       |              | .91  |
| 1          | 7 SEP  | 0.0- 8.5    | 0845        | 16.5       | 85  | 450          | 1.0        | 17 | .02<br>-.00  | 65 | .32<br>.38   | 211 | 1.34<br>1.35 | 848  | 1.69<br>.64  | 68.66       |              | .75  |
| 1          | 7 SEP  | 8.5-12.0    | 0850        | 12.5       | 90  | 930          | 9.8        | 6  | -.03<br>-.05 | 23 | .23<br>.35   | 74  | 1.15<br>.54  | 314  | 2.73<br>2.84 | 28.01       |              | 1.64 |
| 1          | 8 SEP  | 12.0-17.0   | 0900        | 10.0       | 200 | 920          | 5.9        | 5  | .07<br>.06   | 21 | .94<br>1.03  | 71  | 3.49<br>3.41 | 283  | 5.20<br>5.81 | 6.14        |              | 1.39 |
| 1          | 8 SEP  | 12.0-17.0   | 0900        | 10.0       | 200 | 920          | 5.9        | 7  | .12<br>.16   | 26 | 1.44<br>1.47 | 86  | 4.18<br>4.17 | 283  | 5.75<br>5.64 | 6.17        |              | 1.39 |
| 1          | 12 OCT | 0.0-13.0    | 1000        | 9.5        | 86  | 500          | 3.3        | 7  | .03<br>.05   | 28 | .53<br>.49   | 96  | 1.75<br>1.93 | 385  | 2.63<br>2.74 | 14.29       |              | .82  |
| 1          | 12 OCT | 13.0-18.0   | 1000        | 9.5        | 268 | 570          | 8.0        | 7  | .54<br>.44   | 28 | 2.09<br>1.55 | 96  | 4.05<br>4.25 | 385  | 4.48<br>4.32 | 10.15       |              | .91  |

## LAKE 226 NE

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4           | I3 | P3           | I2  | P2             | I1   | P1             | C.V.<br>(%) | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|--------------|----|--------------|-----|----------------|------|----------------|-------------|--------------|------|
| 0          | 10 MAY | 0.0- 2.5    | 1035        | 10.0       | 178 | 740          | 6.0        | 13 | .54<br>.55   | 40 | 2.91<br>3.26 | 159 | 12.40<br>9.47  | 830  | 10.22<br>10.29 | 7.18        | 2.66         |      |
| 1          | 10 MAY | 0.0- 2.5    | 1035        | 10.0       | 178 | 740          | 6.0        | 3  | -.01<br>-.03 | 36 | 1.94<br>1.59 | 374 | 14.82<br>10.77 | 913  | 12.78<br>12.60 | 12.52       | 2.66         |      |
| 0          | 11 MAY | 2.5- 4.0    | 0955        | 8.0        | 189 | 840          | 7.8        | 12 | 1.39<br>1.32 | 41 | 5.85<br>5.74 | 133 | 14.09<br>14.64 | 880  | 14.00<br>13.78 | 2.20        | 2.94         |      |
| 1          | 11 MAY | 2.5- 4.0    | 0955        | 8.0        | 189 | 840          | 7.8        | 3  | .10<br>-.03  | 37 | 2.97<br>3.74 | 367 | 12.46<br>12.52 | 896  | 9.95<br>10.10  | 71.57       | 2.94         |      |
| 0          | 12 MAY | 4.0- 8.3    | 1005        | 6.5        | 315 | -10          | 5.3        | 8  | .55<br>.54   | 25 | 2.37<br>2.20 | 93  | 6.09<br>6.24   | 440  | 7.20<br>7.11   | 2.23        | 1.17         | 2    |
| 1          | 12 MAY | 4.0- 8.3    | 1005        | 6.5        | 315 | -10          | 5.3        | 1  | .01<br>-.03  | 15 | 1.47<br>1.16 | 179 | 8.78<br>7.55   | 370  | 8.57<br>6.44   | 58.90       | 1.17         | 2    |
| 0          | 7 JUN  | 0.0- 2.3    | 1015        | 17.0       | 162 | 770          | 2.2        | 10 | .17<br>.17   | 35 | 1.47<br>1.58 | 135 | 7.25<br>7.40   | 830  | 11.62<br>11.28 | 2.43        | 1.74         |      |
| 1          | 7 JUN  | 0.0- 2.3    | 1015        | 17.0       | 162 | 770          | 2.2        | 6  | -.06<br>.01  | 37 | 1.07<br>1.02 | 183 | 7.13<br>8.06   | 863  | 7.39<br>8.16   | 6.34        | 1.74         |      |
| 0          | 8 JUN  | 2.3- 6.0    | 0920        | 11.0       | 157 | 1110         | 12.9       | 8  | 1.81<br>1.25 | 24 | 4.82<br>4.76 | 100 | 14.43<br>13.94 | 564  | 16.79<br>16.45 | 7.68        | 4.67         |      |
| 1          | 8 JUN  | 2.3- 6.0    | 0920        | 11.0       | 157 | 1110         | 12.9       | 4  | .09<br>.14   | 20 | 2.69<br>2.77 | 111 | 11.84<br>10.90 | 531  | 12.02<br>11.21 | 11.51       | 4.67         |      |
| 0          | 9 JUN  | 6.0- 7.5    | 0855        | 7.0        | 347 | 800          | 7.8        | 4  | 1.04<br>.68  | 17 | 2.87<br>3.61 | 75  | 7.43<br>6.87   | 432  | 7.72<br>8.15   | 13.80       | 1.91         |      |
| 1          | 9 JUN  | 6.0- 7.5    | 0855        | 7.0        | 347 | 800          | 7.8        | 2  | -.10<br>-.12 | 13 | 1.73<br>1.63 | 73  | 6.86<br>6.36   | 398  | 6.28<br>6.22   | 3.50        | 1.91         |      |
| 1          | 6 JUL  | 0.0- 2.8    | 0845        | 19.0       | 129 | 1170         | 4.9        | 18 | .15<br>.12   | 70 | 2.43<br>2.67 | 232 | 9.31<br>9.43   | 979  | 11.33<br>10.06 | 7.14        | 2.42         |      |
| 1          | 6 JUL  | 2.8- 7.5    | 0850        | 13.0       | 238 | 1290         | 12.9       | 7  | .42<br>.36   | 26 | 2.57<br>2.87 | 83  | 9.71<br>10.38  | 319  | 16.41<br>16.54 | 6.31        | 4.27         |      |
| 1          | 2 AUG  | 0.0- 3.8    | 1110        | 20.5       | 120 | 820          | 4.5        | 16 | -.01<br>-.04 | 70 | 1.25<br>1.47 | 254 | 7.10<br>6.84   | 1117 | 7.99<br>3.45   | 23.49       | 2.82         |      |
| 1          | 2 AUG  | 3.8- 7.0    | 1120        | 13.0       | 285 | 1130         | 13.4       | 7  | .56<br>.73   | 31 | 3.80<br>3.53 | 107 | 11.82<br>10.13 | 422  | 13.97<br>13.36 | 9.29        | 2.87         |      |
| 1          | 30 AUG | 0.0- 4.5    | 1030        | 16.0       | 131 | 790          | 5.0        | 11 | .19<br>.02   | 46 | 1.11<br>1.23 | 160 | 4.63<br>5.13   | 707  | 6.71<br>7.00   | 31.86       | 2.28         |      |
| 1          | 30 AUG | 4.5- 7.5    | 1035        | 12.0       | 326 | 1140         | 11.4       | 5  | .44<br>.57   | 21 | 3.09<br>2.90 | 75  | 9.69<br>9.98   | 299  | 13.67<br>13.20 | 6.76        | 4.81         |      |
| 1          | 27 SEP | 0.0- 6.0    | 1115        | 13.0       | 147 | 840          | 4.6        | 7  | .03<br>.05   | 29 | .77<br>.93   | 103 | 3.24<br>3.95   | 412  | 7.08<br>6.06   | 17.68       | 1.85         |      |
| 1          | 27 SEP | 6.0- 7.5    | 1120        | 9.0        | 349 | 1270         | 23.2       | 5  | .14<br>.13   | 19 | 2.30<br>2.29 | 62  | 9.61<br>9.95   | 248  | 15.08<br>16.56 | 3.08        | 1.65         |      |
| 1          | 27 OCT | 0.0- 6.0    | 0845        | 7.8        | 185 | 1160         | 10.8       | 8  | .36<br>.42   | 34 | 2.72<br>2.65 | 120 | 10.35<br>9.87  | 480  | 13.36<br>14.56 | 5.91        | 5.03         |      |



## LAKE 226 SW

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4           | I3 | P3           | I2  | P2             | I1   | P1             | C.V.<br>(%) | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|--------------|----|--------------|-----|----------------|------|----------------|-------------|--------------|------|
| 0          | 10 MAY | 0.0- 3.0    | 1020        | 10.0       | 187 | 650          | 5.3        | 13 | .41<br>2.60  | 40 | 2.04<br>7.09 | 159 | 7.10<br>8.56   | 830  | 8.84<br>-10.00 | 64.82       | 1.85         | 2    |
| 1          | 10 MAY | 0.0- 3.0    | 1020        | 10.0       | 187 | 650          | 5.3        | 3  | -.02<br>.06  | 36 | 1.90<br>1.25 | 374 | 9.10<br>9.08   | 913  | 1.51<br>1.62   | 11.45       | 1.85         | 1    |
| 0          | 11 MAY | 3.0- 4.3    | 0945        | 8.0        | 242 | 870          | 6.1        | 13 | 1.02<br>.98  | 41 | 3.98<br>3.93 | 133 | 8.23<br>9.20   | 880  | 8.24<br>8.30   | 3.11        | 1.69         |      |
| 1          | 11 MAY | 3.0- 4.3    | 0945        | 8.0        | 242 | 870          | 6.1        | 3  | .06<br>.01   | 37 | 2.11<br>2.40 | 367 | 8.14<br>7.28   | 896  | 6.46<br>6.89   | 32.14       | 1.69         |      |
| 0          | 12 MAY | 4.3- 8.0    | 0955        | 6.5        | 228 | 800          | 5.1        | 8  | .36<br>.31   | 25 | 1.60<br>1.66 | 93  | 4.68<br>5.06   | 440  | 4.37<br>4.89   | 6.86        | 1.55         |      |
| 1          | 12 MAY | 4.3- 8.0    | 0955        | 6.5        | 228 | 800          | 5.1        | 1  | .55<br>-.02  | 15 | .46<br>.63   | 179 | 3.73<br>3.90   | 370  | 4.75<br>4.97   | 44.41       | 1.55         |      |
| 0          | 7 JUN  | 0.0- 2.0    | 1000        | 17.0       | 163 | 800          | 3.7        | 10 | .26<br>.17   | 35 | 1.95<br>2.05 | 135 | 8.50<br>8.35   | 830  | 11.41<br>11.77 | 9.22        | 3.42         |      |
| 1          | 7 JUN  | 0.0- 2.0    | 1000        | 17.0       | 163 | 800          | 3.7        | 6  | -.04<br>-.06 | 37 | 1.28<br>1.47 | 183 | 9.44<br>8.75   | 863  | 10.23<br>10.49 | 5.67        | 3.42         |      |
| 0          | 8 JUN  | 2.0- 6.0    | 0910        | 11.0       | 179 | 910          | 5.8        | 8  | .61<br>.75   | 24 | 3.23<br>3.71 | 100 | 12.07<br>10.72 | 564  | 11.62<br>11.69 | 8.29        | 2.93         |      |
| 1          | 8 JUN  | 2.0- 6.0    | 0910        | 11.0       | 179 | 910          | 5.8        | 4  | .20<br>.21   | 20 | 2.07<br>2.31 | 111 | 9.48<br>12.47  | 531  | 11.38<br>11.49 | 7.39        | 2.93         |      |
| 0          | 9 JUN  | 6.0- 8.0    | 0845        | 7.0        | 375 | 740          | 6.6        | 4  | .59<br>.75   | 17 | 2.30<br>2.32 | 75  | 6.40<br>5.85   | 432  | 5.98<br>5.82   | 6.72        | 3.35         |      |
| 1          | 9 JUN  | 6.0- 8.0    | 0845        | 7.0        | 375 | 740          | 6.6        | 2  | .03<br>-.10  | 13 | 1.35<br>1.38 | 73  | 5.95<br>5.76   | 398  | 5.35<br>5.12   | 57.19       | 3.35         |      |
| 1          | 6 JUL  | 0.0- 2.5    | 0820        | 19.0       | 131 | 840          | 5.2        | 18 | .03<br>-.02  | 70 | 2.12<br>1.82 | 232 | 8.02<br>7.79   | 979  | 10.02<br>9.79  | 97.85       | 2.48         |      |
| 1          | 6 JUL  | 2.5- 7.5    | 0825        | 13.0       | 235 | 1050         | 14.8       | 7  | .36<br>.36   | 26 | 2.20<br>2.47 | 83  | 7.39<br>9.23   | 319  | 13.73<br>16.51 | 9.51        | 5.26         |      |
| 1          | 2 AUG  | 0.0- 3.5    | 1050        | 20.5       | 123 | 610          | 5.3        | 16 | .15<br>.13   | 70 | 1.74<br>1.94 | 254 | 6.79<br>6.46   | 1117 | 7.52<br>7.60   | 5.71        | 2.80         |      |
| 1          | 2 AUG  | 3.5- 7.8    | 1055        | 13.0       | 314 | 970          | 19.0       | 7  | .58<br>.73   | 31 | 3.86<br>4.69 | 107 | 11.85<br>11.87 | 422  | 16.43<br>15.59 | 5.90        | 5.25         |      |
| 1          | 30 AUG | 0.0- 4.5    | 1010        | 16.0       | 124 | 720          | 4.1        | 11 | .11<br>.12   | 46 | 1.04<br>.93  | 160 | 4.04<br>3.99   | 707  | 5.50<br>5.39   | 3.18        | 2.66         |      |
| 1          | 30 AUG | 4.5- 7.5    | 1015        | 12.0       | 334 | 1310         | 22.8       | 5  | .35<br>.36   | 21 | 3.76<br>3.59 | 75  | 12.78<br>11.59 | 299  | 14.50<br>16.73 | 5.99        | 5.46         |      |
| 1          | 27 SEP | 0.0- 5.5    | 1055        | 13.0       | 137 | 670          | 3.4        | 7  | -.07<br>-.01 | 29 | .38<br>.46   | 103 | 1.88<br>1.40   | 412  | 4.06<br>3.22   | 16.89       | 4.60         |      |
| 1          | 27 SEP | 5.5- 7.5    | 1100        | 9.0        | 356 | 1130         | 23.1       | 5  | .01<br>.07   | 19 | 1.73<br>1.66 | 62  | 7.53<br>7.11   | 248  | 6.95<br>10.70  | 37.74       | 3.76         |      |
| 1          | 27 OCT | 0.0- 6.0    | 0835        | 7.8        | 211 | 940          | 9.3        | 8  | .23<br>.29   | 34 | 1.96<br>2.05 | 120 | 5.17<br>5.49   | 480  | 7.37<br>6.96   | 6.60        | 2.16         |      |

## LAKE 227

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CD1 | TEMP<br>°C | DIC | SUSP<br>CAP. | CHLOR<br>A | I4 | P4             | I3 | P3             | I2  | P2               | I1   | P1               | C.V.<br>(%) | BIO-<br>MASC | NCTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|----------------|----|----------------|-----|------------------|------|------------------|-------------|--------------|------|
| 0          | 5 MAY  | 0.0- 2.0    | 1005        | 8.0        | 256 | 1660         | 10.9       | 11 | 1.81<br>1.35   | 37 | 5.76<br>6.77   | 139 | 16.60<br>18.65   | 697  | 18.98<br>19.74   | 10.75       | 7.98         |      |
| 1          | 5 MAY  | 0.0- 2.0    | 1005        | 8.0        | 256 | 1660         | 10.9       | 2  | 1.34<br>-.02   | 27 | 2.39<br>2.45   | 295 | 13.85<br>18.62   | 614  | 19.06<br>19.43   | 42.40       | 7.98         |      |
| 0          | 17 MAY | 0.0- 2.0    | 1110        | 10.0       | 190 | 1420         | 13.8       | 11 | 2.05<br>-10.00 | 38 | 8.83<br>9.54   | 141 | 17.81<br>19.20   | 847  | 17.60<br>16.67   | 4.87        | 12.66        | 2    |
| 1          | 17 MAY | 0.0- 2.0    | 1110        | 10.0       | 190 | 1420         | 13.8       | 1  | .01<br>.10     | 14 | 2.44<br>1.95   | 128 | 16.58<br>17.05   | 589  | 18.77<br>17.80   | 34.31       | 12.66        |      |
| 0          | 18 MAY | 2.0- 4.0    | 1005        | 8.5        | 364 | 1880         | 13.8       | 10 | 3.03<br>3.34   | 34 | 11.99<br>11.36 | 161 | 19.87<br>21.03   | 863  | 27.10<br>28.43   | 4.52        | 12.66        |      |
| 1          | 18 MAY | 2.0- 4.0    | 1005        | 8.5        | 364 | 1880         | 13.8       | 3  | .34<br>.43     | 12 | 2.86<br>2.98   | 98  | 19.57<br>24.87   | 407  | 22.18<br>22.73   | 9.51        | 12.66        |      |
| 0          | 31 MAY | 0.0- 1.3    | 1040        | 18.0       | 137 | 1880         | 10.3       | 12 | .60<br>1.09    | 41 | 5.08<br>5.36   | 158 | 14.01<br>15.86   | 946  | 20.70<br>20.24   | 13.79       | 13.68        |      |
| 1          | 31 MAY | 0.0- 1.3    | 1040        | 18.0       | 137 | 1880         | 10.3       | 10 | 1.14<br>1.35   | 23 | 1.74<br>1.57   | 224 | 16.80<br>19.04   | 1062 | 18.44<br>14.84   | 10.83       | 13.68        |      |
| 0          | 2 JUN  | 1.3- 4.0    | 1025        | 12.0       | 235 | 2710         | 32.5       | 8  | 5.65<br>3.12   | 27 | 13.86<br>16.17 | 105 | 35.47<br>24.76   | 581  | 40.58<br>34.73   | 21.95       | 18.80        |      |
| 1          | 2 JUN  | 1.3- 4.0    | 1025        | 12.0       | 235 | 2710         | 32.5       | 3  | 1.24<br>.95    | 21 | 10.05<br>8.55  | 106 | 32.65<br>34.93   | 531  | 30.01<br>26.38   | 11.00       | 18.80        |      |
| 0          | 14 JUN | 0.0- 1.0    | 1055        | 16.0       | 142 | 1340         | 4.3        | 13 | .51<br>.53     | 45 | 4.15<br>3.88   | 173 | 8.50<br>12.22    | 1029 | 15.93<br>15.81   | 8.35        | 4.96         |      |
| 1          | 14 JUN | 0.0- 1.0    | 1055        | 16.0       | 142 | 1340         | 4.3        | 9  | -.30<br>-.36   | 43 | 3.66<br>3.66   | 241 | 6.72<br>8.33     | 1029 | 9.04<br>11.41    | 10.51       | 4.96         |      |
| 0          | 15 JUN | 1.0- 3.5    | 1050        | 12.0       | 166 | 2340         | 25.3       | 10 | 1.82<br>1.47   | 32 | 6.57<br>6.73   | 118 | 18.64<br>15.14   | 697  | 18.71<br>18.68   | 7.88        | 11.65        |      |
| 1          | 15 JUN | 1.0- 3.5    | 1050        | 12.0       | 166 | 2340         | 25.3       | 7  | .86<br>.45     | 25 | 4.62<br>4.52   | 146 | 18.52<br>18.64   | 647  | 20.84<br>17.91   | 14.24       | 11.65        |      |
| 1          | 29 JUN | 0.0- 1.5    | 1010        | 18.5       | 139 | 1670         | 8.8        | 12 | .06<br>.16     | 43 | 1.18<br>1.45   | 251 | 11.73<br>12.11   | 963  | 16.30<br>18.21   | 22.22       | 56.13        |      |
| 1          | 29 JUN | 1.5- 3.5    | 1015        | 13.5       | 167 | 2740         | 21.2       | 7  | .17<br>.20     | 26 | 2.78<br>2.15   | 136 | 17.90<br>16.27   | 432  | 19.64<br>18.74   | 9.90        | 16.20        |      |
| 1          | 12 JUL | 0.0- 1.0    | 1010        | 21.0       | 65  | 2840         | 29.5       | 15 | .99<br>1.26    | 66 | 12.22<br>12.41 | 232 | 45.86<br>53.25   | 963  | 66.31<br>78.15   | 10.05       | 58.19        |      |
| 1          | 12 JUL | 0.0- 1.0    | 1010        | 21.0       | 127 | 2840         | 29.5       | 15 | .56<br>.74     | 66 | 12.00<br>11.04 | 232 | 48.30<br>43.92   | 963  | 67.61<br>67.28   | 8.13        | 58.19        | 3    |
| 1          | 12 JUL | 1.0- 3.3    | 1015        | 14.0       | 137 | 1310         | 28.6       | 6  | .53<br>.95     | 24 | 3.96<br>3.96   | 78  | 17.70<br>16.41   | 297  | 32.64<br>-10.00  | 15.16       | 21.88        | 2    |
| 1          | 26 JUL | 0.0- 2.5    | 0930        | 22.0       | 77  | 4360         | 63.1       | 14 | 5.84<br>5.51   | 63 | 38.43<br>40.13 | 224 | 118.08<br>132.35 | 941  | 154.56<br>145.94 | 4.82        | 77.92        |      |
| 1          | 28 JUL | 0.0- .3     | 0815        | 23.0       | 29  | 6700         | 52.7       | 17 | 7.36<br>7.90   | 76 | 91.95<br>95.96 | 269 | 325.69<br>320.24 | 1121 | 323.99<br>326.27 | 2.43        | 87.09        |      |
| 1          | 28 JUL | 0.0- .3     | 0815        | 23.0       | 34  | 6700         | 52.7       | 17 | 9.28<br>8.93   | 76 | 90.80<br>98.79 | 269 | 345.21<br>333.78 | 1121 | 366.49<br>393.65 | 4.03        | 87.09        | 4    |
| 1          | 28 JUL | 0.0- .3     | 0815        | 23.0       | 114 | 6700         | 52.7       | 17 | 6.99<br>6.43   | 76 | 83.92<br>81.57 | 269 | 288.48<br>301.47 | 1121 | 335.32<br>346.78 | 3.36        | 87.09        | 3    |

## LAKE 227

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4             | I3          | P3    | I2  | P2               | I1  | P1               | C.V.<br>(%) | EIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|----------------|-------------|-------|-----|------------------|-----|------------------|-------------|--------------|------|
| 1          | 3 AUG  | 0.0-        | .3 0820     | 23.0       | 52  | 5560         | 80.2       | 14 | 3.40<br>2.76   | 55<br>44.07 | 48.43 | 191 | 186.12<br>192.78 | 797 | 289.11<br>257.46 | 8.01        | 113.75       |      |
| 1          | 9 AUG  | 0.0-        | 1.3 0940    | 19.5       | 94  | 5080         | 38.7       | 15 | 5.90<br>7.83   | 61<br>54.86 | 48.56 | 211 | 157.95<br>155.61 | 896 | 165.87<br>150.49 | 9.11        | 63.68        |      |
| 1          | 23 AUG | 0.0-        | 1.3 1025    | 19.5       | 39  | 5650         | 103.6      | 20 | 11.64<br>12.09 | 79<br>87.41 | 85.42 | 264 | 214.57<br>211.62 | 929 | 227.54<br>225.84 | 1.45        | 82.42        |      |
| 1          | 6 SEP  | 0.0-        | 1.5 0900    | 15.0       | 70  | 5750         | 89.6       | 15 | 7.49<br>6.85   | 60<br>37.65 | 38.13 | 208 | 116.66<br>123.19 | 855 | 93.67<br>122.25  | 7.44        | 65.38        |      |
| 1          | 16 SEP | 0.0-        | .3 0930     | 14.0       | 114 | -10          | -10.0      | 13 | 4.77<br>5.26   | 47<br>35.78 | 35.51 | 160 | 106.96<br>105.58 | 637 | 131.05<br>137.80 | 2.98        | -10.00       | 2    |
| 1          | 20 SEP | 0.0-        | 1.8 1015    | 13.5       | 120 | 4230         | 75.1       | 11 | 3.20<br>3.04   | 42<br>22.65 | 21.40 | 153 | 66.50<br>49.82   | 603 | 80.12<br>-10.00  | 9.31        | 40.15        | 2    |
| 1          | 28 SEP | 0.0-        | 2.8 1100    | 12.0       | 199 | 2570         | 29.4       | 5  | .42<br>.46     | 22<br>7.20  | 8.26  | 89  | 34.77<br>30.80   | 387 | 52.68<br>51.72   | 6.50        | 22.11        |      |
| 1          | 13 OCT | 0.0-        | 3.5 0845    | 8.5        | 281 | 1650         | 16.7       | 6  | 1.08<br>1.50   | 26<br>7.02  | 7.66  | 94  | 16.82<br>16.94   | 392 | 29.51<br>29.05   | 7.70        | 11.67        |      |
| 1          | 25 OCT | 0.0-        | 3.0 1110    | 7.5        | 390 | 3410         | 33.3       | 11 | 1.62<br>1.30   | 48<br>7.67  | 8.90  | 171 | 22.38<br>21.40   | 674 | 29.99<br>31.16   | 7.97        | 19.77        |      |

## LAKE 239

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4           | I3 | P3           | I2  | P2           | I1   | P1           | C.V.<br>(%) | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|--------------|----|--------------|-----|--------------|------|--------------|-------------|--------------|------|
| 0          | 5 MAY  | 0.0- 8.5    | 0935        | 8.0        | 184 | 430          | 1.6        | 11 | .05<br>.10   | 37 | .85<br>.76   | 139 | 2.74<br>2.94 | 697  | 3.81<br>3.37 | 17.17       |              | .58  |
| 1          | 5 MAY  | 0.0- 8.5    | 0935        | 8.0        | 184 | 430          | 1.6        | 2  | .07<br>.05   | 27 | .71<br>.63   | 295 | 3.48<br>2.85 | 614  | 3.14<br>3.58 | 13.84       |              | .58  |
| 0          | 17 MAY | 0.0- 6.0    | 0910        | 10.0       | 142 | 510          | 2.6        | 11 | .52<br>.52   | 38 | 1.79<br>1.68 | 141 | 4.61<br>5.16 | 847  | 4.59<br>5.73 | 7.02        |              | 1.23 |
| 1          | 17 MAY | 0.0- 6.0    | 0910        | 10.0       | 142 | 510          | 2.6        | 1  | .34<br>.74   | 14 | .62<br>.45   | 128 | 4.27<br>3.59 | 589  | 4.73<br>5.90 | 25.66       |              | 1.23 |
| 0          | 18 MAY | 6.0- 8.5    | 0925        | 8.5        | 165 | 350          | 1.9        | 10 | .33<br>.28   | 34 | 1.30<br>1.50 | 161 | 2.88<br>3.13 | 863  | 3.03<br>2.83 | 8.10        |              | .62  |
| 1          | 18 MAY | 6.0- 8.5    | 0925        | 8.5        | 165 | 350          | 1.9        | 3  | -.01<br>.02  | 12 | .19<br>.22   | 98  | 2.30<br>2.35 | 407  | 2.98<br>3.06 | 4.58        |              | .62  |
| 0          | 31 MAY | 0.0- 2.3    | 1020        | 18.0       | 131 | 480          | 1.7        | 12 | .42<br>-.04  | 41 | .65<br>1.25  | 158 | 3.80<br>3.61 | 946  | 3.31<br>4.00 | 58.21       |              | 2.45 |
| 1          | 31 MAY | 0.0- 2.3    | 1020        | 18.0       | 131 | 480          | 1.7        | 10 | .03<br>-.01  | 23 | .15<br>.16   | 224 | 2.87<br>2.79 | 1062 | 4.38<br>4.02 | 73.87       |              | 2.45 |
| 0          | 2 JUN  | 2.3- 6.0    | 0920        | 12.0       | 121 | 570          | 5.1        | 8  | .36<br>.40   | 27 | 1.80<br>1.82 | 105 | 4.53<br>5.02 | 581  | 5.59<br>4.90 | 6.20        |              | 2.21 |
| 1          | 2 JUN  | 2.3- 6.0    | 0920        | 12.0       | 121 | 570          | 5.1        | 3  | .06<br>.07   | 21 | 1.17<br>1.01 | 106 | 3.96<br>3.65 | 531  | 3.98<br>4.25 | 7.91        |              | 2.21 |
| 0          | 1 JUN  | 6.0- 8.5    | 0840        | 8.5        | 165 | 510          | 10.8       | 6  | .54<br>.65   | 19 | 2.18<br>2.27 | 75  | 4.91<br>4.63 | 432  | 5.47<br>5.65 | 5.59        |              | 1.63 |
| 1          | 3 JUN  | 6.0- 8.5    | 0840        | 8.5        | 165 | 510          | 10.8       | 3  | .22<br>.22   | 15 | 1.60<br>1.59 | 81  | 5.68<br>5.56 | 398  | 4.34<br>3.91 | 2.33        |              | 1.63 |
| 0          | 14 JUN | 0.0- 5.0    | 1010        | 16.0       | 121 | 430          | 2.1        | 13 | .07<br>.06   | 45 | .71<br>.68   | 173 | 2.64<br>2.68 | 1029 | 3.16<br>3.13 | 3.92        |              | 1.71 |
| 1          | 14 JUN | 0.0- 5.0    | 1010        | 16.0       | 121 | 430          | 2.1        | 9  | .04<br>-.12  | 43 | .12<br>-.12  | 241 | 2.27<br>1.76 | 1029 | 2.17<br>2.04 | \$\$\$\$\$  |              | 1.71 |
| 0          | 15 JUN | 5.0- 8.5    | 1000        | 12.0       | 160 | 600          | 8.0        | 10 | .98<br>.80   | 32 | 3.63<br>3.20 | 118 | 9.57<br>7.22 | 697  | 7.51<br>8.91 | 13.76       |              | 2.82 |
| 1          | 15 JUN | 5.0- 8.5    | 1000        | 12.0       | 160 | 600          | 8.0        | 7  | .17<br>.14   | 25 | 1.99<br>2.10 | 146 | 8.76<br>7.74 | 647  | 8.64<br>6.52 | 11.50       |              | 2.82 |
| 1          | 29 JUN | 0.0- 4.0    | 0930        | 18.5       | 131 | 380          | 1.9        | 12 | .16<br>.14   | 43 | .41<br>.45   | 251 | 2.15<br>2.16 | 963  | 3.26<br>1.74 | 14.83       |              | .90  |
| 1          | 29 JUN | 4.0- 8.5    | 1135        | 13.5       | 132 | 900          | 9.0        | 7  | .02<br>.04   | 26 | 1.42<br>1.46 | 136 | 6.09<br>5.64 | 432  | 6.07<br>5.01 | 17.01       |              | 2.53 |
| 1          | 12 JUL | 0.0- 5.0    | 0940        | 21.0       | 134 | 380          | 2.8        | 15 | .69<br>.62   | 66 | 1.28<br>1.34 | 232 | 2.99<br>4.72 | 963  | 4.53<br>5.51 | 14.08       |              | .84  |
| 1          | 12 JUL | 5.0- 9.0    | 0950        | 14.0       | 187 | 480          | 11.3       | 6  | .19<br>.17   | 24 | 1.90<br>1.92 | 78  | 5.05<br>6.87 | 297  | 7.13<br>6.17 | 10.10       |              | 2.10 |
| 1          | 27 JUL | 0.0- 4.3    | 0935        | 23.0       | 119 | 460          | 2.4        | 16 | .09<br>.11   | 73 | .98<br>.96   | 256 | 3.21<br>3.14 | 1096 | 3.96<br>3.64 | 5.78        |              | .76  |
| 1          | 27 JUL | 4.3- 7.5    | 0940        | 14.5       | 142 | 680          | 12.5       | 6  | .25<br>.22   | 27 | 2.05<br>2.13 | 93  | 4.62<br>5.29 | 396  | 5.71<br>7.64 | 10.43       |              | 2.88 |
| 1          | 9 AUG  | 0.0- 5.0    | 0920        | 19.5       | 126 | 380          | 3.0        | 14 | -.29<br>-.37 | 61 | .79<br>.92   | 211 | 3.59<br>2.78 | 896  | 3.78<br>3.76 | 9.70        |              | 1.17 |
| 1          | 9 AUG  | 5.0- 7.5    | 0925        | 13.5       | 159 | 770          | 14.3       | 9  | .47<br>.39   | 32 | 1.81<br>1.81 | 109 | 4.50<br>5.16 | 432  | 5.58<br>6.02 | 7.05        |              | 2.77 |

## LAKE 239

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4           | I3 | P3           | I2  | P2           | I1   | P1           | C.V.<br>(%) | BIO-<br>MASS | NCTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|--------------|----|--------------|-----|--------------|------|--------------|-------------|--------------|------|
| 1          | 11 AUG | 8.0- 8.0    | 0950        | 18.0       | 254 | 500          | 5.3        | 6  | .05<br>.25   | 23 | 1.32<br>1.18 | 82  | 4.25<br>3.95 | 349  | 5.60<br>5.38 | 27.48       | 2.16         | 5    |
| 1          | 11 AUG | 8.0- 8.0    | 0950        | 8.0        | 254 | 500          | 5.3        | 7  | .24<br>.29   | 26 | 1.45<br>1.50 | 89  | 3.04<br>2.65 | 349  | 2.70<br>2.62 | 6.89        | 2.16         |      |
| 1          | 23 AUG | 0.0- 4.8    | 0955        | 19.5       | 132 | 450          | 3.7        | 22 | -.13<br>-.04 | 86 | .95<br>1.25  | 291 | 3.47<br>3.80 | 1021 | 4.19<br>3.42 | 13.34       | .96          |      |
| 1          | 23 AUG | 4.8- 7.0    | 1005        | 15.5       | 155 | 540          | 8.6        | 6  | .07<br>.01   | 25 | .81<br>.89   | 93  | 2.83<br>2.97 | 384  | 4.32<br>4.81 | 30.93       | 1.77         |      |
| 1          | 6 SEP  | 0.0- 7.0    | 0945        | 15.0       | 132 | 430          | 3.7        | 15 | -.23<br>-.17 | 60 | .80<br>.57   | 208 | 2.41<br>2.23 | 855  | .75<br>2.43  | 34.65       | 1.19         | 1    |
| 1          | 6 SEP  | 7.0- 8.0    | 0950        | 13.0       | 213 | 570          | 6.3        | 6  | .24<br>.24   | 23 | .89<br>.86   | 78  | 3.05<br>2.89 | 324  | 4.36<br>4.56 | 2.35        | 1.43         |      |
| 1          | 20 SEP | 0.0- 8.3    | 1010        | 13.5       | 143 | 460          | 3.0        | 11 | -.68<br>-.69 | 42 | .48<br>.54   | 153 | 2.05<br>2.13 | 603  | 3.65<br>1.59 | 22.21       | 1.22         | 1    |
| 1          | 28 SEP | 0.0- 8.5    | 1000        | 12.0       | 148 | 450          | 3.4        | 5  | .21<br>.13   | 22 | .57<br>.60   | 89  | 2.67<br>2.46 | 387  | 4.83<br>5.42 | 12.71       | 1.30         |      |
| 1          | 11 OCT | 0.0- 8.0    | 1125        | 9.8        | 153 | 520          | 5.4        | 8  | .06<br>0.00  | 29 | .72<br>.89   | 105 | 2.79<br>2.98 | 420  | 4.70<br>4.55 | 40.83       | 1.09         |      |
| 1          | 26 OCT | 0.0- 7.5    | 1015        | 7.5        | 158 | 480          | 4.0        | 12 | .17<br>.15   | 48 | 1.11<br>1.08 | 171 | 3.24<br>3.41 | 729  | 3.56<br>3.10 | 6.04        | 1.26         |      |

## LAKE 302 N

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4           | I3 | P3           | I2  | P2             | I1   | P1             | C.V.<br>(%) | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|--------------|----|--------------|-----|----------------|------|----------------|-------------|--------------|------|
| 0          | 4 MAY  | 0.0- 9.0    | 0925        | 8.0        | 181 | 850          | 6.8        | 10 | .52<br>.54   | 41 | 3.27<br>2.68 | 153 | 8.12<br>8.61   | 733  | 9.37<br>10.11  | 6.44        | .73          |      |
| 1          | 4 MAY  | 0.0- 9.0    | 0925        | 8.0        | 181 | 850          | 6.8        | 2  | -.01<br>-.00 | 29 | 1.40<br>1.60 | 307 | 7.52<br>8.07   | 548  | 9.02<br>8.69   | 5.79        | .73          |      |
| 0          | 10 MAY | 0.0- 3.5    | 0810        | 10.0       | 85  | 790          | 2.8        | 13 | .65<br>.61   | 40 | 3.32<br>3.15 | 159 | 8.39<br>7.79   | 830  | 10.58<br>9.38  | 5.51        | 2.71         |      |
| 1          | 10 MAY | 0.0- 3.5    | 0810        | 10.0       | 85  | 790          | 2.8        | 3  | .07<br>.06   | 36 | 1.72<br>2.09 | 374 | 9.95<br>13.06  | 913  | 10.58<br>10.51 | 10.18       | 2.71         |      |
| 0          | 11 MAY | 3.3- 6.0    | 0830        | 8.0        | 142 | 810          | 7.1        | 13 | 1.27<br>1.46 | 41 | 5.24<br>4.60 | 133 | 10.19<br>9.08  | 880  | 8.56<br>9.29   | 8.20        | 1.77         |      |
| 1          | 11 MAY | 3.3- 6.0    | 0830        | 8.0        | 142 | 810          | 7.1        | 3  | .09<br>.11   | 37 | 3.13<br>3.21 | 367 | 10.14<br>10.33 | 896  | 7.68<br>9.97   | 8.78        | 1.77         |      |
| 0          | 12 MAY | 6.0- 8.3    | 0830        | 6.5        | 230 | 880          | 3.2        | 8  | .65<br>1.91  | 25 | 3.28<br>2.60 | 93  | 6.46<br>4.91   | 440  | 5.82<br>5.70   | 26.67       | 1.34         |      |
| 1          | 12 MAY | 6.0- 8.3    | 0830        | 6.5        | 230 | 880          | 3.2        | 1  | -.05<br>-.02 | 15 | 1.12<br>1.19 | 179 | 6.29<br>5.98   | 370  | 6.38<br>5.84   | 4.79        | 1.34         |      |
| 0          | 24 MAY | 0.0- 2.0    | 0840        | 15.5       | 61  | 3280         | 2.0        | 13 | .10<br>.12   | 43 | .95<br>.96   | 158 | 3.83<br>4.10   | 913  | -10.00<br>3.33 | 6.65        | 1.96         | 2    |
| 1          | 24 MAY | 0.0- 2.0    | 0840        | 15.5       | 61  | 3280         | 2.0        | 5  | .00<br>-.01  | 21 | .13<br>.15   | 208 | 3.38<br>3.26   | 847  | 4.93<br>5.29   | 52.94       | 1.96         |      |
| 0          | 25 MAY | 2.0- 6.0    | 0820        | 11.0       | 82  | 1020         | 5.0        | 9  | .21<br>.25   | 27 | 1.53<br>1.65 | 98  | 5.20<br>6.67   | 548  | 7.67<br>8.53   | 10.11       | 3.71         |      |
| 1          | 25 MAY | 2.0- 6.0    | 0820        | 11.0       | 82  | 1020         | 5.0        | 4  | .02<br>.03   | 15 | .59<br>.49   | 120 | 4.56<br>4.73   | 498  | 8.34<br>6.87   | 13.31       | 3.71         |      |
| 0          | 27 MAY | 6.0- 7.5    | 0750        | 7.5        | 235 | 760          | 7.6        | 7  | .80<br>.87   | 23 | 2.74<br>3.03 | 86  | 9.09<br>8.80   | 437  | 9.61<br>8.77   | 5.43        | 2.55         |      |
| 1          | 27 MAY | 6.0- 7.5    | 0750        | 7.5        | 235 | 760          | 7.6        | 3  | .06<br>.06   | 11 | .97<br>1.03  | 105 | 8.02<br>7.12   | 457  | 7.75<br>9.90   | 7.43        | 2.55         |      |
| 0          | 7 JUN  | 0.0- 3.0    | 0815        | 17.0       | 100 | 560          | 1.4        | 10 | .17<br>.37   | 35 | 1.86<br>2.06 | 135 | 8.94<br>7.04   | 830  | 12.42<br>11.39 | 20.68       | 1.63         |      |
| 1          | 7 JUN  | 0.0- 3.0    | 0815        | 17.0       | 100 | 560          | 1.4        | 6  | .06<br>.09   | 37 | 1.14<br>1.29 | 183 | 7.28<br>7.28   | 863  | 8.94<br>9.00   | 8.58        | 1.63         |      |
| 0          | 8 JUN  | 3.0- 6.0    | 0810        | 11.0       | 100 | 750          | 5.9        | 8  | .56<br>.69   | 24 | 2.84<br>2.20 | 100 | 7.12<br>8.26   | 564  | 8.01<br>9.02   | 13.03       | 1.80         |      |
| 1          | 8 JUN  | 3.0- 6.0    | 0810        | 11.0       | 100 | 750          | 5.9        | 4  | .14<br>.17   | 20 | 1.07<br>1.10 | 111 | 6.55<br>6.41   | 531  | 6.66<br>5.36   | 7.49        | 1.80         |      |
| 0          | 9 JUN  | 6.0- 7.5    | 0755        | 7.0        | 264 | 770          | 10.8       | 4  | .90<br>1.04  | 17 | 2.63<br>2.79 | 75  | 5.87<br>5.21   | 432  | 9.94<br>10.36  | 6.46        | 2.75         |      |
| 1          | 9 JUN  | 6.0- 7.5    | 0755        | 7.0        | 363 | 770          | 10.8       | 2  | .25<br>.04   | 13 | 2.14<br>2.38 | 73  | 10.15<br>8.80  | 398  | 9.17<br>8.84   | 30.56       | 2.75         |      |
| 1          | 21 JUN | 0.0- 3.5    | 0845        | 17.0       | 51  | 760          | 1.7        | 12 | .14<br>.08   | 47 | .51<br>.65   | 257 | 3.75<br>3.70   | 1096 | 2.96<br>3.53   | 17.03       | 1.75         |      |
| 1          | 22 JUN | 3.5- 7.0    | 0840        | 12.0       | 135 | 840          | 7.6        | 8  | .33<br>.32   | 28 | 2.24<br>2.12 | 151 | 9.55<br>9.19   | 647  | 10.09<br>9.64  | 3.24        | 2.27         |      |
| 1          | 23 JUN | 7.0- 8.0    | 0800        | 8.0        | 326 | 940          | 16.8       | 3  | .82<br>.70   | 12 | 2.24<br>2.23 | 63  | 9.92<br>10.04  | 241  | 17.47<br>17.23 | 3.27        | 1.93         |      |
| 1          | 5 JUL  | 0.0- 4.0    | 0840        | 19.5       | 47  | 810          | 8.0        | 15 | .42<br>.30   | 60 | 3.44<br>2.84 | 191 | 12.78<br>10.74 | 930  | 14.67<br>15.45 | 13.02       | 2.23         |      |

## LAKE 302 N

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4         | I3 | P3           | I2  | P2             | I1  | P1             | C.V.<br>(%) | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|------------|----|--------------|-----|----------------|-----|----------------|-------------|--------------|------|
| 1          | 5 JUL  | 4.0- 8.0    | 0845        | 13.0       | 204 | 1120         | 23.0       | 7  | .63<br>.62 | 28 | 3.96<br>3.23 | 90  | 15.67<br>9.00  | 349 | 20.65<br>16.83 | 17.06       | 2.40         |      |
| 1          | 19 JUL | 0.0- 3.8    | 0815        | 20.5       | 35  | 880          | 6.8        | 13 | .28<br>.28 | 53 | 2.41<br>3.15 | 208 | 9.70<br>11.86  | 913 | 13.85<br>14.91 | 9.94        | 1.90         |      |
| 1          | 19 JUL | 0.0- 3.8    | 0815        | 20.5       | 110 | 880          | 6.8        | 13 | .34<br>.36 | 53 | 2.93<br>3.09 | 208 | 10.28<br>9.61  | 913 | 12.60<br>11.51 | 4.69        | 1.90         |      |
| 1          | 19 JUL | 3.8- 7.8    | 0820        | 14.0       | 214 | 940          | 12.8       | 8  | .51<br>.43 | 34 | 2.79<br>2.98 | 115 | 7.97<br>7.82   | 448 | 10.50<br>11.59 | 6.28        | 1.76         | 3    |
| 1          | 4 AUG  | 0.0- 4.0    | 0830        | 23.0       | 24  | 880          | 8.9        | 12 | .14<br>.13 | 48 | 2.44<br>2.52 | 181 | 8.43<br>8.18   | 767 | 12.04<br>11.99 | 2.49        | -10.00       | 2    |
| 1          | 2 AUG  | 4.0- 7.5    | 0836        | 13.0       | 215 | 1020         | 17.2       | 7  | .63<br>.63 | 31 | 3.81<br>3.67 | 107 | 10.29<br>12.89 | 422 | 16.58<br>15.68 | 5.65        | 4.10         |      |
| 1          | 16 AUG | 0.0- 4.0    | 0935        | 22.0       | 29  | 690          | 4.8        | 18 | .19<br>.14 | 71 | 1.59<br>1.65 | 242 | 4.80<br>4.83   | 896 | 7.06<br>6.13   | 8.94        | 1.99         |      |
| 1          | 16 AUG | 4.0- 7.5    | 0940        | 16.0       | 207 | 1220         | 15.5       | 17 | .61<br>.47 | 41 | 3.69<br>4.49 | 133 | 11.24<br>11.32 | 531 | 13.98<br>13.76 | 8.29        | 3.61         |      |
| 1          | 30 AUG | 0.0- 5.0    | 0815        | 16.0       | 38  | 730          | 6.0        | 11 | .15<br>.18 | 46 | 1.33<br>1.25 | 160 | 3.48<br>4.34   | 707 | 5.53<br>4.97   | 10.21       | 2.19         |      |
| 1          | 30 AUG | 5.0- 7.5    | 0820        | 12.0       | 274 | 1450         | 21.8       | 5  | .24<br>.34 | 21 | 1.97<br>2.21 | 75  | 9.33<br>11.14  | 299 | 13.84<br>13.90 | 11.45       | 3.61         |      |
| 1          | 13 SEP | 0.0- 4.0    | 0940        | 17.5       | 31  | 780          | 11.8       | 13 | .06<br>.04 | 47 | 1.25<br>1.08 | 161 | 4.28<br>2.28   | 633 | 6.86<br>7.23   | 18.14       | 1.93         |      |
| 1          | 13 SEP | 4.0- 7.8    | 0945        | 13.0       | 200 | 1120         | 21.6       | 5  | .11<br>.12 | 19 | 1.98<br>1.77 | 65  | 9.73<br>7.77   | 264 | 13.30<br>16.86 | 10.77       | 2.63         |      |
| 1          | 11 OCT | 0.0- 7.0    | 0950        | 9.8        | 74  | 810          | 15.9       | 8  | .30<br>.23 | 29 | 1.65<br>1.52 | 105 | 10.36<br>6.29  | 420 | 13.57<br>14.44 | 15.41       | 3.21         |      |
| 1          | 26 OCT | 0.0- 6.0    | 0845        | 7.5        | 91  | 980          | 12.1       | 12 | .43<br>.50 | 48 | 2.47<br>2.77 | 171 | 8.29<br>8.56   | 729 | 9.14<br>10.15  | 6.74        | 2.43         |      |
| 1          | 27 SEP | 0.0- 7.3    | 0900        | 13.0       | 56  | 890          | 11.2       | 7  | .14<br>.15 | 29 | 1.24<br>1.44 | 103 | 6.90<br>8.12   | 412 | 13.54<br>15.16 | 9.05        | 4.15         |      |

## LAKE 302 S

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4       | P4           | I3 | P3           | I2  | P2             | I1   | P1             | C.V.<br>(%) | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----------|--------------|----|--------------|-----|----------------|------|----------------|-------------|--------------|------|
| 0          | 4 MAY  | 0.0- 8.0    | 0950        | 8.0        | 205 | 700          | 1.7        | 10-10.00 |              | 41 | .82<br>.86   | 153 | 3.19<br>2.79   | 733  | 2.93<br>3.85   | 10.60       | 1.54         | 2    |
| 1          | 4 MAY  | 0.0- 8.0    | 0950        | 8.0        | 205 | 700          | 1.7        | 2        | .11<br>.11   | 29 | .47<br>.51   | 307 | 2.90<br>2.93   | 548  | 3.10<br>2.98   | 3.69        | 1.54         |      |
| 0          | 10 MAY | 0.0- 3.5    | 0830        | 10.0       | 130 | 490          | 1.5        | 13       | .16<br>.16   | 40 | 1.07<br>1.16 | 159 | 3.09<br>3.40   | 830  | 4.32<br>5.18   | 7.07        | .99          |      |
| 1          | 10 MAY | 0.0- 3.5    | 0830        | 10.0       | 130 | 490          | 1.5        | 3        | -.02<br>-.03 | 36 | .46<br>.54   | 374 | 4.29<br>3.45   | 913  | 3.68<br>3.61   | 9.36        | .99          |      |
| 0          | 11 MAY | 3.5- 5.3    | 0840        | 8.0        | 199 | 600          | 3.3        | 13       | .50<br>.42   | 41 | 2.01<br>2.09 | 133 | 4.30<br>4.64   | 880  | 5.36<br>5.06   | 6.16        | 1.92         |      |
| 1          | 11 MAY | 3.5- 5.3    | 0840        | 8.0        | 199 | 600          | 3.3        | 3        | .04<br>.07   | 37 | 1.22<br>1.16 | 367 | 5.69<br>6.03   | 896  | 2.23<br>2.93   | 18.32       | 1.62         | 1    |
| 0          | 12 MAY | 5.3- 8.0    | 0840        | 6.5        | 201 | 750          | 2.7        | 8        | .23<br>.20   | 25 | 1.09<br>1.05 | 93  | 3.21<br>2.96   | 440  | 3.53<br>3.24   | 6.53        | 1.32         |      |
| 1          | 12 MAY | 5.3- 8.0    | 0840        | 6.5        | 201 | 750          | 2.7        | 1        | .23<br>.20   | 15 | 1.09<br>1.05 | 179 | 3.21<br>2.96   | 370  | 3.53<br>2.24   | 12.93       | 1.30         |      |
| 0          | 24 MAY | 0.0- 2.0    | 0855        | 15.5       | 72  | 420          | 1.0        | 13       | .03<br>.02   | 43 | .42<br>.39   | 158 | 1.73<br>1.73   | 913  | 2.41<br>3.16   | 9.23        | .84          |      |
| 1          | 24 MAY | 0.0- 2.0    | 0855        | 15.5       | 72  | 420          | 1.0        | 5        | .00<br>.03   | 21 | .09<br>.08   | 208 | 1.71<br>1.80   | 847  | 2.64<br>2.76   | 33.75       | .84          |      |
| 0          | 25 MAY | 2.0- 6.0    | 0835        | 11.0       | 132 | 560          | 2.0        | 9        | .09<br>.16   | 27 | .63<br>.65   | 98  | 2.43<br>2.59   | 548  | 3.36<br>3.50   | 11.62       | 1.56         |      |
| 1          | 25 MAY | 2.0- 6.0    | 0835        | 11.0       | 132 | 560          | 2.0        | 4        | -.00<br>-.01 | 15 | .14<br>.19   | 120 | 1.81<br>2.24   | 498  | 2.71<br>2.84   | 13.06       | 1.56         |      |
| 0          | 27 MAY | 6.0- 8.0    | 0800        | 7.5        | 285 | 760          | 4.0        | 8        | .21<br>.21   | 23 | 1.34<br>1.52 | 86  | 4.96<br>3.96   | 437  | 6.48<br>6.32   | 6.65        | 1.30         |      |
| 1          | 27 MAY | 6.0- 8.0    | 0800        | 7.5        | 285 | 760          | 4.0        | 3        | .03<br>.03   | 11 | .43<br>.44   | 105 | 4.39<br>4.02   | 457  | 4.04<br>5.33   | 9.82        | 1.30         |      |
| 0          | 7 JUN  | 0.0- 3.0    | 0830        | 17.0       | 106 | 490          | 1.4        | 10       | .15<br>.13   | 35 | .97<br>.97   | 135 | 4.93<br>4.45   | 830  | 7.06<br>7.69   | 5.03        | 1.13         |      |
| 1          | 7 JUN  | 0.0- 3.0    | 0830        | 17.0       | 106 | 490          | 1.4        | 6        | .02<br>.02   | 37 | .95<br>.71   | 183 | 4.98<br>5.61   | 863  | 5.64<br>5.62   | 10.47       | 1.13         |      |
| 0          | 8 JUN  | 3.0- 6.0    | 0820        | 11.0       | 127 | 720          | 5.2        | 8        | .39<br>.42   | 24 | 2.17<br>2.22 | 100 | 7.11<br>7.46   | 564  | 9.57<br>9.37   | 3.29        | 1.46         |      |
| 1          | 8 JUN  | 3.0- 6.0    | 0820        | 11.0       | 127 | 720          | 5.2        | 4        | .05<br>.06   | 20 | 1.29<br>1.36 | 111 | 6.11<br>6.78   | 531  | 6.92<br>7.00   | 7.04        | 1.46         |      |
| 0          | 9 JUN  | 6.0- 8.0    | 0805        | 7.0        | 310 | 840          | 5.3        | 4        | .39<br>.35   | 17 | 1.84<br>1.84 | 75  | 7.11<br>6.98   | 432  | 7.04<br>7.32   | 2.90        | 1.64         |      |
| 1          | 9 JUN  | 6.0- 8.0    | 0805        | 7.0        | 310 | 840          | 5.3        | 2        | -.01<br>.27  | 13 | 1.16<br>1.12 | 73  | 6.53<br>6.86   | 398  | 6.24<br>6.97   | 4.76        | 1.64         |      |
| 1          | 21 JUN | 0.0- 4.0    | 0900        | 17.0       | 65  | 860          | 2.3        | 12       | .06<br>.03   | 47 | .54<br>.57   | 257 | 2.72<br>3.16   | 1096 | 3.53<br>3.17   | 15.20       | 1.44         |      |
| 1          | 22 JUN | 4.0- 7.0    | 0820        | 12.0       | 161 | 910          | 8.5        | 8        | .23<br>.12   | 28 | 1.59<br>1.86 | 151 | 14.46<br>15.16 | 647  | 12.09<br>9.97  | 17.73       | 3.72         |      |
| 1          | 23 JUN | 7.0- 8.5    | 0810        | 8.0        | 352 | 1130         | 11.5       | 3        | .02<br>.17   | 12 | 1.17<br>1.29 | 63  | 7.31<br>10.87  | 241  | 11.67<br>12.49 | 38.78       | 4.77         |      |
| 1          | 5 JUL  | 0.0- 4.0    | 0905        | 19.5       | 57  | 750          | 6.0        | 15       | .21<br>.22   | 60 | 1.15<br>1.94 | 191 | 6.79<br>8.17   | 930  | 7.56<br>8.48   | 15.49       | 2.05         |      |



## LAKE 302 S

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4         | I3 | P3           | I2  | P2             | I1   | P1             | C.V.<br>(%) | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|------------|----|--------------|-----|----------------|------|----------------|-------------|--------------|------|
| 1          | 5 JUL  | 4.0- 8.3    | 0910        | 13.0       | 182 | 1520         | 20.7       | 7  | .23<br>.31 | 28 | 1.90<br>1.58 | 90  | 8.18<br>8.79   | 349  | 13.63<br>13.38 | 10.27       | 3.15         |      |
| 1          | 19 JUL | 0.0- 4.0    | 0835        | 20.5       | 41  | 580          | 2.8        | 13 | .01<br>.04 | 53 | .68<br>.64   | 208 | 2.79<br>3.39   | 913  | 4.27<br>4.00   | 25.34       | 1.36         |      |
| 1          | 19 JUL | 0.0- 4.0    | 0835        | 20.5       | 120 | 580          | 2.8        | 13 | .02<br>.08 | 53 | .84<br>.78   | 208 | 2.81<br>3.17   | 913  | 4.74<br>4.16   | 28.91       | 1.36         | 3    |
| 1          | 19 JUL | 4.0- 8.0    | 0840        | 14.0       | 204 | 1070         | 15.7       | 8  | .42<br>.40 | 34 | 3.00<br>2.44 | 115 | 8.78<br>8.34   | 448  | 10.42<br>8.50  | 9.02        | 3.22         |      |
| 1          | 2 AUG  | 0.0- 4.8    | 0850        | 20.5       | 42  | 400          | 3.5        | 16 | .12<br>.01 | 70 | .95<br>.88   | 254 | 3.60<br>3.14   | 1117 | 4.48<br>4.17   | 36.53       | 1.45         |      |
| 1          | 2 AUG  | 4.8- 8.0    | 0855        | 13.0       | 235 | 1140         | 20.5       | 7  | .43<br>.38 | 31 | 2.73<br>2.62 | 107 | 8.74<br>8.24   | 422  | 12.73<br>15.46 | 7.35        | 3.88         |      |
| 1          | 16 AUG | 0.0- 5.0    | 1000        | 22.0       | 41  | 540          | 3.0        | 18 | .01<br>.07 | 71 | 1.49<br>.87  | 242 | 3.22<br>3.25   | 896  | 4.39<br>5.15   | 37.57       | 2.09         |      |
| 1          | 16 AUG | 5.0- 7.8    | 1005        | 16.0       | 242 | 1290         | 18.4       | 17 | .51<br>.40 | 41 | 3.28<br>3.22 | 133 | 12.49<br>10.02 | 531  | 18.81<br>8.89  | 21.05       | 5.42         |      |
| 1          | 30 AUG | 0.0- 6.0    | 0835        | 16.0       | 55  | 650          | 3.3        | 11 | .11<br>.10 | 46 | .85<br>1.01  | 160 | 3.42<br>4.48   | 707  | 4.82<br>4.92   | 9.36        | 1.47         |      |
| 1          | 30 AUG | 6.0- 8.0    | 0840        | 12.0       | 292 | 1420         | 29.8       | 5  | .35<br>.57 | 21 | 2.52<br>2.68 | 75  | 8.82<br>8.96   | 299  | 14.99<br>14.67 | 10.03       | 2.54         |      |
| 1          | 13 SEP | 0.0- 6.0    | 1005        | 17.5       | 40  | 610          | 7.5        | 13 | .14<br>.08 | 47 | .98<br>.93   | 161 | 3.69<br>3.74   | 633  | 7.40<br>8.26   | 12.14       | 1.63         |      |
| 1          | 13 SEP | 6.0- 8.5    | 1010        | 13.0       | 303 | 1510         | 35.0       | 5  | .08<br>.08 | 19 | 2.38<br>1.93 | 65  | 7.49<br>8.05   | 264  | 17.51<br>16.87 | 5.68        | 1.70         |      |
| 1          | 27 SEP | 0.0- 9.0    | 0925        | 13.0       | 46  | 680          | 6.4        | 7  | .09<br>.08 | 29 | .88<br>.76   | 103 | 3.89<br>4.66   | 412  | 8.05<br>10.06  | 11.28       | 1.69         |      |
| 1          | 11 OCT | 0.0- 9.5    | 1010        | 9.8        | 43  | 650          | 9.0        | 8  | .12<br>.11 | 29 | 1.13<br>1.00 | 105 | 3.84<br>4.18   | 420  | 7.13<br>7.25   | 6.16        | 2.04         |      |
| 1          | 26 OCT | 0.0- 9.0    | 0855        | 7.5        | 41  | 790          | 6.0        | 12 | .24<br>.26 | 48 | 1.48<br>1.42 | 171 | 4.72<br>4.28   | 729  | 4.38<br>4.83   | 5.99        | 1.92         |      |

## LAKE 303

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC  | SUSP<br>CAR. | CHLOP<br>A | I4   | P4 | I3         | P3                 | I2  | P2             | I1   | P1             | C.V.<br>(%) | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|------|--------------|------------|------|----|------------|--------------------|-----|----------------|------|----------------|-------------|--------------|------|
| 0          | 24 MAY | 0.0-        | .5          | 0950       | 15.5 | 65           | 890        | 3.0  | 13 | .13<br>.04 | 43-10.00<br>-10.00 | 158 | 5.49<br>5.33   | 913  | 6.66<br>7.87   | 28.08       | 3.42         | 1,2  |
| 1          | 24 MAY | 0.0-        | .5          | 0950       | 15.5 | 65           | 890        | 3.0  | 5  | .02<br>.03 | 21<br>.14<br>.20   | 208 | 3.78<br>4.37   | 847  | 8.23<br>9.23   | 16.26       | 3.42         |      |
| 1          | 21 JUN | 0.0-        | .5          | 1105       | 17.0 | 72           | 960        | 1.6  | 12 | .01<br>.03 | 47<br>.26<br>.23   | 257 | 3.40<br>3.20   | 1096 | 5.32<br>5.55   | 23.55       | 1.26         |      |
| 1          | 20 JUL | .3-         | .3          | 0855       | 23.0 | 75           | 1030       | 6.2  | 13 | .29<br>.25 | 53<br>2.60<br>2.63 | 208 | 13.31<br>11.90 | 913  | 20.30<br>23.23 | 7.35        | 1.24         |      |
| 1          | 16 AUG | 0.0-        | 2.0         | 1005       | 22.0 | 66           | 2000       | 13.8 | 18 | .45<br>.44 | 71<br>7.03<br>7.56 | 242 | 24.66<br>26.49 | 896  | 34.57<br>35.87 | 3.53        | 2.02         |      |
| 1          | 14 SEP | 0.0-        | 2.5         | 0920       | 16.5 | 80           | 2570       | 18.3 | 12 | .67<br>.51 | 47<br>6.47<br>6.59 | 156 | 26.92<br>26.09 | 618  | 39.30<br>36.44 | 7.19        | 4.42         |      |
| 1          | 13 OCT | 0.0-        | 2.5         | 1050       | 8.5  | 64           | 2100       | 15.3 | 6  | .19<br>.20 | 26<br>1.75<br>1.71 | 94  | 8.13<br>7.97   | 392  | 15.49<br>14.63 | 2.90        | 4.76         |      |

## LAKE 304

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4           | I3 | P3            | I2  | P2             | I1   | P1             | C.V.<br>(%) | BIO-<br>MASE | NOTE   |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|--------------|----|---------------|-----|----------------|------|----------------|-------------|--------------|--------|
| 0          | 24 MAY | 0.0- 1.3    | 1015        | 15.5       | 80  | 560          | 3.0        | 13 | .10<br>.07   | 43 | .84<br>1.00   | 158 | 5.49<br>5.52   | 913  | 9.79<br>7.55   | 15.08       |              | 3.58   |
| 1          | 24 MAY | 0.0- 1.3    | 1015        | 15.5       | 80  | 560          | 3.0        | 5  | .01<br>-.03  | 21 | .06<br>.07    | 208 | 4.39<br>3.96   | 847  | 6.85<br>7.18   | -56.37      |              | 3.58   |
| 0          | 25 MAY | 1.3- 4.0    | 0925        | 11.0       | 198 | 990          | 8.0        | 9  | .27<br>.37   | 27 | 3.36<br>2.79  | 98  | 8.83<br>11.59  | 548  | 14.13<br>17.21 | 17.13       |              | 5.13   |
| 1          | 25 MAY | 1.3- 4.0    | 0925        | 11.0       | 198 | 990          | 8.0        | 4  | .18<br>-.04  | 15 | .62<br>.48    | 120 | 10.26<br>10.01 | 498  | 13.15<br>13.75 | 60.63       |              | 5.13   |
| 1          | 21 JUN | 0.0- 2.3    | 1045        | 17.0       | 85  | 890          | 3.7        | 12 | .03<br>.01   | 47 | .80<br>.61    | 257 | 5.97<br>6.08   | 1096 | 7.60<br>7.81   | 27.25       |              | 1.99   |
| 1          | 22 JUN | 2.3- 4.3    | 0935        | 12.0       | 254 | 1460         | 16.2       | 8  | .62<br>.83   | 28 | 4.32<br>4.41  | 151 | 23.55<br>22.06 | 647  | 46.96<br>46.95 | 6.62        |              | 7.66   |
| 1          | 26 JUL | 0.0- 2.0    | 0850        | 22.0       | 83  | 670          | 4.6        | 14 | .16<br>.27   | 63 | 1.18<br>1.13  | 224 | 6.86<br>6.83   | 941  | 13.29<br>10.74 | 13.81       |              | 1.80   |
| 1          | 26 JUL | 2.0- 4.0    | 0855        | 15.5       | 147 | 2680         | 107.7      | 6  | -.01<br>-.11 | 23 | 2.72<br>1.34  | 81  | 9.62<br>6.08   | 310  | 39.22<br>27.43 | 34.93       |              | 28.47  |
| 1          | 16 AUG | 0.0- 2.5    | 0940        | 22.0       | 90  | 610          | 5.1        | 18 | .20<br>.26   | 71 | 1.74<br>2.11  | 242 | 6.59<br>4.56   | 896  | 9.96<br>11.04  | 16.31       |              | 2.56   |
| 1          | 16 AUG | 2.5- 3.5    | 0945        | 16.0       | 121 | 8120         | 355.7      | 17 | .82<br>2.86  | 41 | 19.03<br>5.75 | 133 | 58.57<br>20.09 | 531  | 23.64<br>55.58 | 70.13       |              | 115.38 |
| 1          | 14 SEP | 0.0- 3.0    | 0855        | 16.5       | 116 | 860          | 25.0       | 12 | .38<br>.33   | 47 | 2.60<br>2.15  | 156 | 8.36<br>9.67   | 618  | 23.61<br>28.56 | 11.86       |              | 5.46   |
| 1          | 14 SEP | 3.0- 4.5    | 0900        | 14.0       | 234 | 740          | 28.5       | 6  | -.10<br>-.03 | 22 | .29<br>.88    | 70  | 2.44<br>2.13   | 281  | 13.38<br>11.24 | 30.90       |              | 2.70   |
| 1          | 13 OCT | 0.0- 4.0    | 1015        | 8.5        | 163 | 470          | 12.2       | 6  | .19<br>.19   | 26 | .54<br>.43    | 94  | 1.44<br>2.55   | 392  | 9.32<br>13.17  | 20.8E       |              | .96    |

## LAKE 305

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4           | I3 | P3           | I2  | P2           | I1   | P1           | C.V.<br>(%) | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|--------------|----|--------------|-----|--------------|------|--------------|-------------|--------------|------|
| 0          | 31 MAY | 0.0- 2.0    | 1105        | 18.0       | 132 | 380          | .7         | 12 | .02<br>.03   | 41 | .41<br>.26   | 158 | 2.16<br>2.39 | 946  | 3.93<br>3.66 | 19.05       | 1.04         |      |
| 1          | 31 MAY | 0.0- 2.0    | 1105        | 18.0       | 132 | 380          | .7         | 10 | -.02<br>.53  | 23 | .02<br>.17   | 224 | 2.10<br>2.03 | 1062 | 2.38<br>3.54 | 46.03       | 1.04         |      |
| 0          | 2 JUN  | 2.0- 5.5    | 0915        | 12.0       | 123 | 390          | 1.0        | 8  | -.02<br>.13  | 27 | .37<br>.26   | 105 | 1.90<br>1.74 | 581  | 1.94<br>2.06 | 11.51       | 1.05         |      |
| 1          | 2 JUN  | 2.0- 5.5    | 0915        | 12.0       | 123 | 390          | 1.0        | 3  | -.06<br>.16  | 21 | .13<br>.20   | 106 | 1.61<br>1.46 | 531  | 1.86<br>1.71 | 14.98       | 1.05         |      |
| 0          | 3 JUN  | 6.5-15.5    | 0855        | 8.5        | 165 | 340          | 4.5        | 6  | .15<br>.18   | 19 | .73<br>.67   | 75  | 1.93<br>2.15 | 432  | 2.56<br>2.40 | 7.46        | .66          |      |
| 1          | 3 JUN  | 6.5-15.5    | 0855        | 8.5        | 165 | 340          | 4.5        | 3  | -.04<br>.03  | 15 | .46<br>.39   | 81  | 1.98<br>2.12 | 398  | 2.27<br>2.33 | 6.00        | .66          |      |
| 1          | 28 JUN | 0.0- 5.0    | 0825        | 18.5       | 125 | 350          | 1.1        | 12 | .52<br>.44   | 43 | .46<br>.35   | 232 | 1.39<br>.94  | 996  | 1.44<br>.94  | 21.91       | .45          | 1    |
| 1          | 28 JUN | 5.0- 8.0    | 0830        | 13.0       | 124 | 0            | 1.6        | 9  | .01<br>.06   | 30 | .19<br>.17   | 146 | 1.29<br>1.10 | 498  | 1.40<br>1.40 | 26.16       | .47          | 1    |
| 1          | 30 JUN | 8.0-16.0    | 0920        | 7.0        | 182 | 260          | 4.1        | 6  | .68<br>-.04  | 20 | .28<br>.13   | 98  | 2.17<br>2.51 | 349  | 4.85<br>4.04 | 59.34       | .69          |      |
| 1          | 30 JUN | 8.0-16.0    | 0920        | 17.0       | 182 | 260          | 4.1        | 5  | -.01<br>.06  | 17 | .46<br>.46   | 93  | 2.14<br>2.05 | 349  | 2.32<br>1.77 | 7.32        | .69          | 1,5  |
| 1          | 27 JUL | 0.0- 5.3    | 1030        | 23.0       | 114 | 380          | 1.4        | 16 | .06<br>.01   | 73 | .50<br>.49   | 256 | 2.30<br>2.14 | 1096 | 2.57<br>2.46 | 28.18       | .64          |      |
| 1          | 27 JUL | 0.0- 5.3    | 1030        | 23.0       | 114 | 380          | 1.4        | 16 | .06<br>.01   | 73 | .50<br>.49   | 256 | 2.30<br>2.14 | 1096 | 2.57<br>2.46 | 28.18       | .64          |      |
| 1          | 27 JUL | 5.3-10.0    | 1035        | 14.5       | 125 | 460          | 2.4        | 6  | .02<br>.06   | 27 | .49<br>.49   | 93  | 1.80<br>2.03 | 395  | 3.18<br>3.05 | 17.66       | .34          |      |
| 1          | 28 JUL | 10.0-15.0   | 0825        | 9.0        | 205 | 330          | 1.7        | 5  | .03<br>.02   | 22 | .46<br>.46   | 75  | 1.62<br>1.63 | 289  | 1.69<br>1.73 | 2.09        | .46          |      |
| 1          | 24 AUG | 0.0- 6.5    | 0820        | 20.0       | 162 | 380          | 2.8        | 21 | -.05<br>.02  | 34 | 1.12<br>1.22 | 270 | 3.80<br>4.01 | 1062 | 4.80<br>3.99 | 7.55        | .98          |      |
| 1          | 24 AUG | 6.5-10.0    | 0825        | 15.5       | 127 | 620          | 5.1        | 6  | .10<br>.09   | 26 | .90<br>.93   | 89  | 2.29<br>2.68 | 372  | 4.64<br>4.07 | 8.60        | .51          |      |
| 1          | 25 AUG | 10.0-15.5   | 0830        | 9.0        | 206 | 5390         | 3.0        | 6  | -.07<br>-.08 | 23 | .37<br>.26   | 75  | 1.14<br>.87  | 298  | 1.68<br>1.71 | 15.16       | .22          |      |
| 1          | 21 SEP | 0.0- 9.0    | 0835        | 14.0       | 127 | 540          | 1.4        | 13 | .11<br>.11   | 54 | .58<br>.64   | 184 | 1.79<br>1.81 | 702  | 2.34<br>2.22 | 3.34        | .51          |      |
| 1          | 21 SEP | 9.0-11.0    | 0840        | 11.0       | 143 | 710          | 3.3        | 6  | .10<br>.06   | 23 | .65<br>.83   | 76  | 2.24<br>2.09 | 309  | 2.43<br>3.43 | 18.77       | .74          |      |
| 1          | 22 SEP | 11.0-15.0   | 0905        | 8.0        | 209 | 470          | 2.7        | 4  | .48<br>.10   | 15 | .36<br>.35   | 51  | 1.05<br>1.03 | 199  | 1.63<br>1.66 | 24.68       | .39          |      |
| 1          | 25 OCT | 0.0-14.0    | 1045        | 7.5        | 140 | 550          | 2.0        | 12 | .16<br>.12   | 48 | .68<br>.71   | 171 | 1.92<br>1.51 | 674  | 1.30<br>1.76 | 15.63       | .38          |      |

## LAKE 382

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4          | I3 | P3           | I2  | P2           | I1   | P1            | C.V.<br>(%)  | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|-------------|----|--------------|-----|--------------|------|---------------|--------------|--------------|------|
| 0          | 31 MAY | 0.0- 2.0    | 0950        | 18.0       | 94  | 450          | 1.8        | 12 | .09<br>.09  | 41 | .71<br>.64   | 158 | 2.79<br>2.86 | 946  | 2.90<br>3.09  | 3.55         | 1.13         |      |
| 1          | 31 MAY | 0.0- 2.0    | 0950        | 18.0       | 94  | 450          | 1.8        | 10 | .02<br>.02  | 23 | .15<br>.19   | 224 | 2.34<br>2.47 | 1062 | 3.11<br>3.42  | 13.91        | 1.13         |      |
| 0          | 2 JUN  | 2.0- 6.5    | 0945        | 12.0       | 114 | 600          | 5.6        | 8  | .34<br>.32  | 27 | 1.68<br>1.38 | 105 | 4.10<br>4.96 | 581  | 5.01<br>4.49  | 9.98         | 1.41         |      |
| 1          | 2 JUN  | 2.0- 6.5    | 0945        | 12.0       | 114 | 600          | 5.6        | 3  | .06<br>.01  | 21 | .88<br>.94   | 106 | 4.14<br>3.90 | 531  | 4.25<br>3.85  | 30.90        | 1.41         |      |
| 0          | 3 JUN  | 6.0- 8.0    | 0925        | 8.5        | 175 | 570          | 7.2        | 6  | .27<br>.23  | 19 | 1.41<br>1.32 | 75  | 4.83<br>4.51 | 432  | 4.71<br>5.23  | 7.18         | 1.36         |      |
| 1          | 3 JUN  | 6.0- 8.0    | 0925        | 8.5        | 175 | 570          | 7.2        | 3  | .08<br>.08  | 15 | .78<br>1.15  | 81  | 5.00<br>4.50 | 398  | 4.45<br>3.54  | 13.54        | 1.36         |      |
| 1          | 28 JUN | 0.0- 4.0    | 0910        | 18.5       | 85  | 740          | 2.2        | 12 | .02<br>.01  | 43 | .79<br>.44   | 232 | 3.41<br>3.53 | 996  | 4.69<br>3.73  | 16.85        | -10.00       | 2    |
| 1          | 28 JUN | 4.0- 8.0    | 0915        | 13.0       | 169 | 770          | 5.6        | 9  | .25<br>.26  | 30 | .89<br>1.53  | 146 | 6.43<br>9.85 | 498  | 9.17<br>11.64 | 21.39        | 1.25         |      |
| 1          | 26 JUL | 0.0- 4.5    | 0830        | 22.0       | 79  | 630          | 3.8        | 14 | .03<br>-.03 | 63 | 1.17<br>1.14 | 224 | 2.43<br>4.35 | 941  | 6.70<br>6.20  | \$\$\$\$\$\$ | .91          |      |
| 1          | 26 JUL | 4.5- 8.5    | 0835        | 15.5       | 258 | 700          | 3.3        | 6  | .11<br>-.04 | 23 | .50<br>.71   | 81  | 2.17<br>2.04 | 310  | 4.08<br>4.92  | 84.08        | .62          |      |
| 1          | 23 AUG | 0.0- 4.8    | 0910        | 19.5       | 83  | 540          | 4.9        | 20 | .16<br>.19  | 79 | 1.59<br>1.55 | 264 | 2.79<br>3.67 | 929  | 4.81<br>3.12  | 16.48        | 1.36         |      |
| 1          | 23 AUG | 4.8- 8.0    | 0915        | 15.5       | 258 | 660          | 6.3        | 6  | -.03<br>.04 | 23 | .65<br>.58   | 85  | 2.76<br>2.65 | 349  | 4.78<br>3.76  | 9.12         | .96          |      |
| 1          | 20 SEP | 0.0- 7.0    | 0910        | 13.5       | 90  | 730          | 3.5        | 11 | .10<br>.13  | 42 | 1.07<br>1.05 | 153 | 4.03<br>3.94 | 602  | 4.71<br>2.54  | 15.81        | 1.06         |      |
| 1          | 20 SEP | 7.0- 8.0    | 0915        | 11.5       | 266 | 740          | 7.4        | 6  | .05<br>.13  | 21 | 1.19<br>1.24 | 69  | 3.57<br>5.30 | 279  | 6.98<br>6.75  | 25.84        | 1.49         |      |
| 1          | 25 OCT | 0.0- 8.0    | 0945        | 7.5        | 105 | 480          | 3.6        | 12 | .16<br>.14  | 48 | .81<br>.78   | 171 | 2.03<br>2.10 | 674  | 3.33<br>3.06  | 4.33         | .91          |      |

## LAKE 382 BAY

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC | SUSP<br>CAR. | CHLOR<br>A | I4 | P4         | I3 | P3           | I2  | P2           | I1   | P1           | C.V.<br>(%) | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|-----|--------------|------------|----|------------|----|--------------|-----|--------------|------|--------------|-------------|--------------|------|
| 0          | 31 MAY | 0.0- 2.0    | 1005        | 18.0       | 103 | 710          | 2.1        | 12 | .08<br>.04 | 41 | 1.13<br>1.17 | 158 | 5.68<br>6.87 | 946  | 9.57<br>8.39 | 17.42       | 1.41         |      |
| 1          | 31 MAY | 0.0- 2.0    | 1005        | 18.0       | 103 | 710          | 2.1        | 10 | .04<br>.31 | 23 | .34<br>.26   | 224 | 5.60<br>5.79 | 1062 | 9.15<br>9.12 | 33.26       | 1.41         |      |
| 1          | 28 JUN | 0.0- 3.0    | 0935        | 18.5       | 91  | 820          | 3.7        | 12 | .05<br>.03 | 43 | .75<br>.75   | 232 | 4.69<br>5.44 | 996  | 5.69<br>6.56 | 13.33       | .88          |      |
| 1          | 26 JUL | 0.0- 3.0    | 0855        | 22.0       | 88  | 740          | 4.6        | 14 | .08<br>.05 | 63 | 1.08<br>1.07 | 224 | 4.69<br>4.77 | 941  | 7.56<br>7.27 | 8.88        | .94          |      |
| 1          | 23 AUG | 0.0- 3.0    | 0940        | 19.5       | 90  | 670          | 6.4        | 20 | .21<br>.22 | 79 | 1.64<br>1.70 | 264 | 5.56<br>5.16 | 929  | 7.62<br>7.68 | 2.74        | 1.58         |      |
| 1          | 20 SEP | 0.0- 3.0    | 0930        | 13.5       | 81  | 690          | 2.9        | 11 | .09<br>.08 | 42 | .76<br>.63   | 153 | 2.28<br>3.00 | 603  | 4.83<br>4.02 | 13.46       | 1.37         |      |
| 1          | 25 OCT | 0.0- 3.0    | 1000        | 7.5        | 114 | 580          | 3.2        | 12 | .07<br>.07 | 48 | .52<br>.48   | 171 | 1.97<br>2.00 | 674  | 4.29<br>3.42 | 5.69        | 1.22         |      |

## LAKE 661

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC  | SUSP<br>CAR. | CHLOR<br>A | 14  | P4 | 13          | P3 | 12           | P2  | 11           | P1   | C.V.<br>(%)   | BIO-<br>MASS | NOTE |
|------------|--------|-------------|-------------|------------|------|--------------|------------|-----|----|-------------|----|--------------|-----|--------------|------|---------------|--------------|------|
| 0          | 24 MAY | 0.0-        | .3          | 1040       | 15.5 | 93           | 580        | 2.0 | 13 | .05<br>.04  | 43 | .56<br>.59   | 158 | 3.71<br>4.17 | 913  | 7.10<br>8.12  | 7.12         | 1.43 |
| 1          | 24 MAY | 0.0-        | .3          | 1040       | 15.5 | 93           | 580        | 2.0 | 5  | -.01<br>.00 | 21 | .03<br>.02   | 208 | 3.75<br>3.31 | 847  | 6.18<br>6.51  | 12.35        | 1.43 |
| 1          | 21 JUN | 0.0-        | .3          | 1115       | 17.0 | 78           | 910        | 2.5 | 12 | .02<br>-.02 | 47 | .18<br>.13   | 257 | 2.34<br>2.80 | 1096 | 4.50<br>4.86  | \$\$\$\$\$\$ | 1.27 |
| 1          | 20 JUL | .3-         | .3          | 0810       | 23.0 | 88           | 530        | 3.1 | 13 | .06<br>.09  | 53 | .67<br>.54   | 208 | 2.94<br>3.02 | 913  | 6.84<br>7.25  | 12.85        | .86  |
| 1          | 16 AUG | .3-         | .3          | 1020       | 22.0 | 86           | 790        | 4.9 | 18 | .08<br>.07  | 71 | 1.18<br>1.21 | 242 | 6.09<br>5.60 | 896  | 9.68<br>11.21 | 6.52         | .84  |
| 1          | 14 SEP | 0.0-        | .3          | 0930       | 16.5 | 107          | 650        | 4.1 | 12 | .24<br>-.01 | 47 | .41<br>.35   | 156 | 2.11<br>1.84 | 618  | 5.01<br>5.62  | 45.51        | .51  |
| 1          | 13 OCT | 0.0-        | .3          | 1110       | 8.5  | 117          | 810        | 6.3 | 6  | .02<br>.06  | 26 | .35<br>.43   | 94  | 2.32<br>2.86 | 392  | 6.11<br>6.00  | 23.25        | 1.55 |

## APPENDIX 2

## "PRESENT SITE" LAKE BASINS

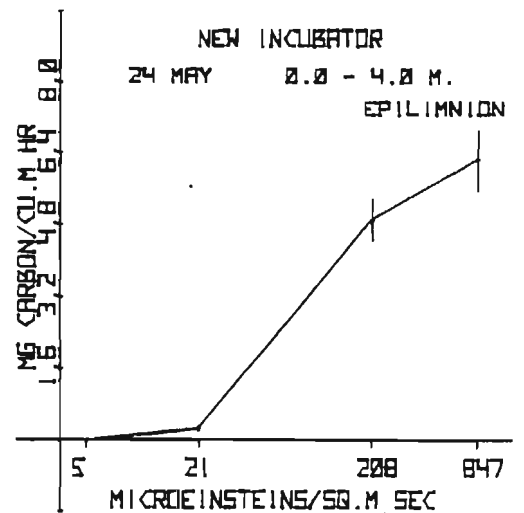
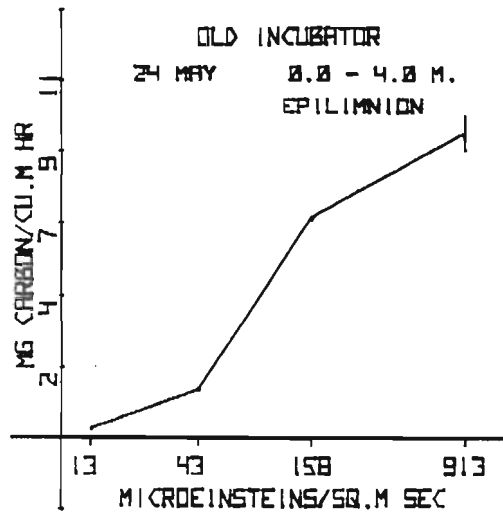
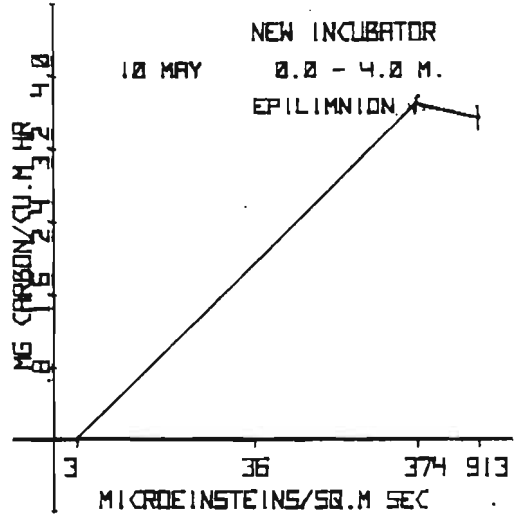
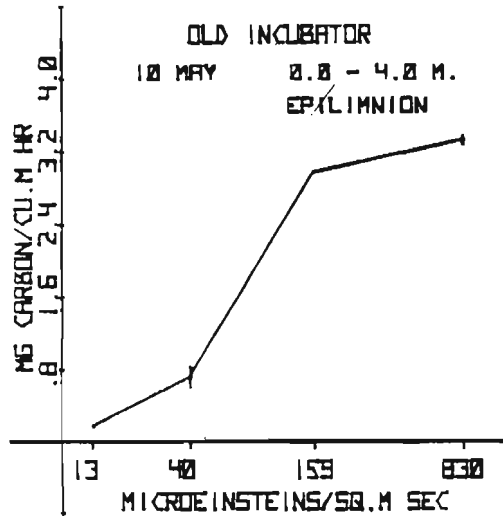
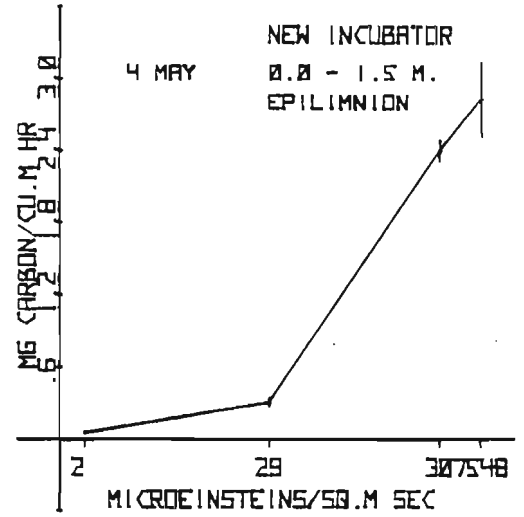
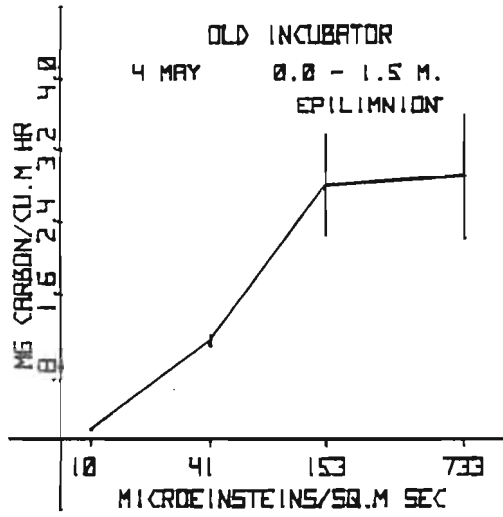
Plots of photosynthetic carbon uptake versus incubator irradiance are chronologically arranged according to lake basin. Irradiance is plotted on a logarithmic scale showing the actual light value. Production is plotted on a linear scale. The vertical bars of the plot join the replicate bottle values for each irradiance.

The light incubator type used to determine carbon uptake versus irradiance is shown on each plot as well as the date, depth and thermal zone.

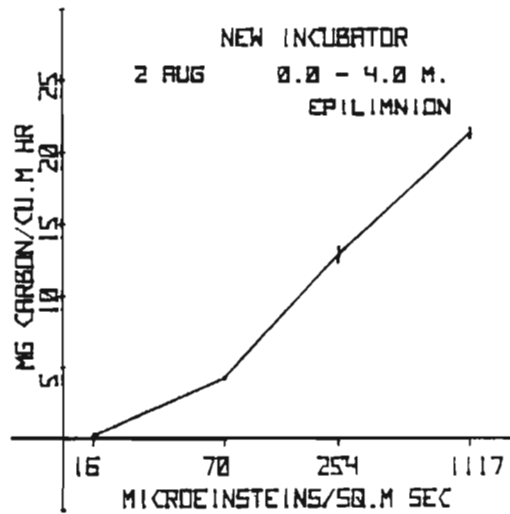
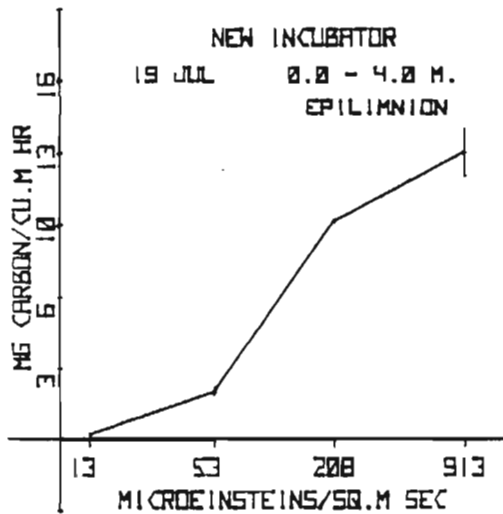
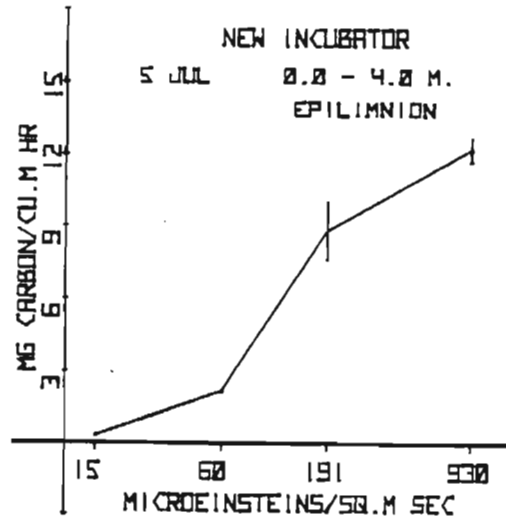
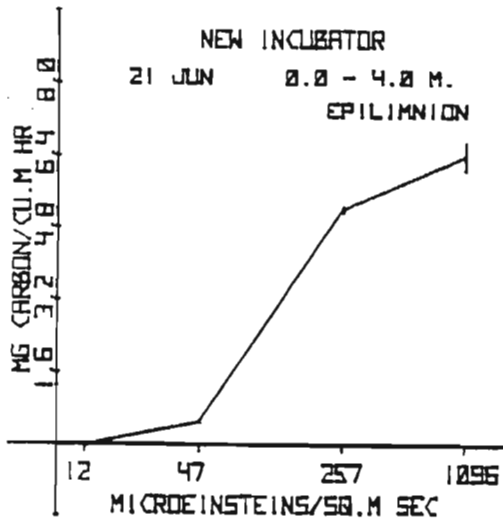
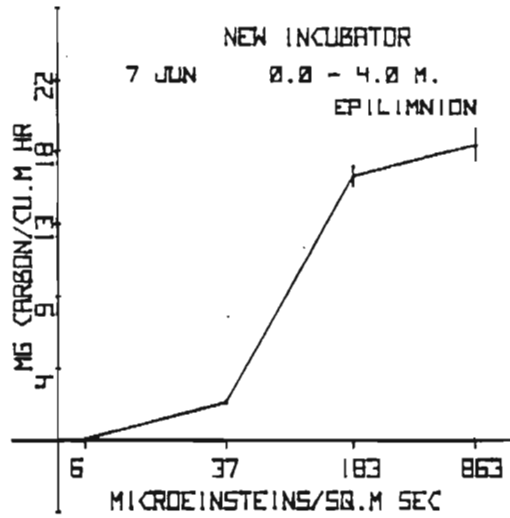
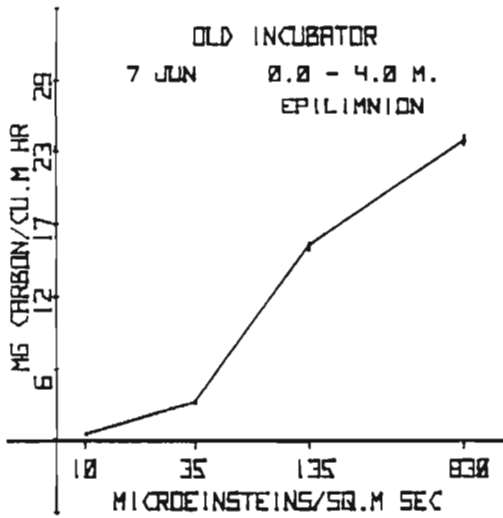
MR noted on plot indicates missing replicate.



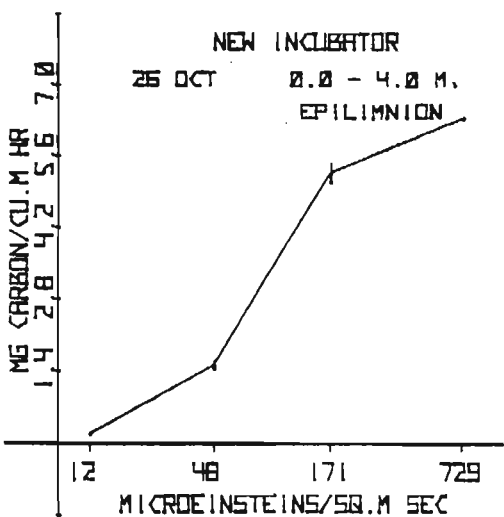
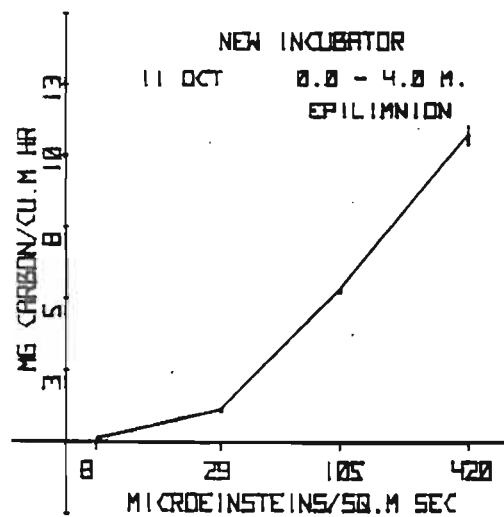
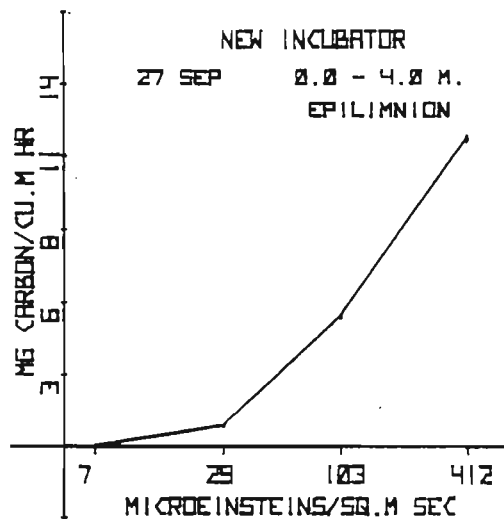
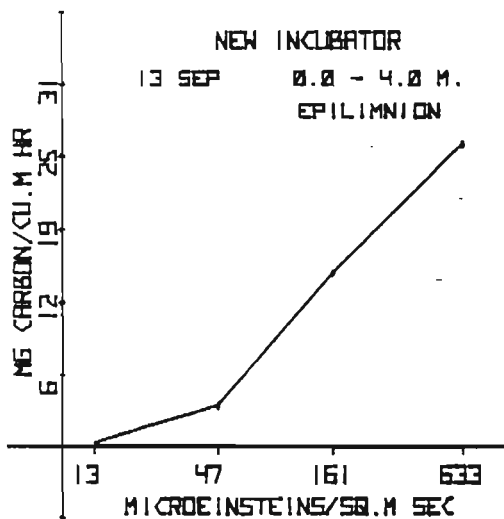
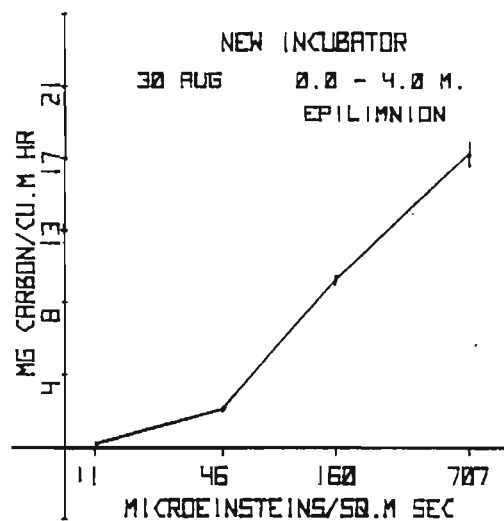
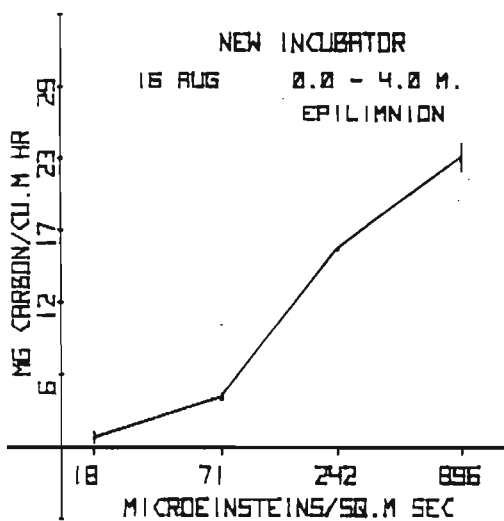
LAKE 114



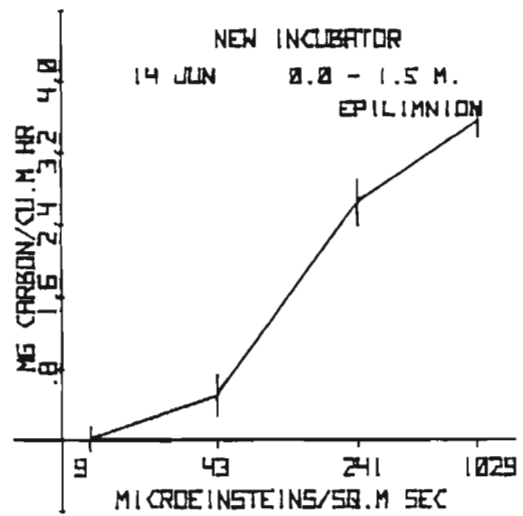
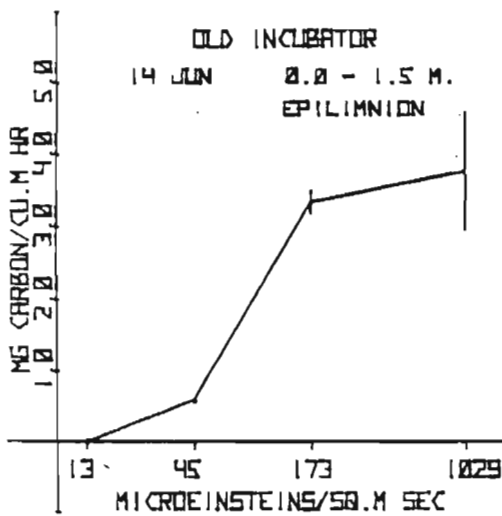
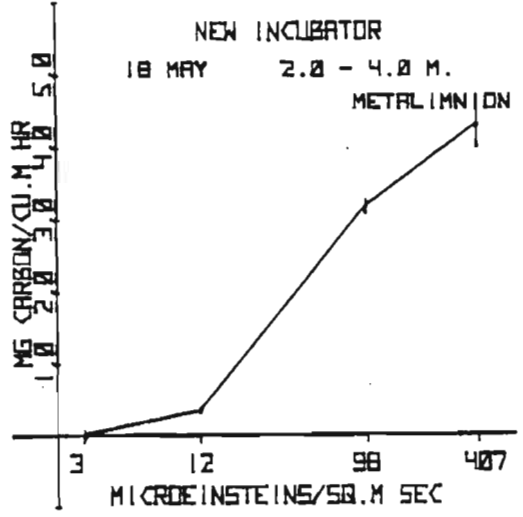
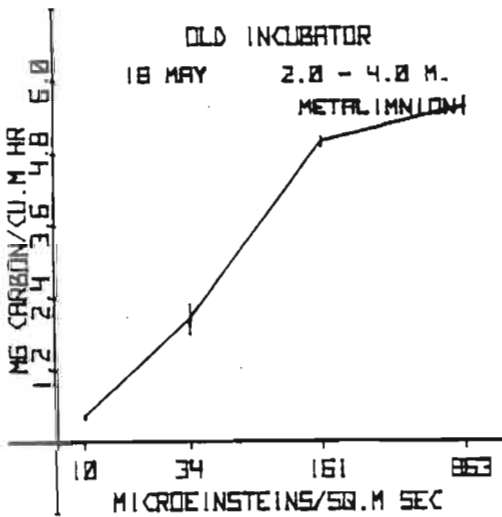
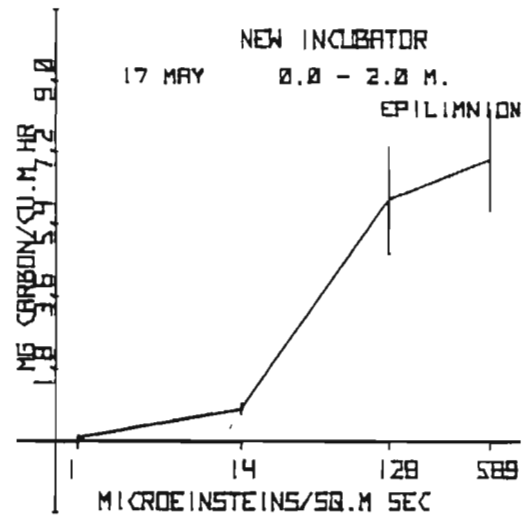
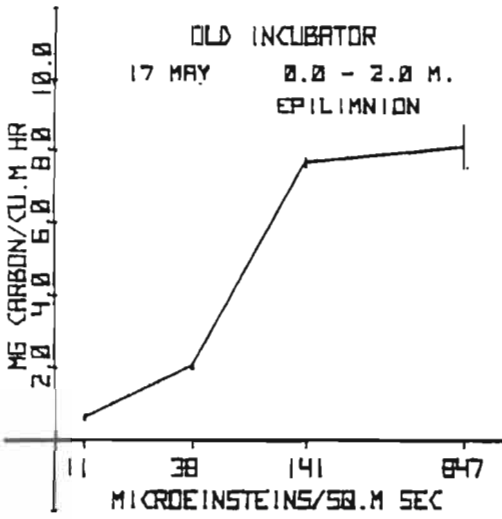
## LAKE 114



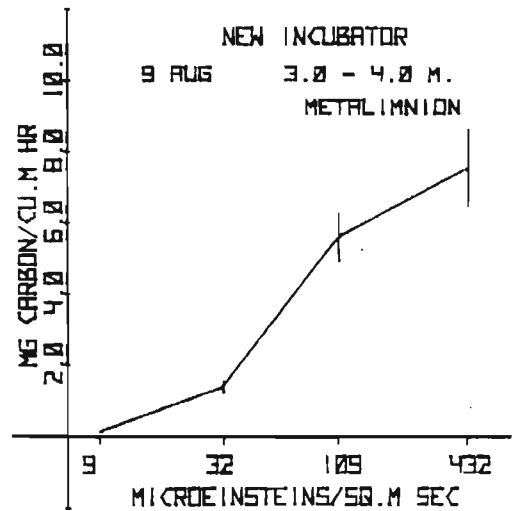
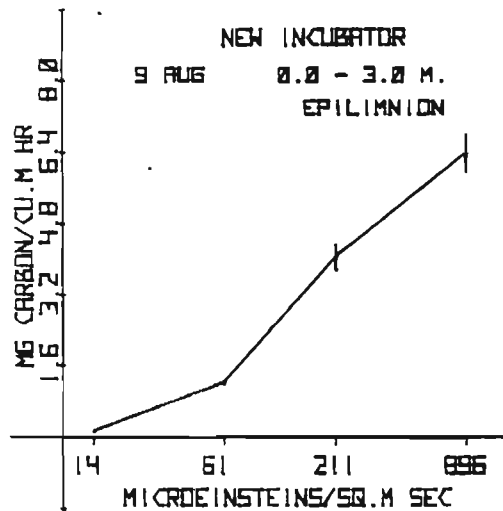
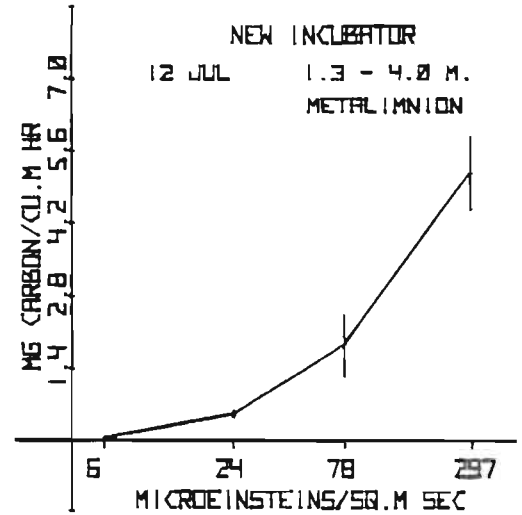
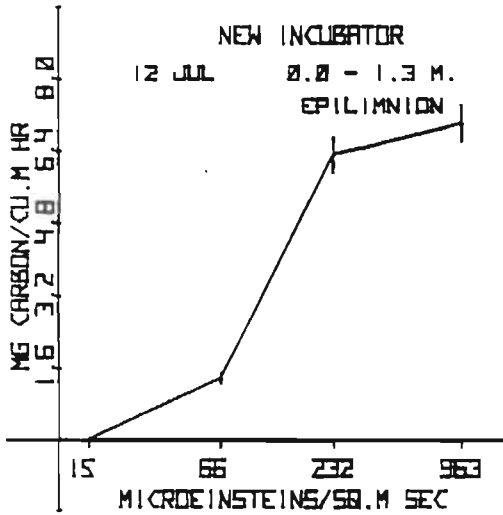
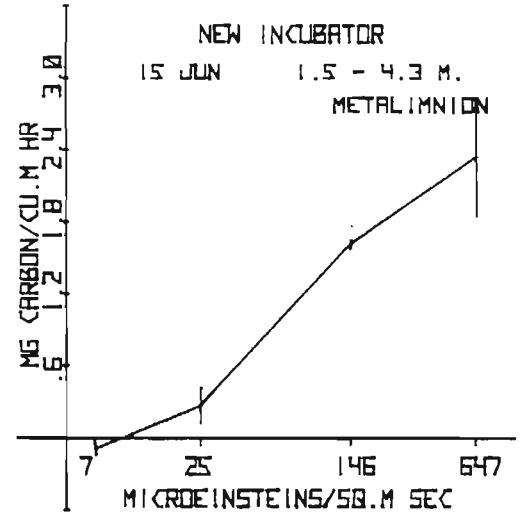
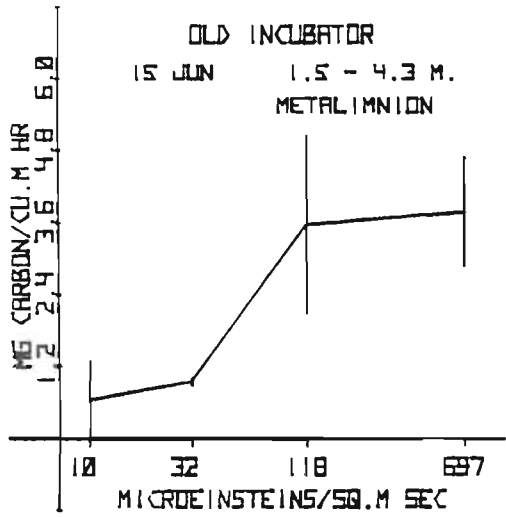
LAKE 114



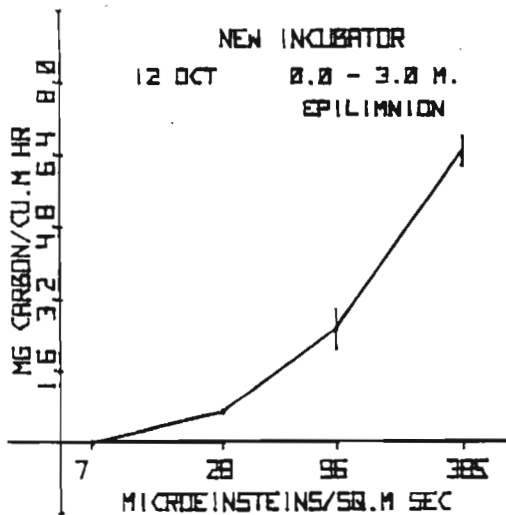
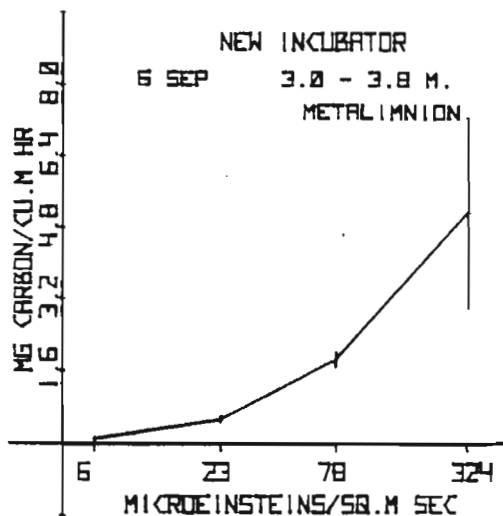
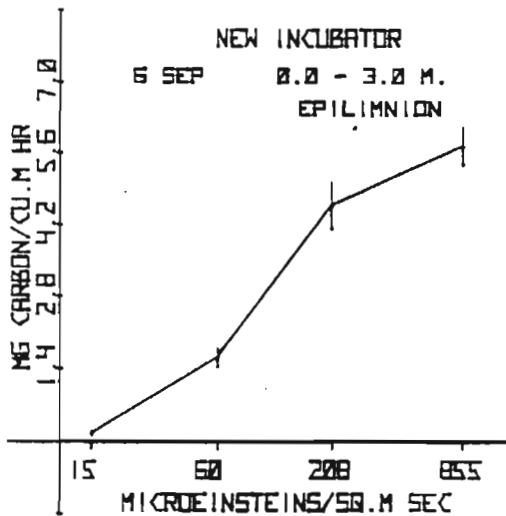
## LAKE 222



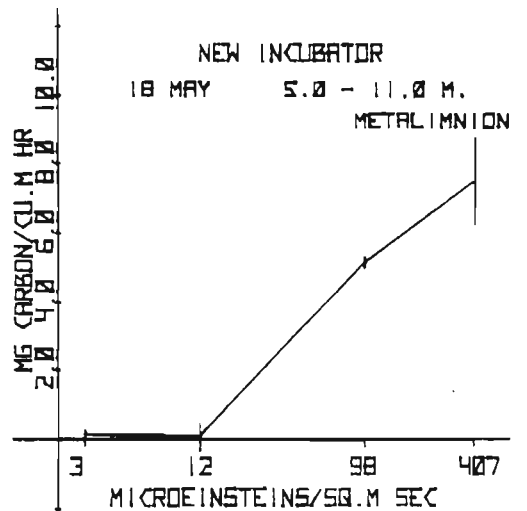
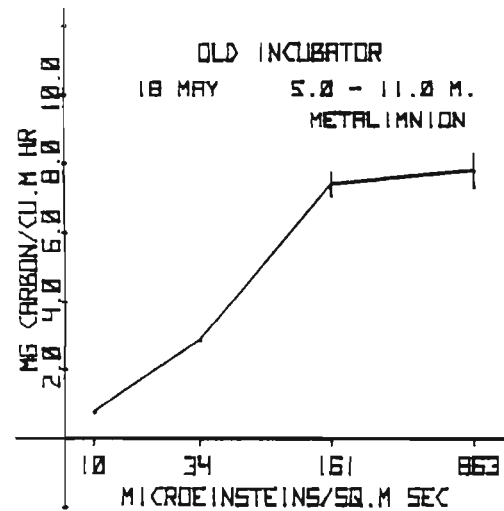
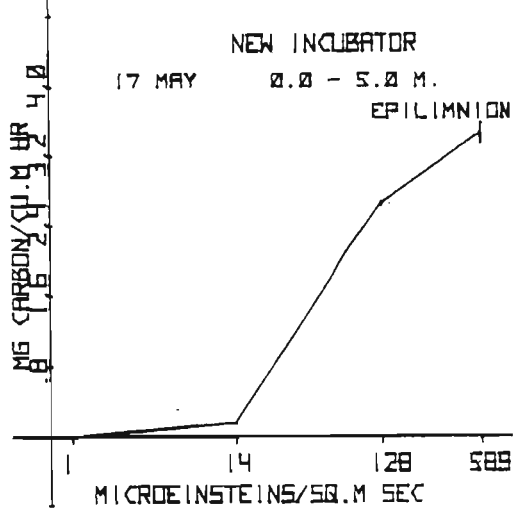
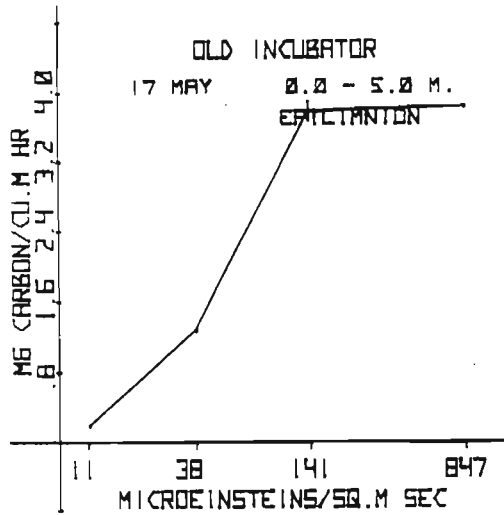
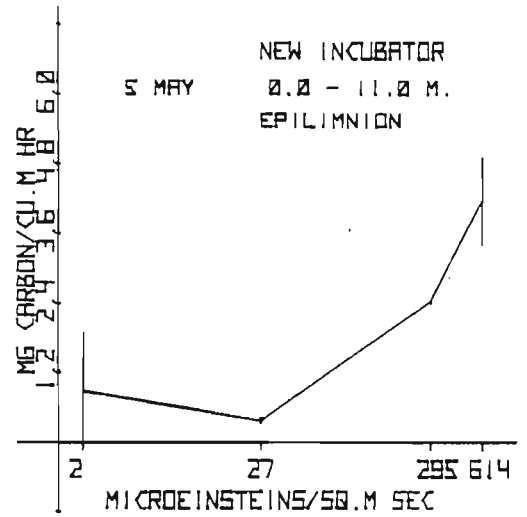
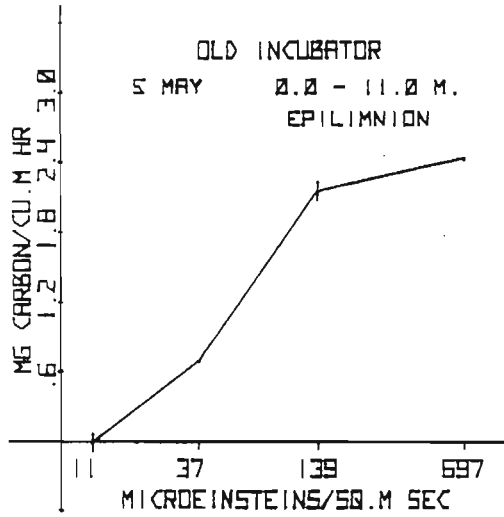
LAKE 222



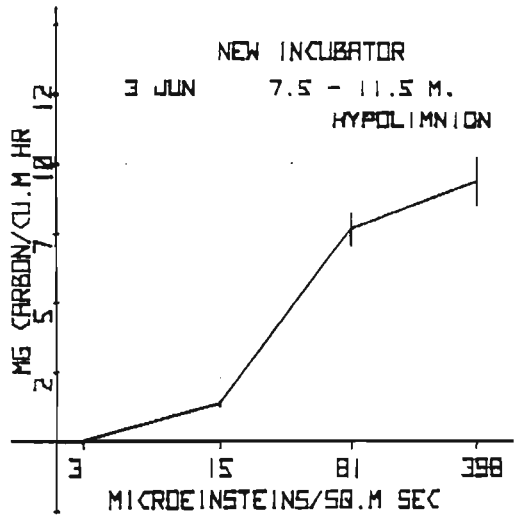
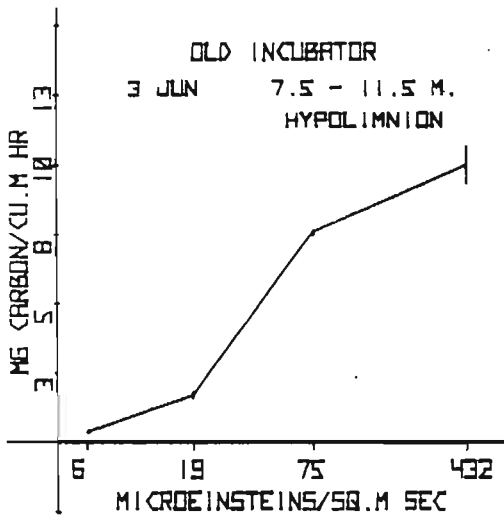
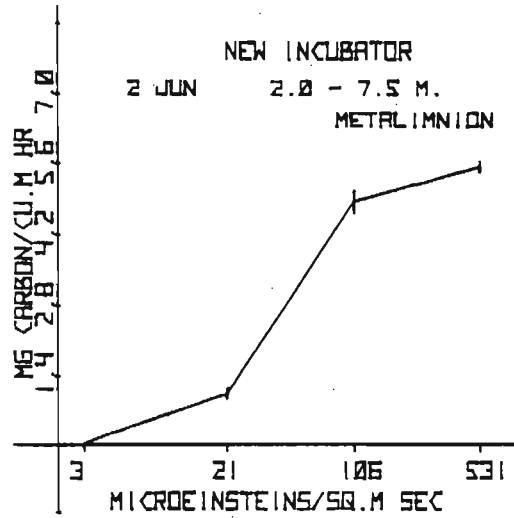
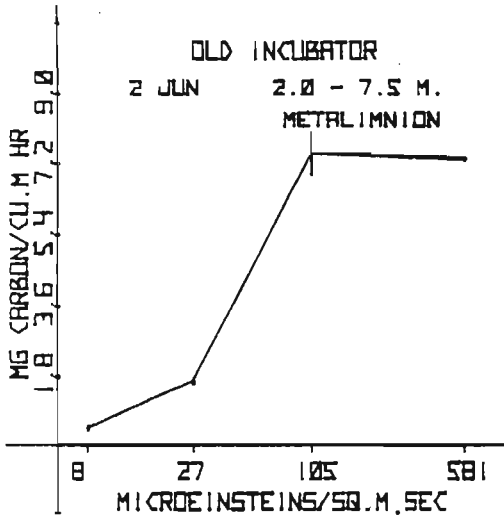
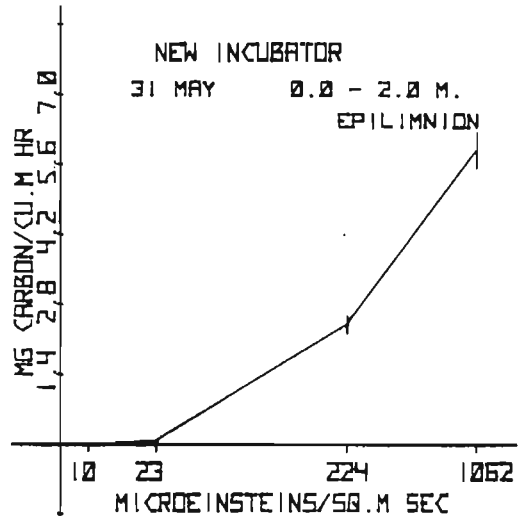
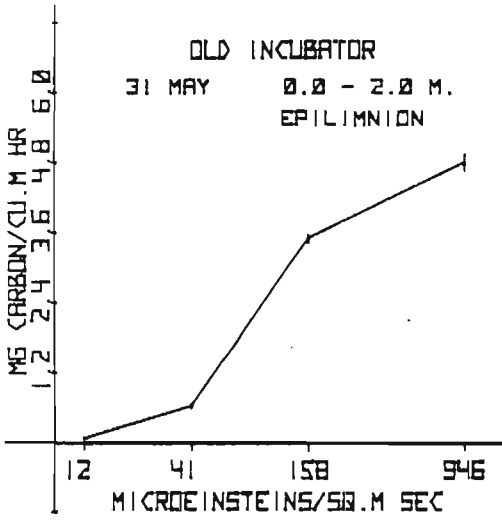
LAKE 222



LAKE 223

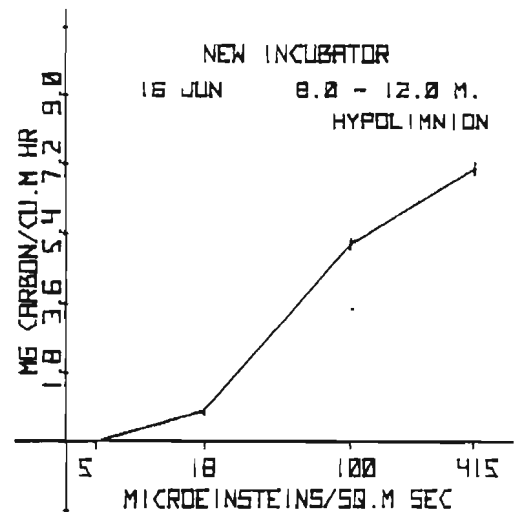
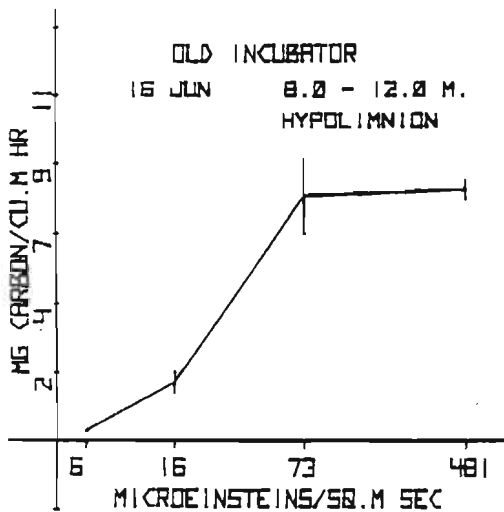
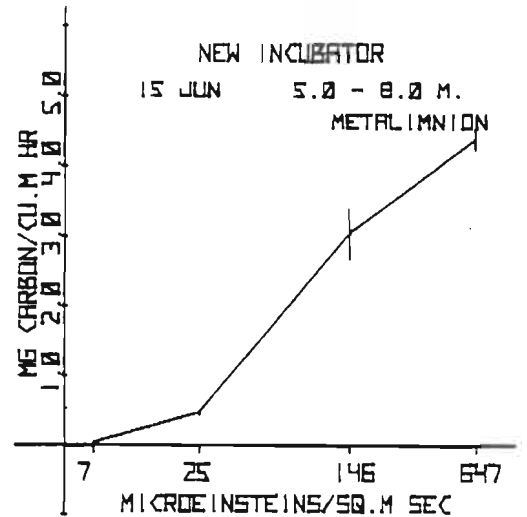
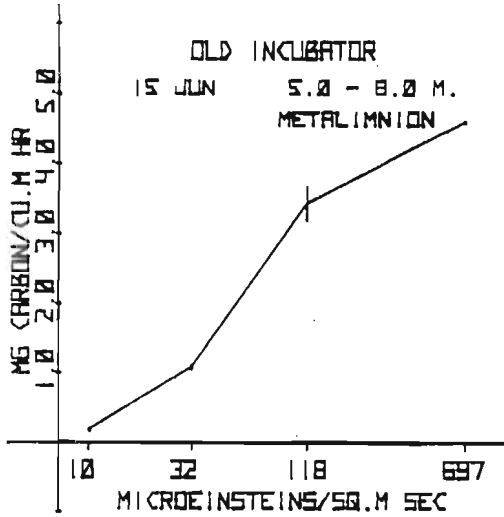
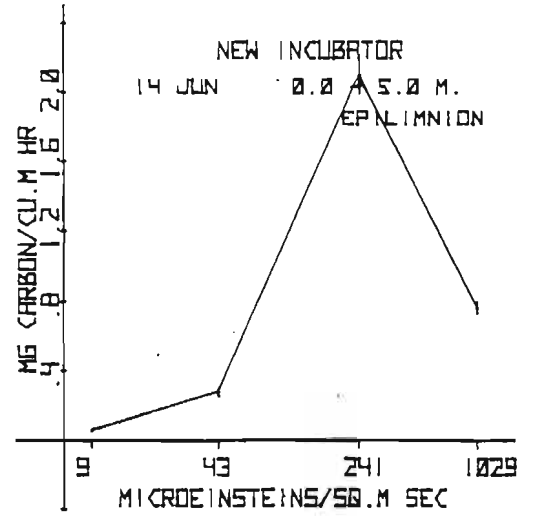
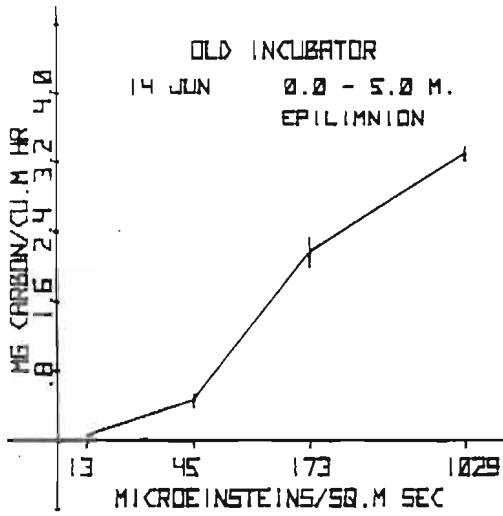


LAKE 223

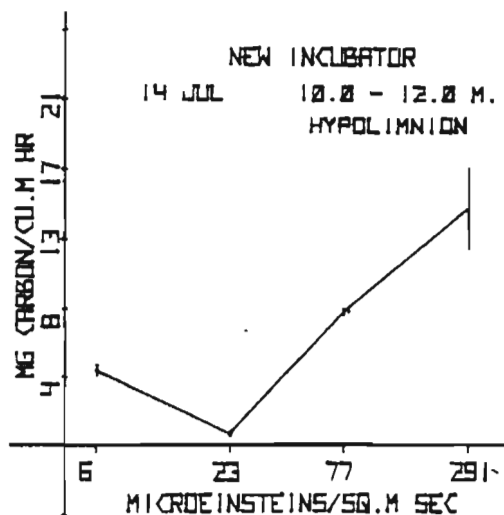
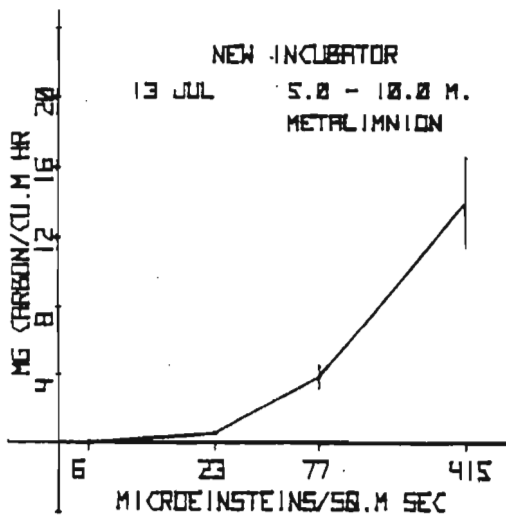
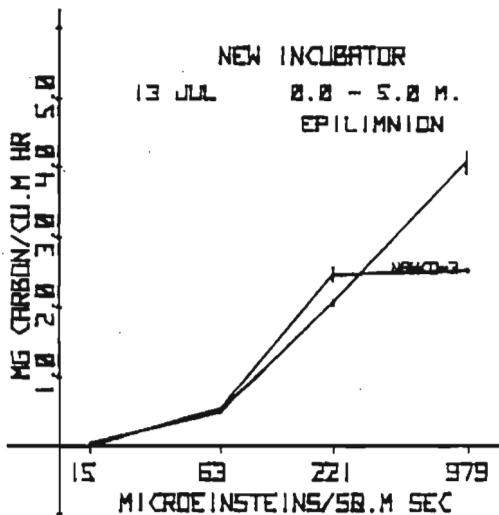
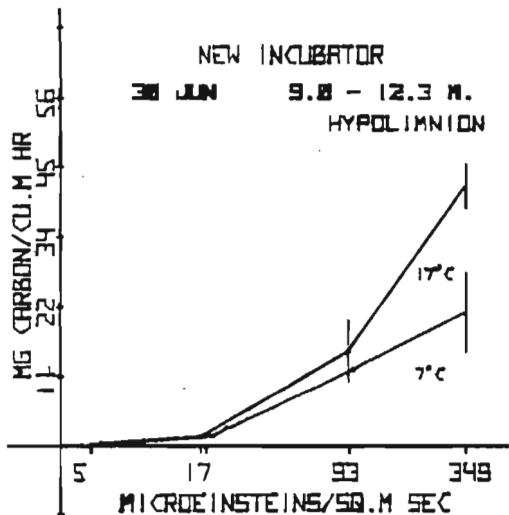
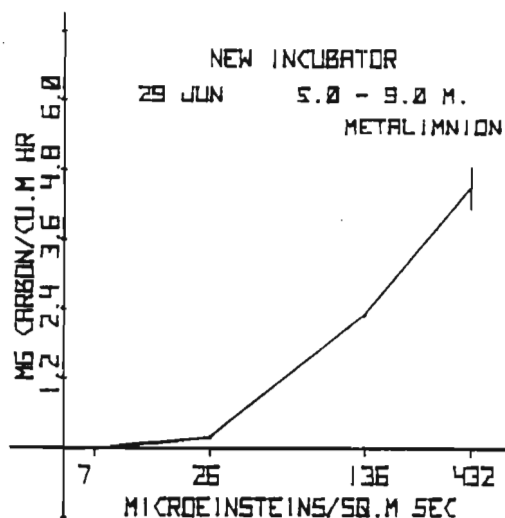
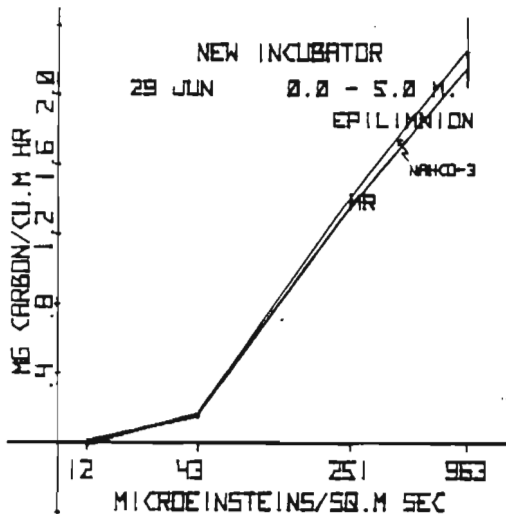




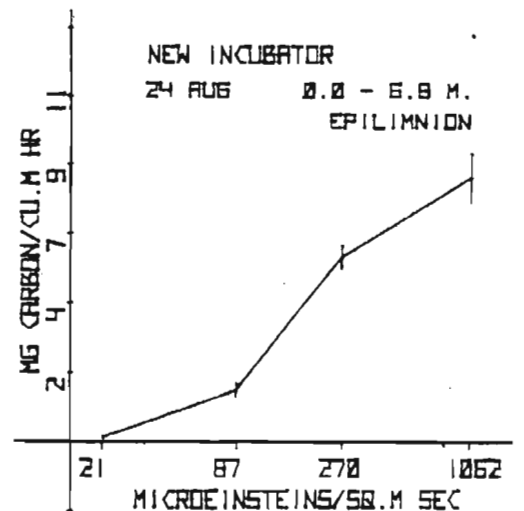
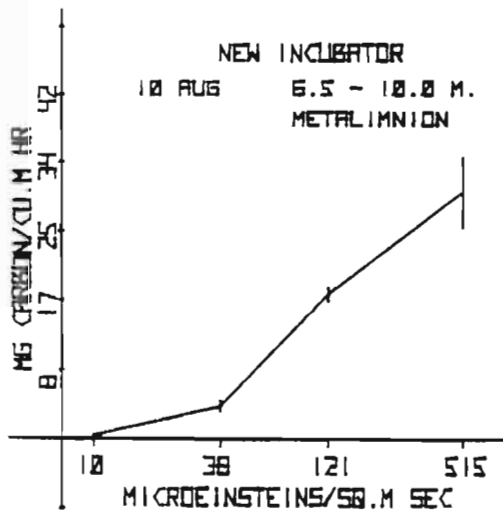
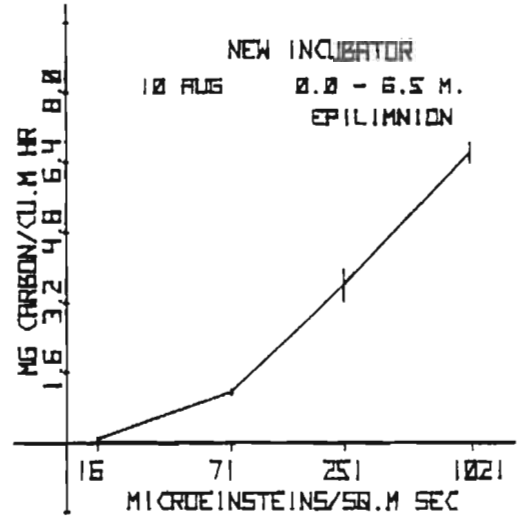
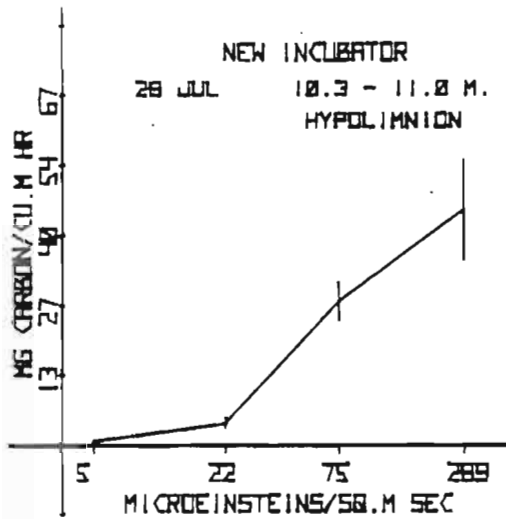
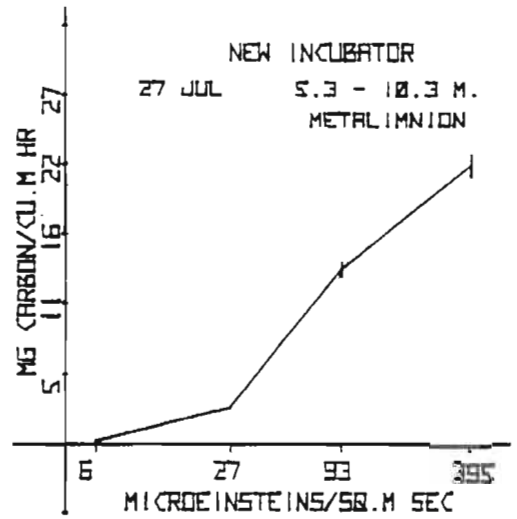
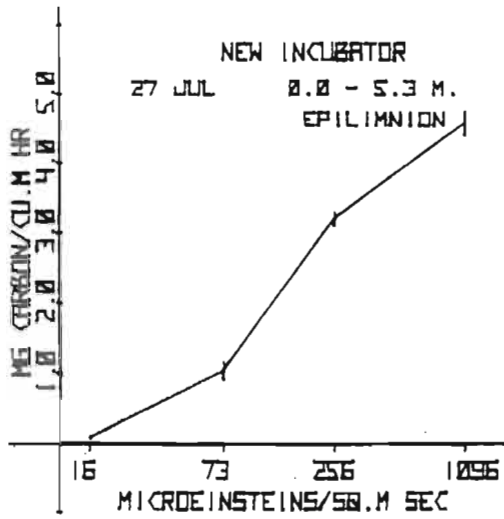
LAKE 223



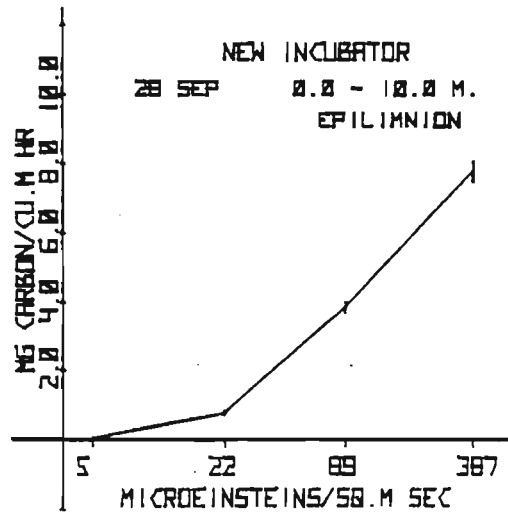
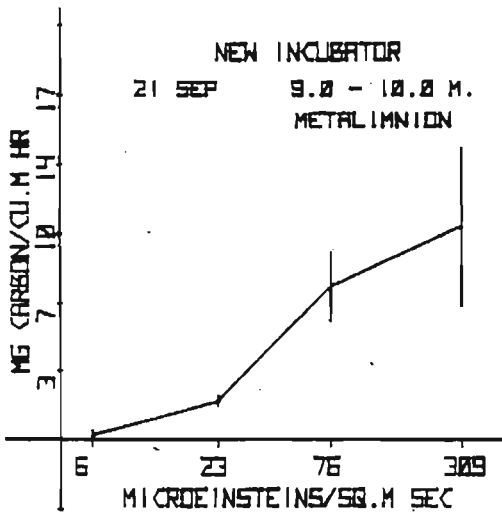
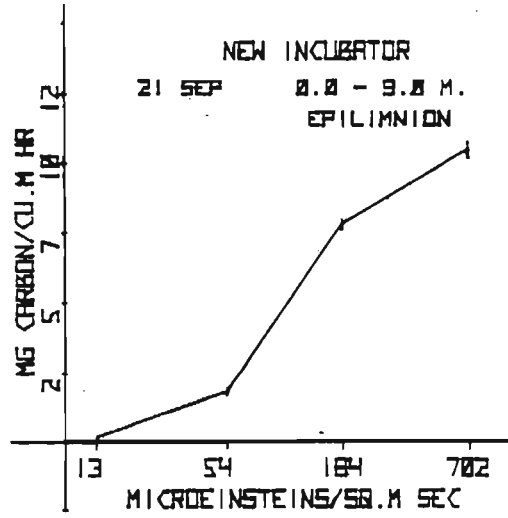
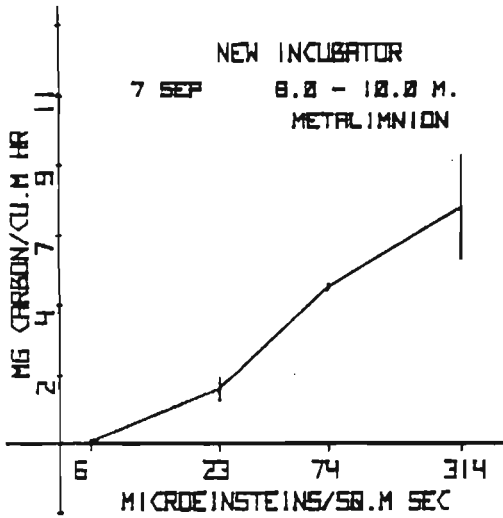
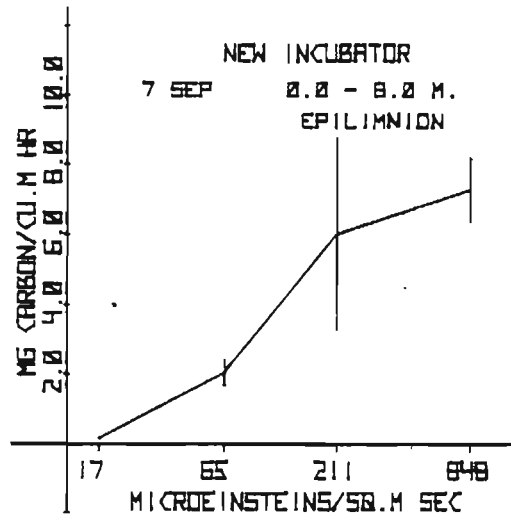
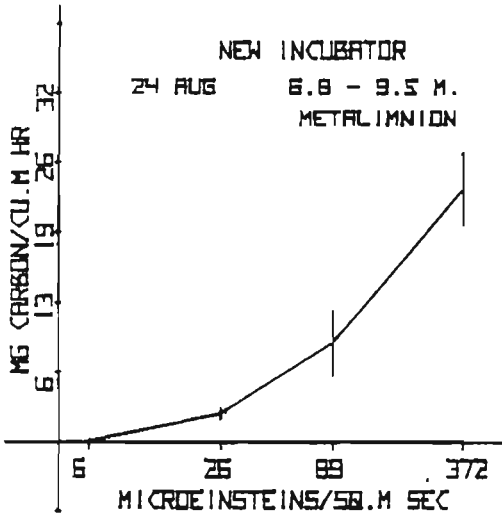
LAKE 223



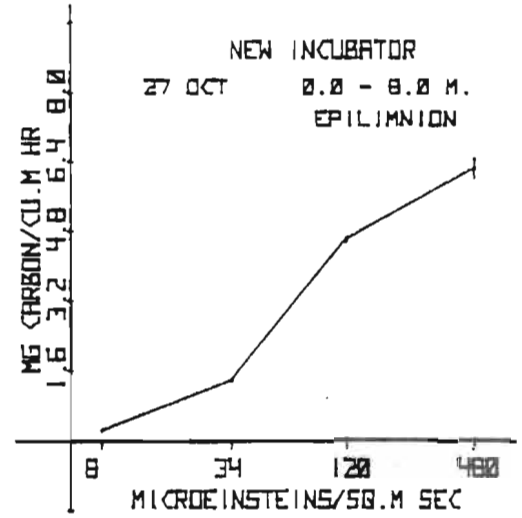
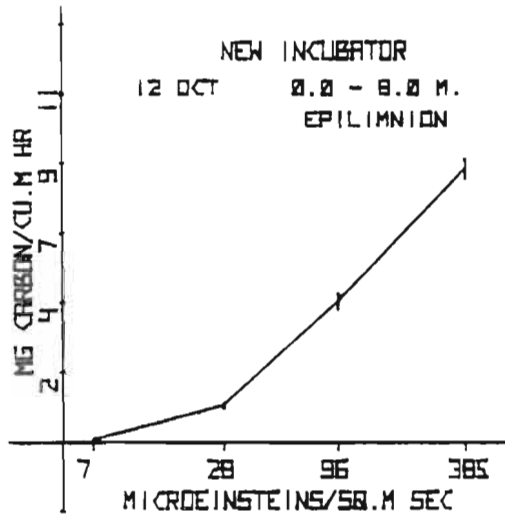
## LAKE 223



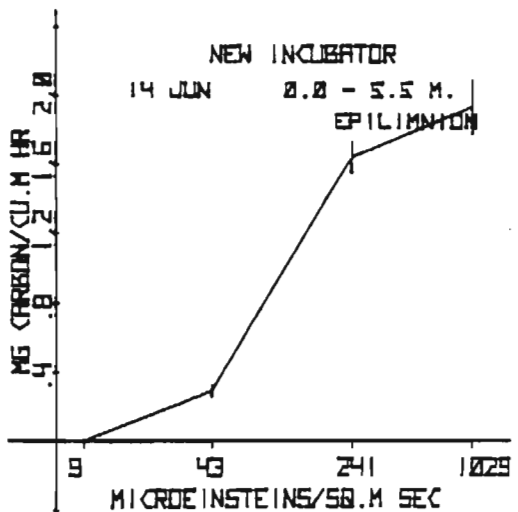
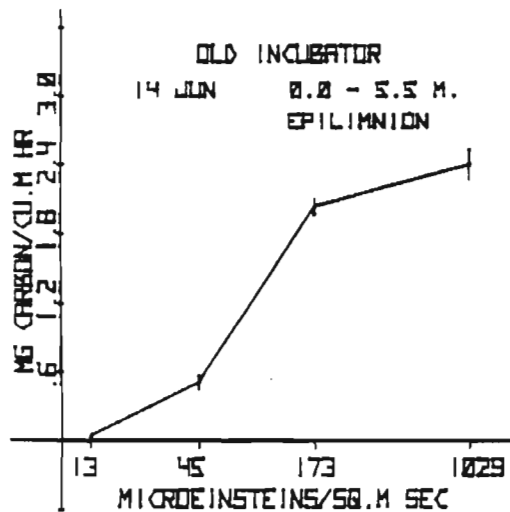
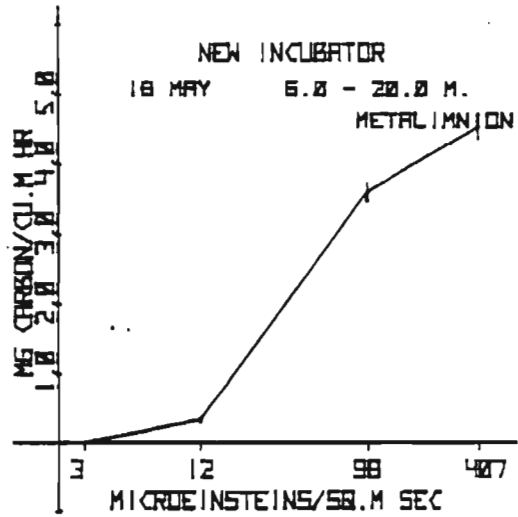
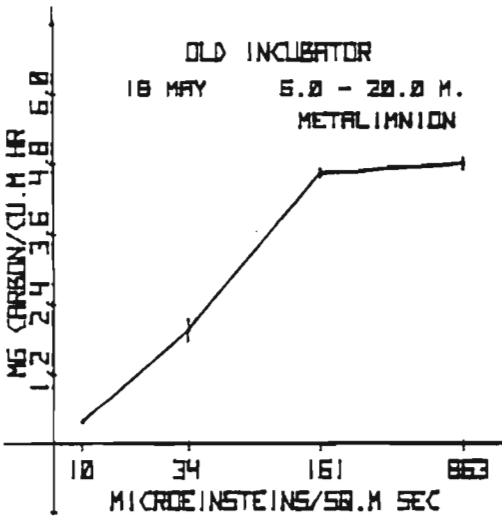
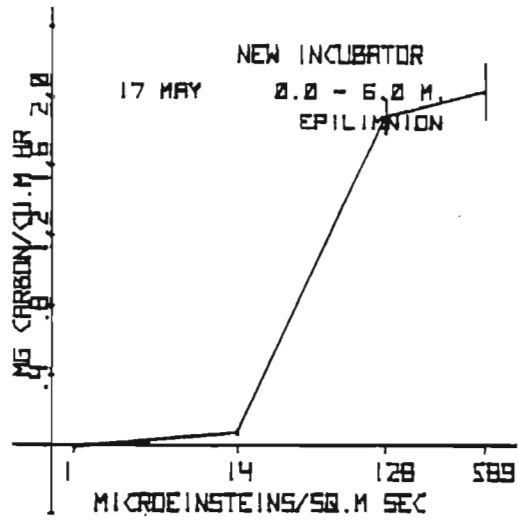
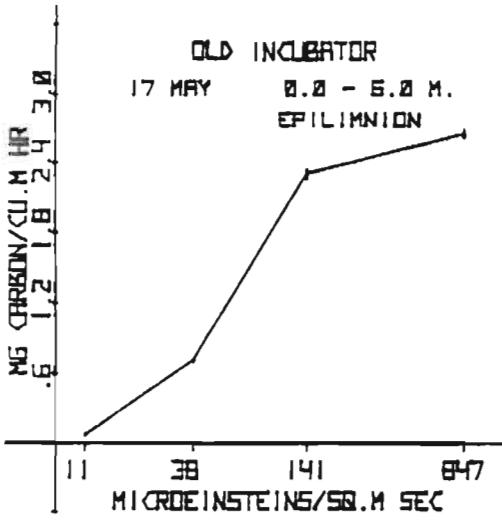
LAKE 223



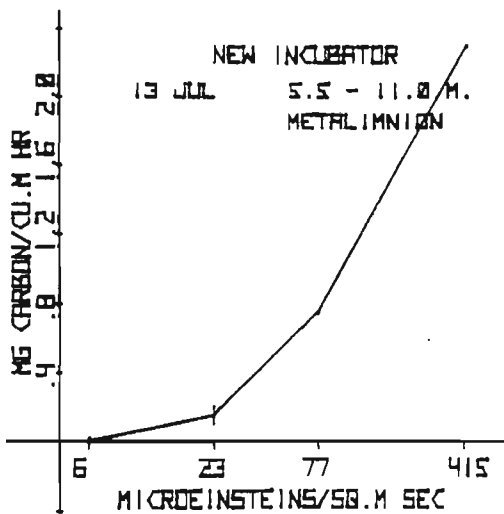
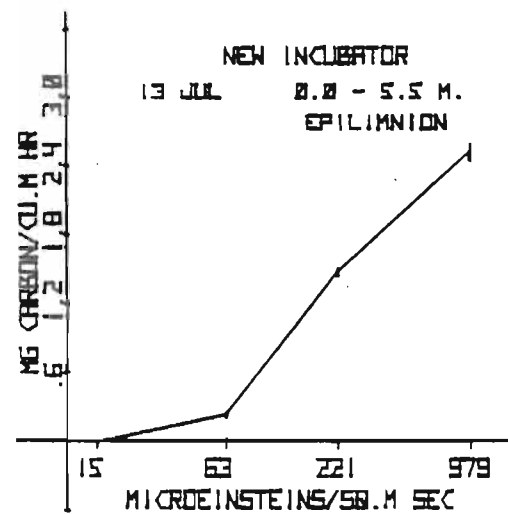
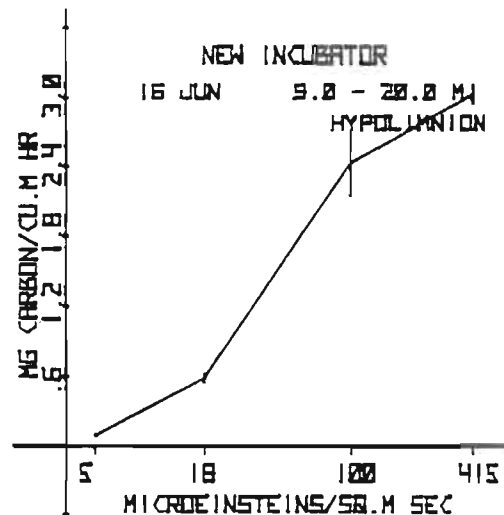
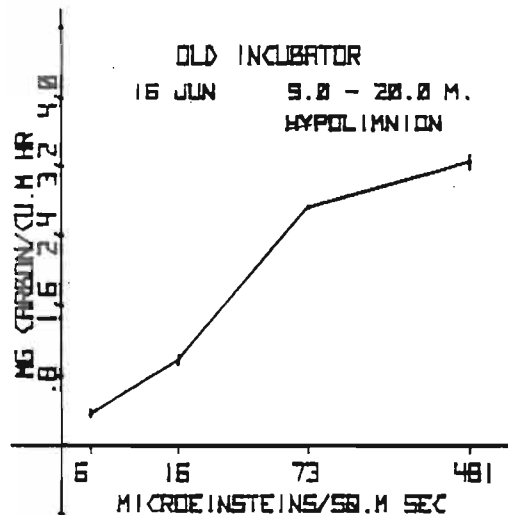
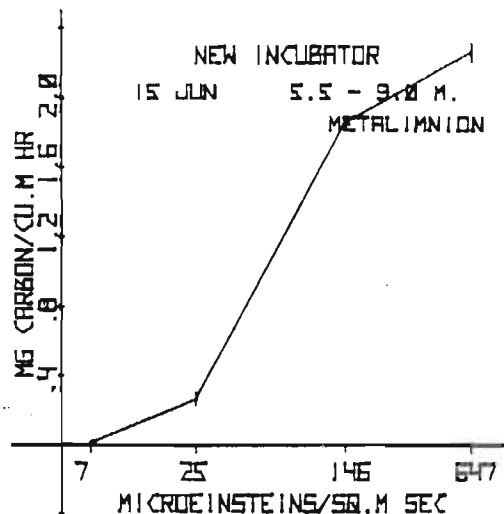
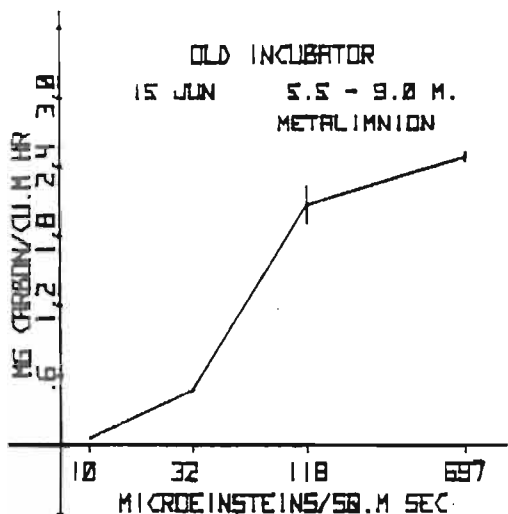
## LAKE 223



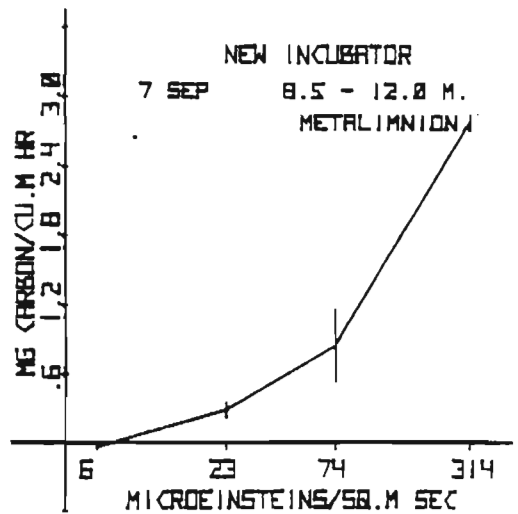
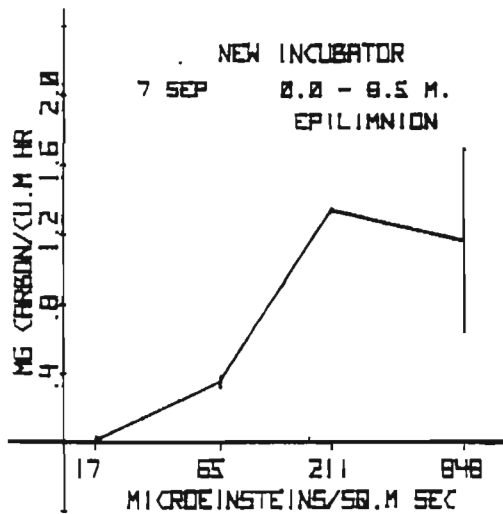
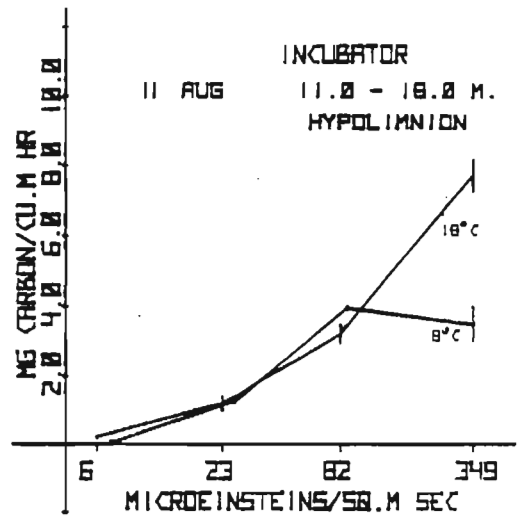
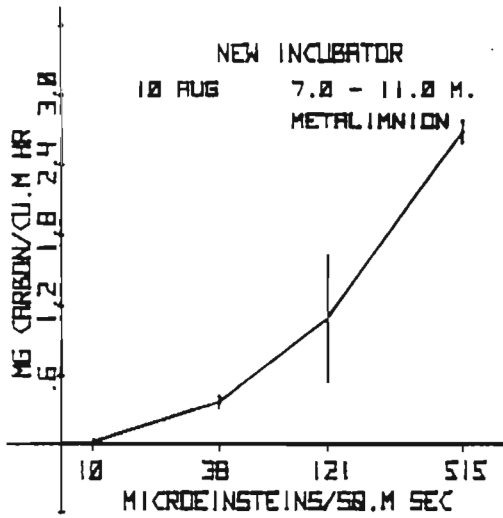
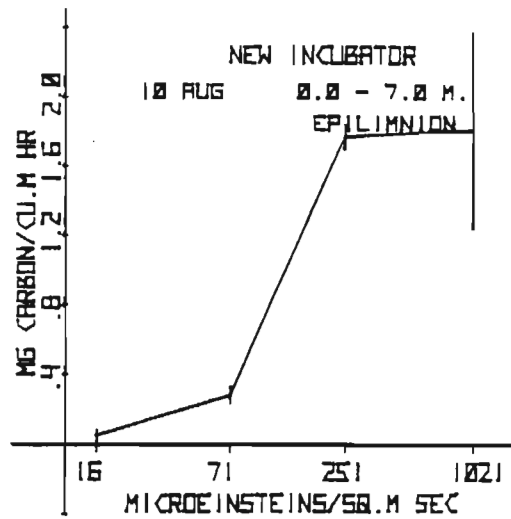
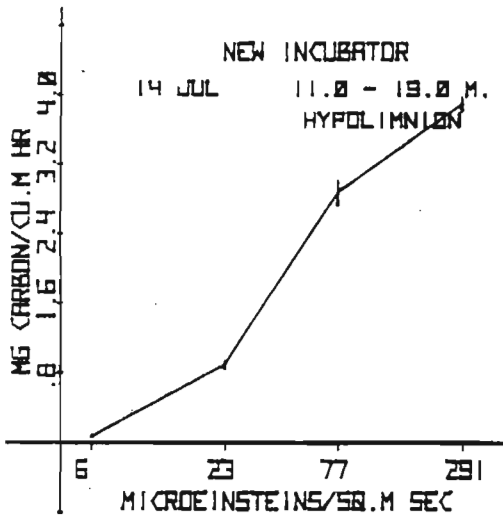
LAKE 224



LAKE 224

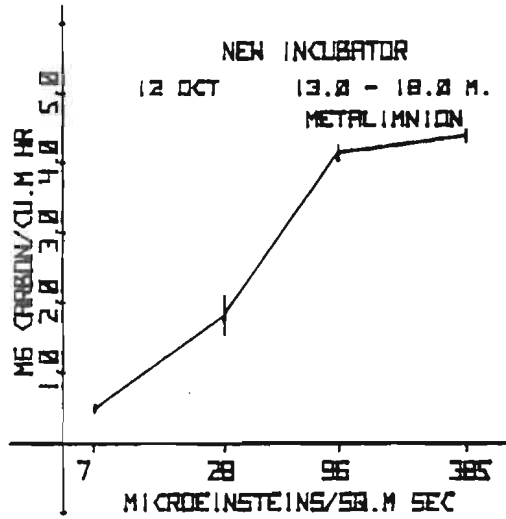
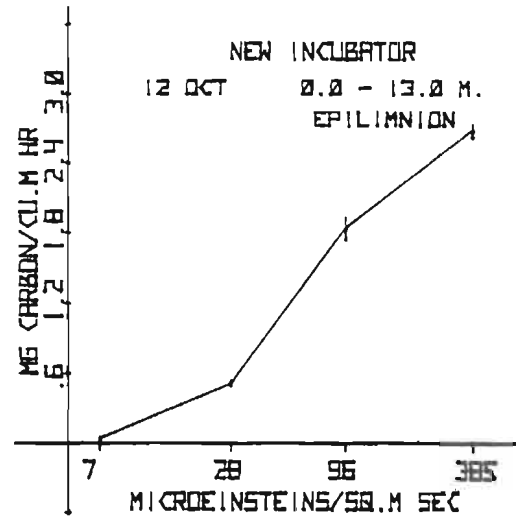
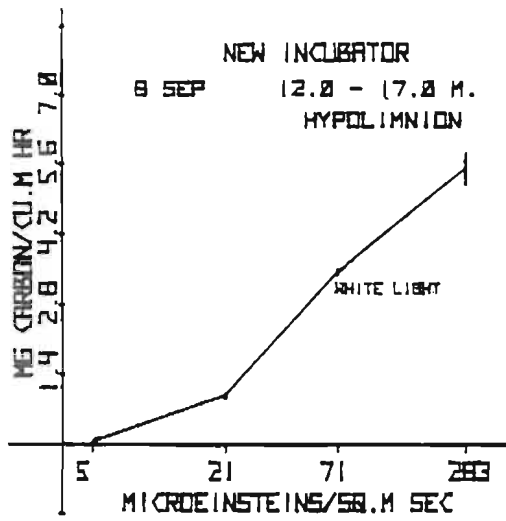


LAKE 224

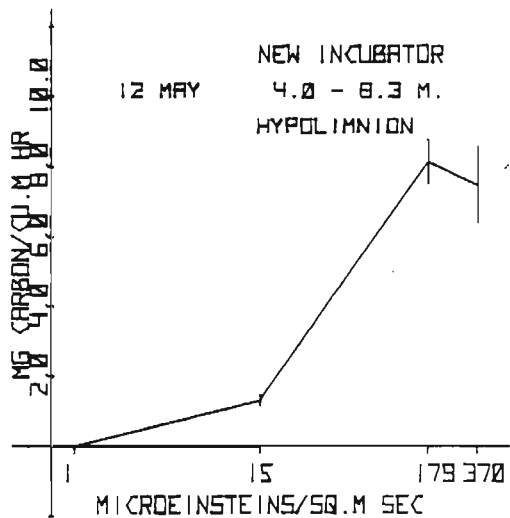
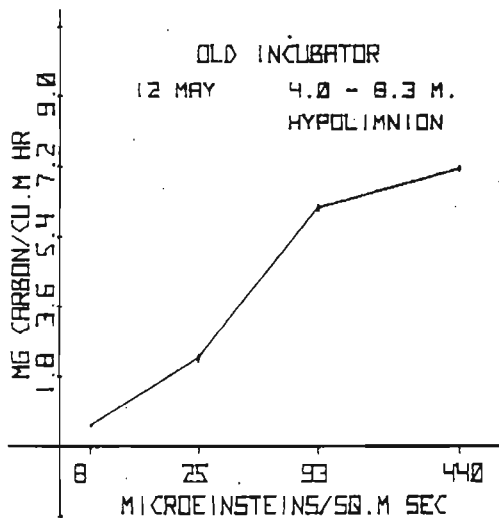
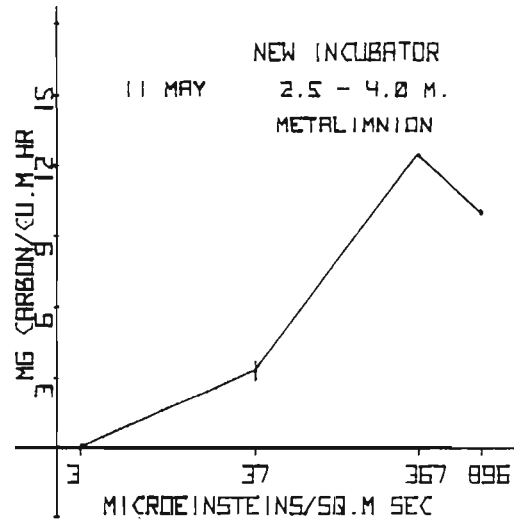
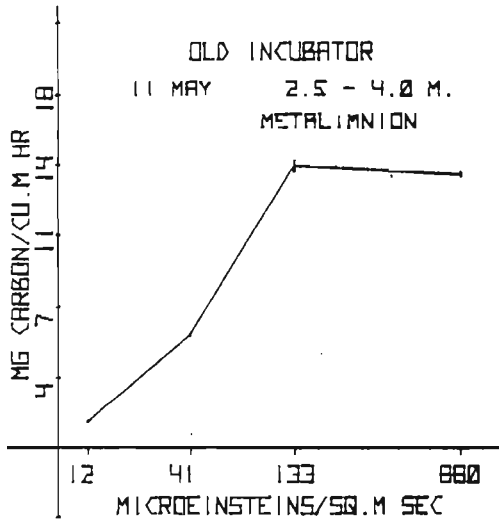
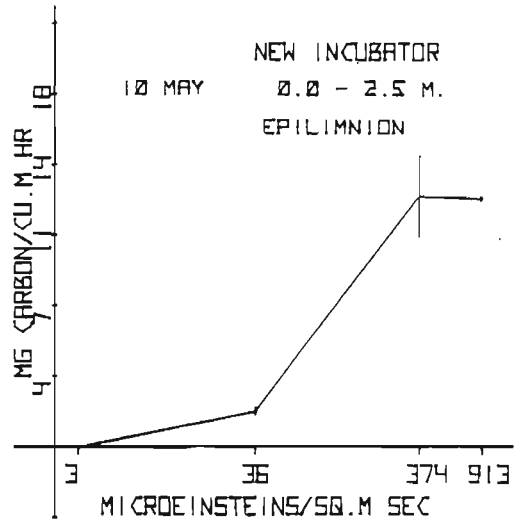
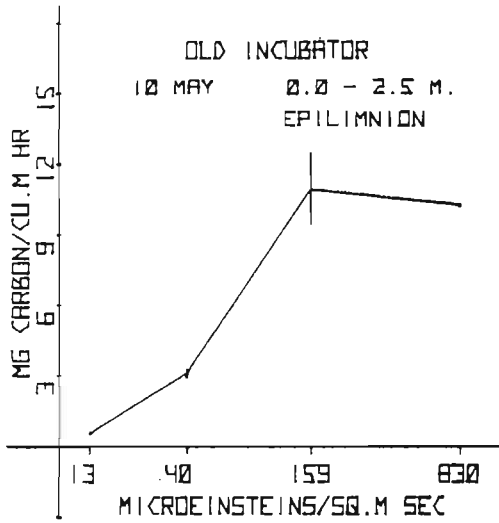




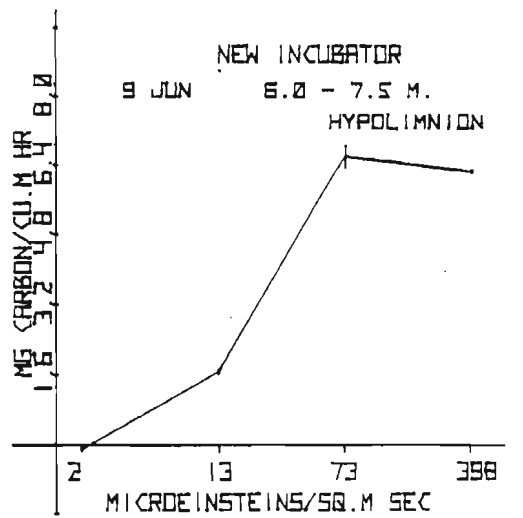
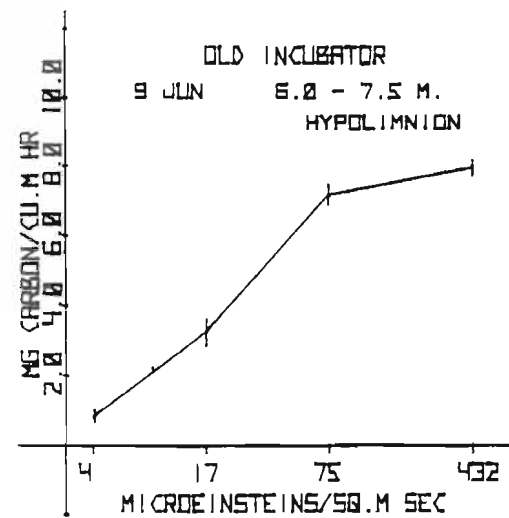
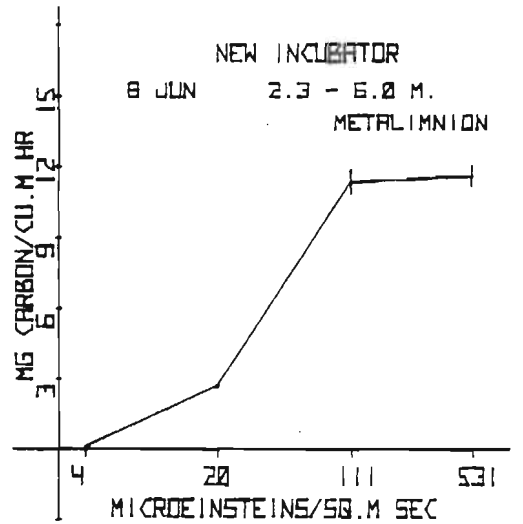
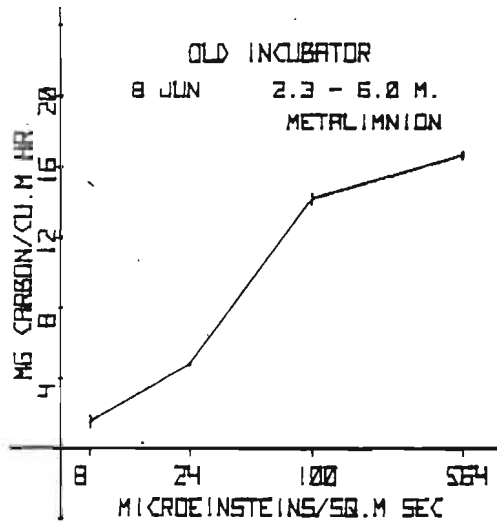
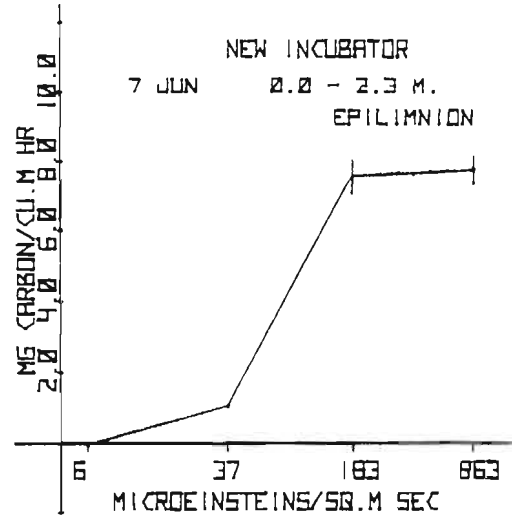
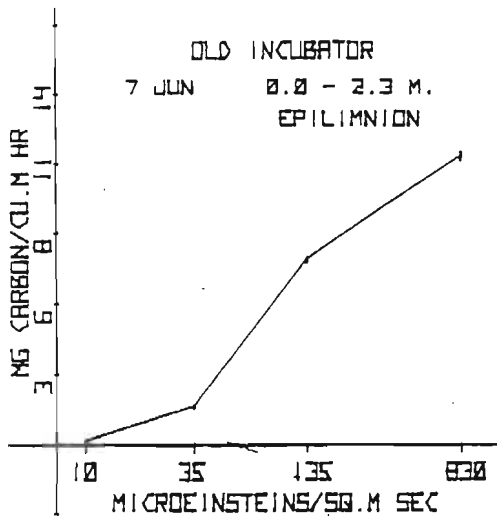
LAKE 224



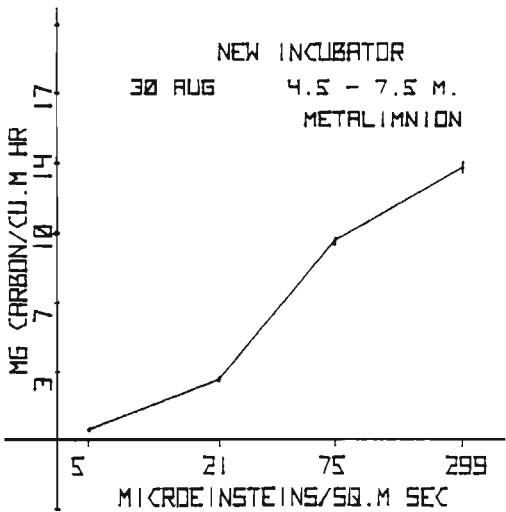
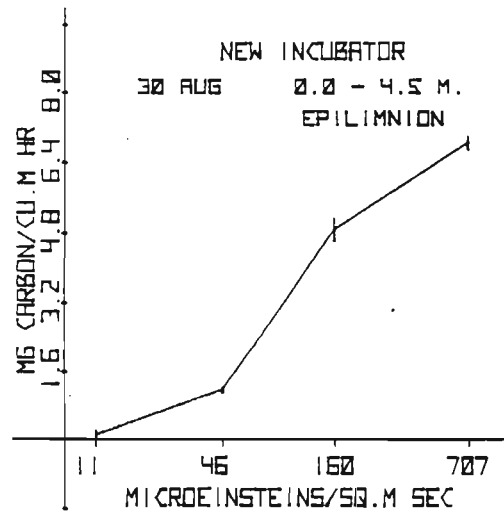
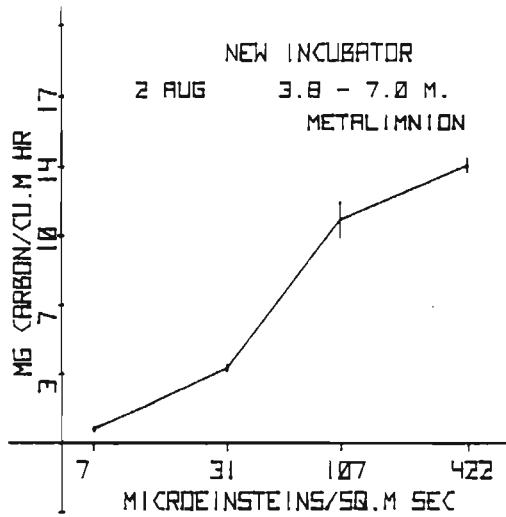
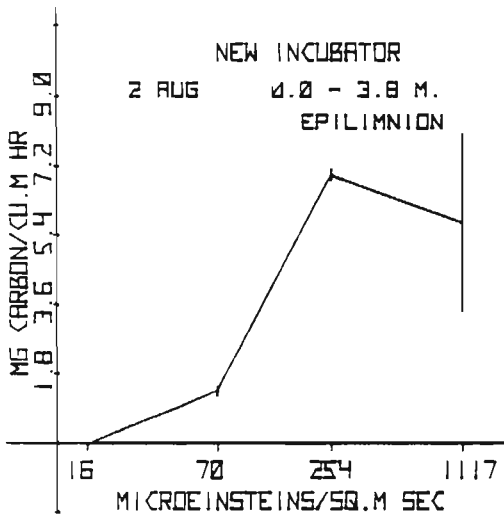
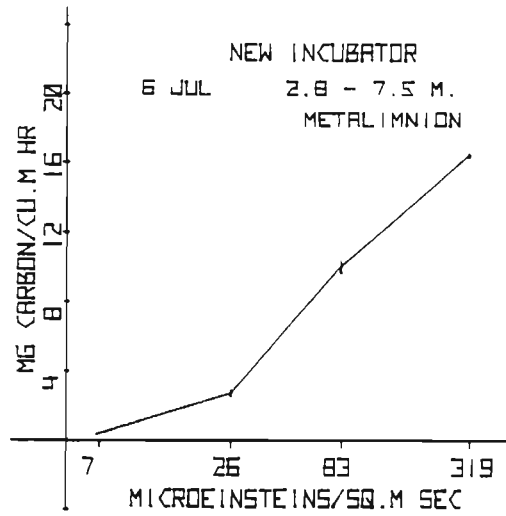
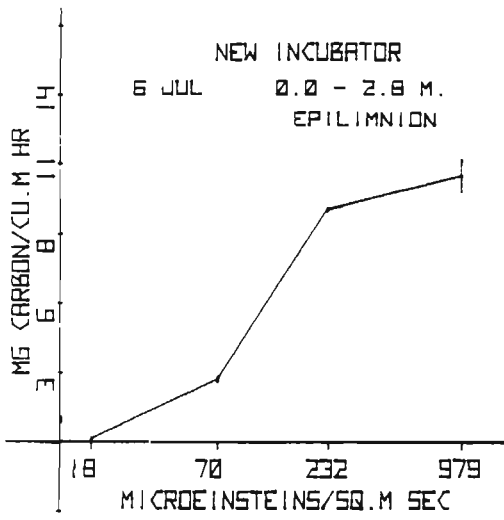
LAKE 226 NE



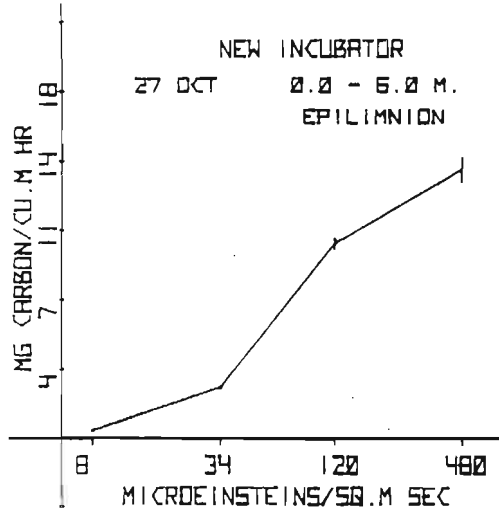
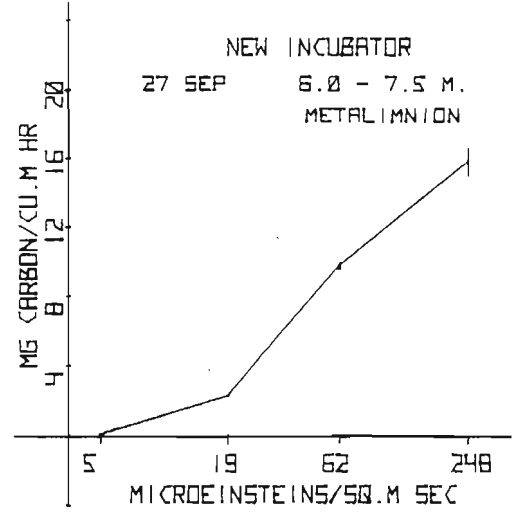
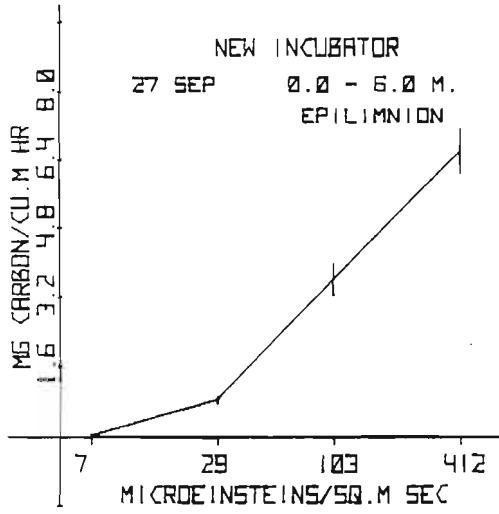
LAKE 226 NE



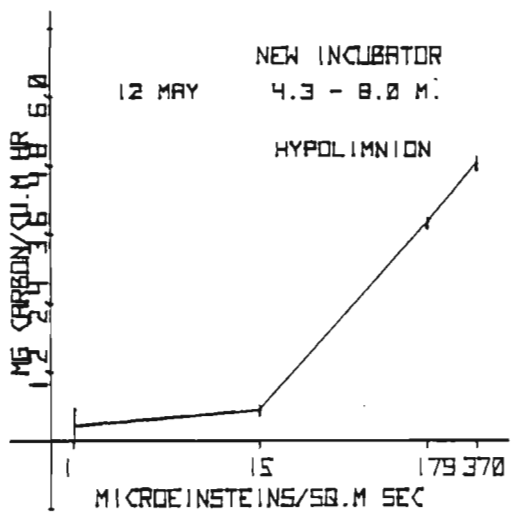
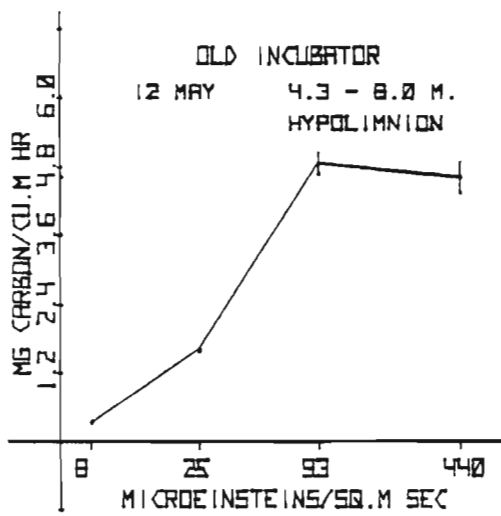
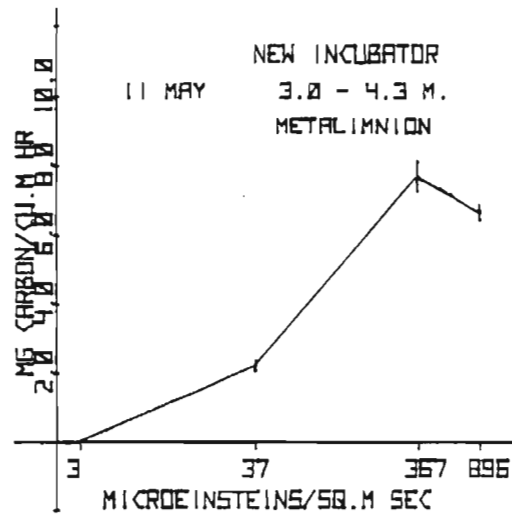
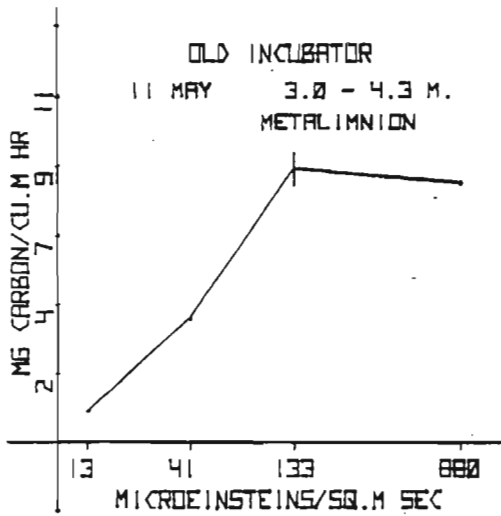
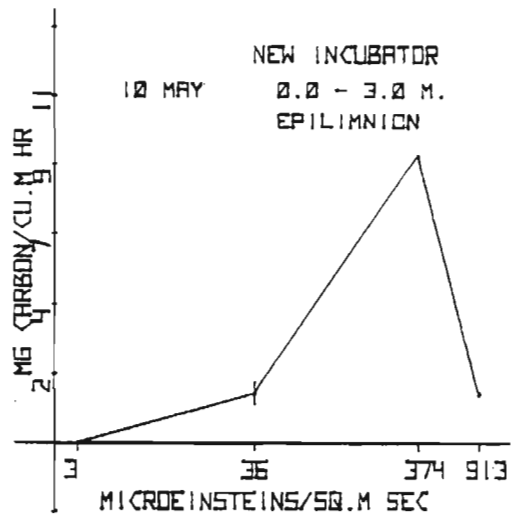
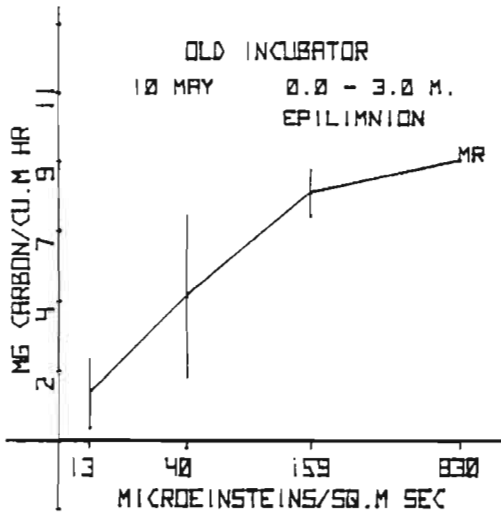
LAKE 226 NE



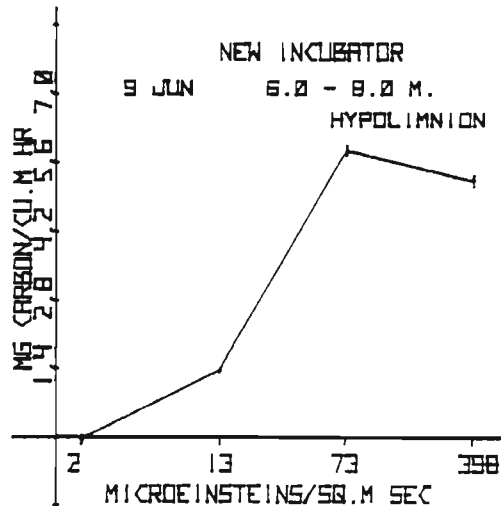
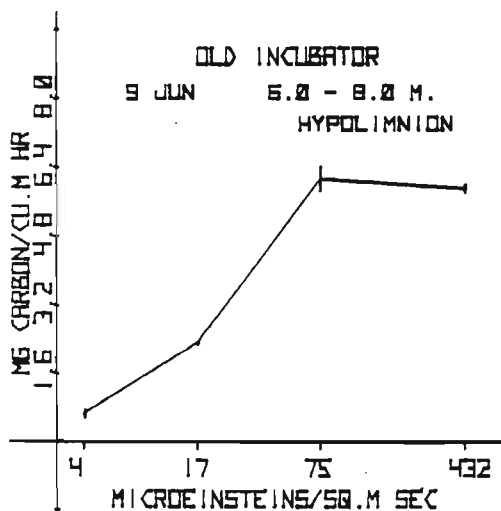
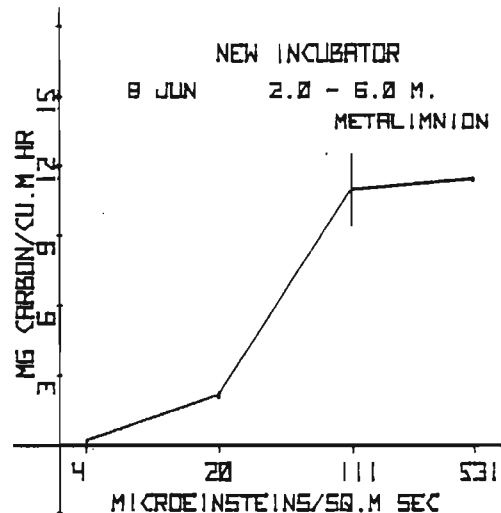
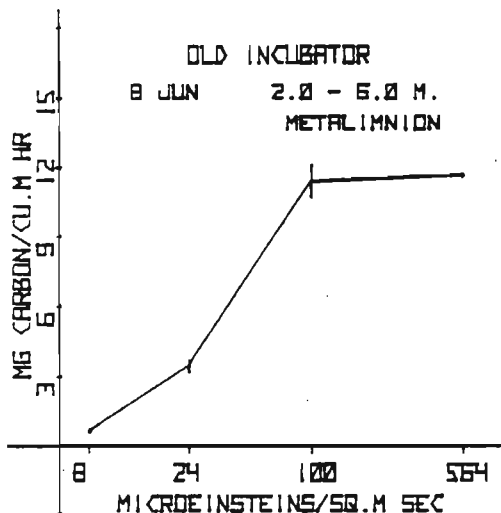
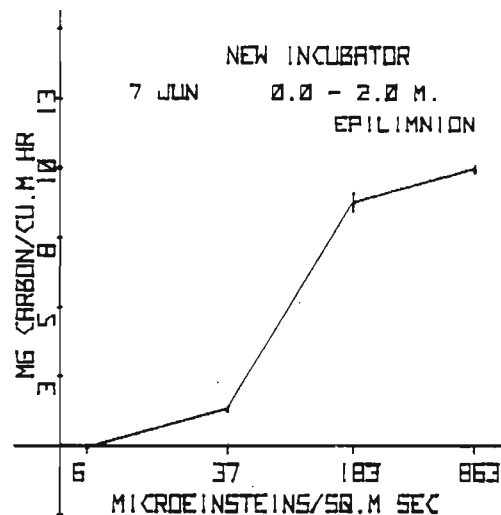
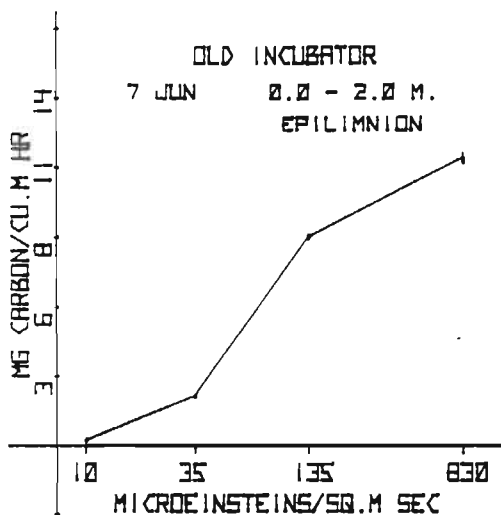
LAKE 226 NE



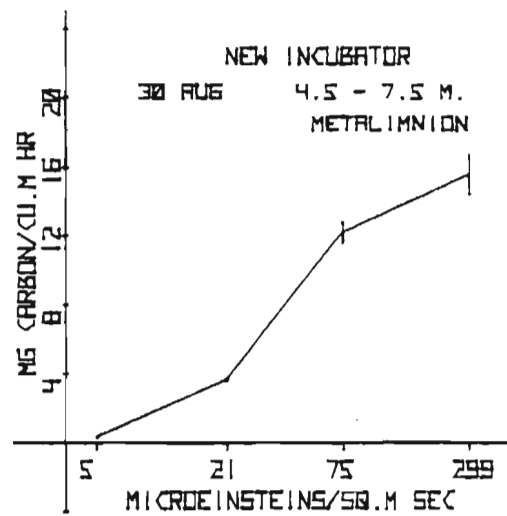
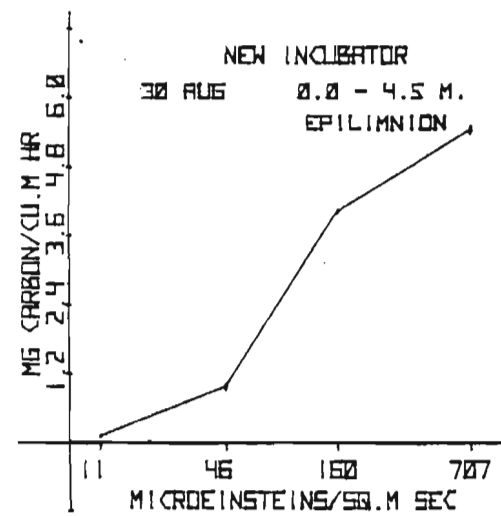
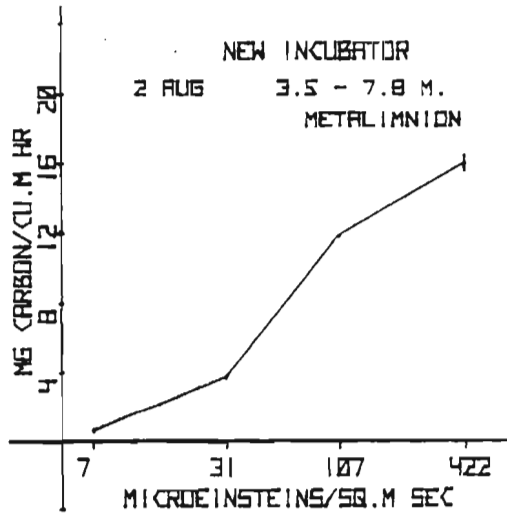
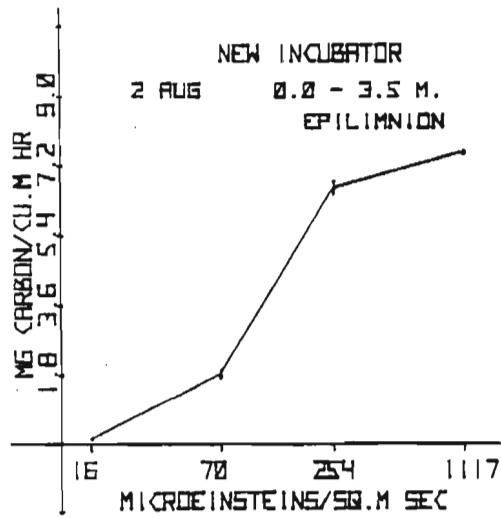
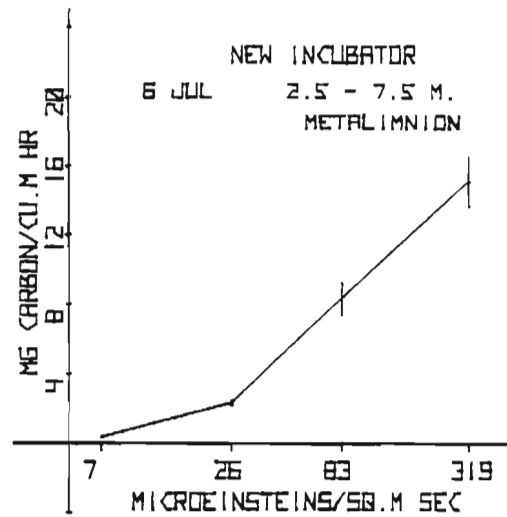
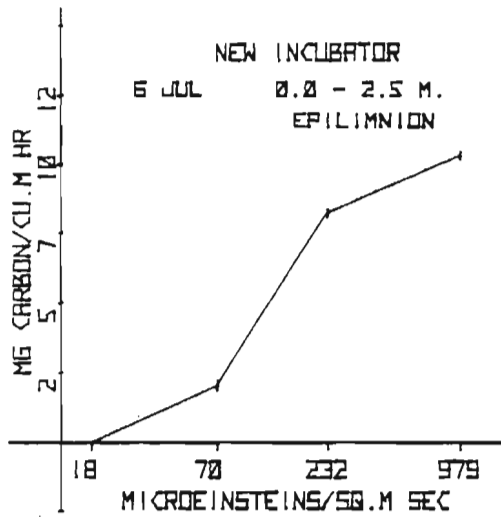
LAKE 226 SW



LAKE 226 SW

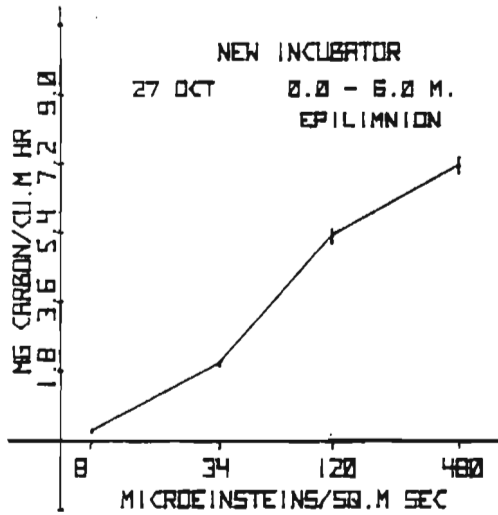
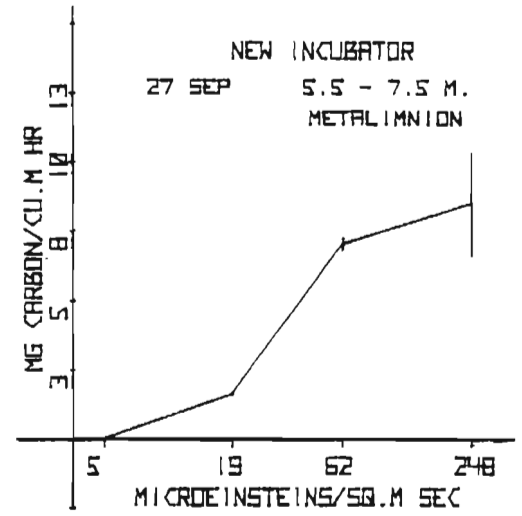
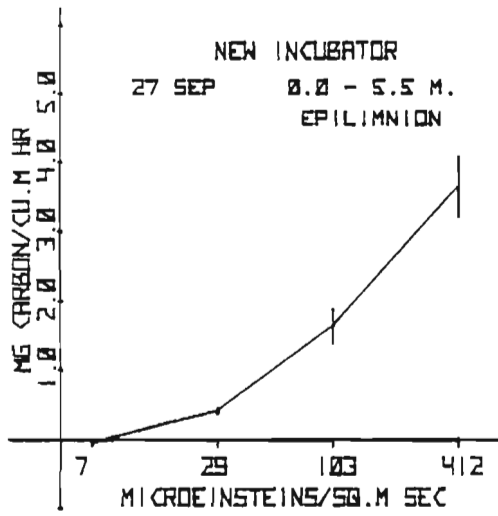


LAKE 226 SW

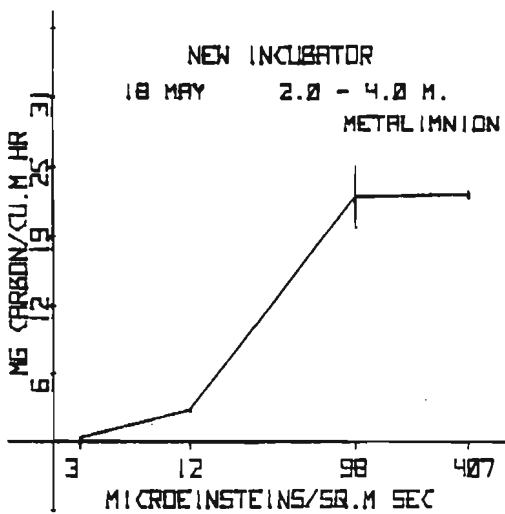
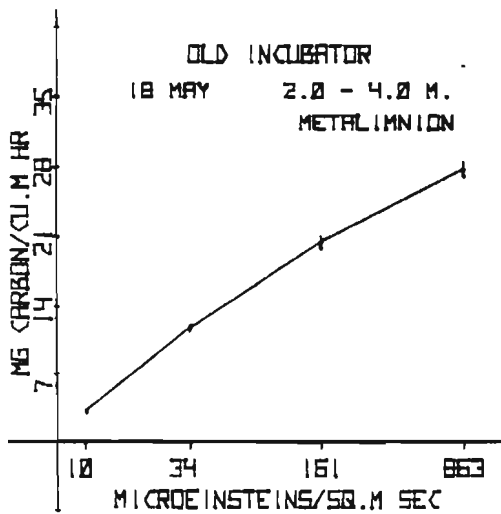
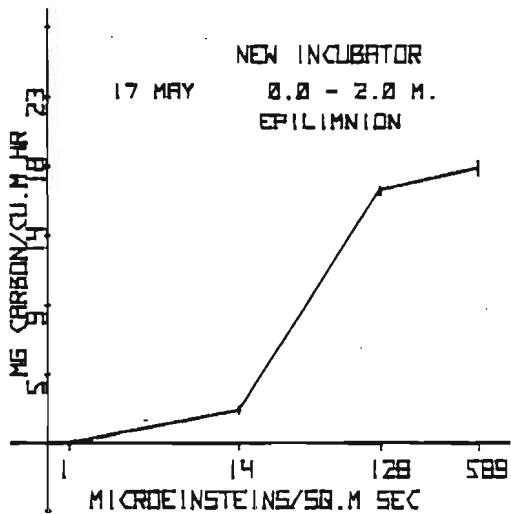
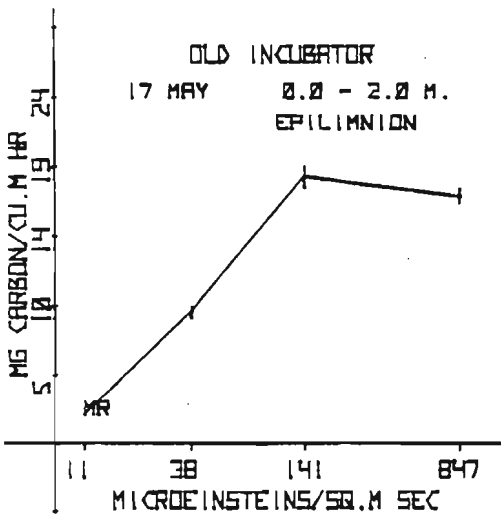
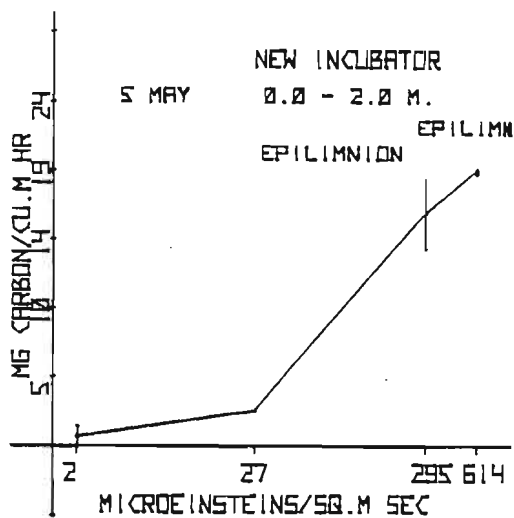
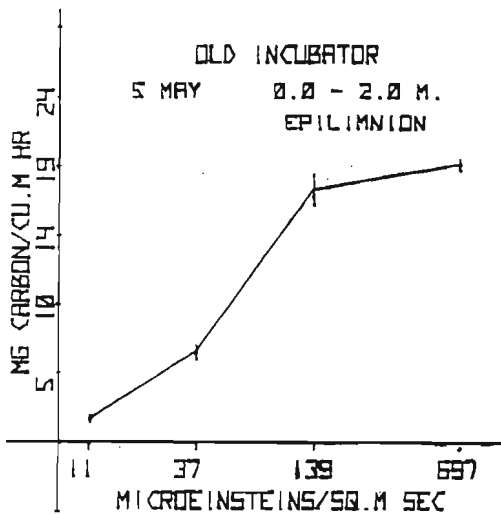




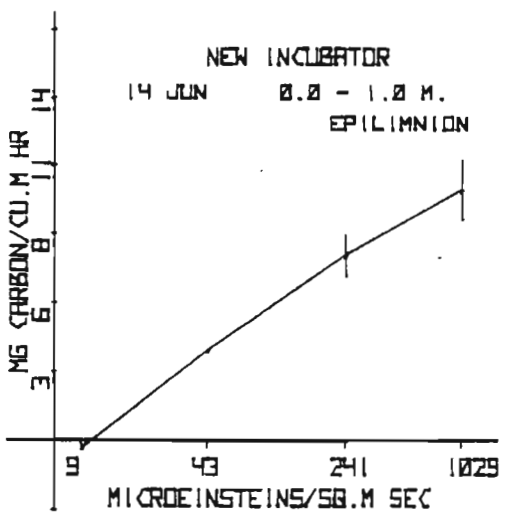
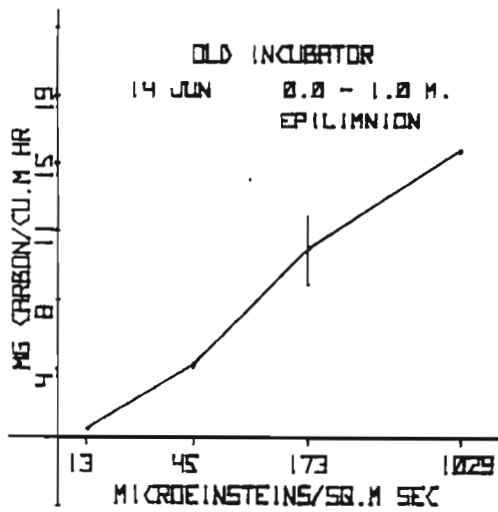
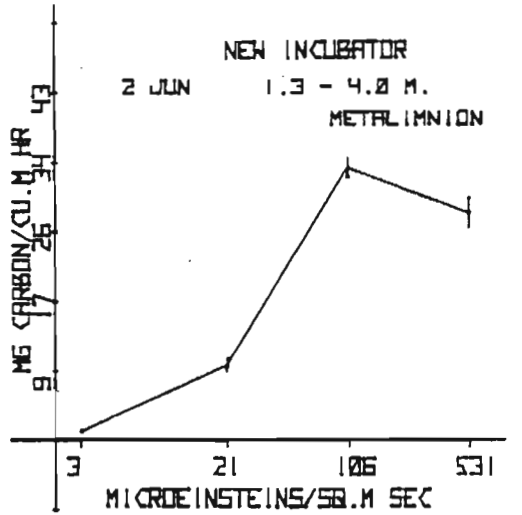
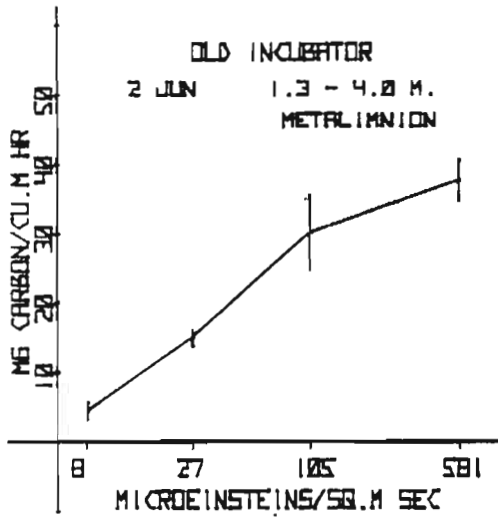
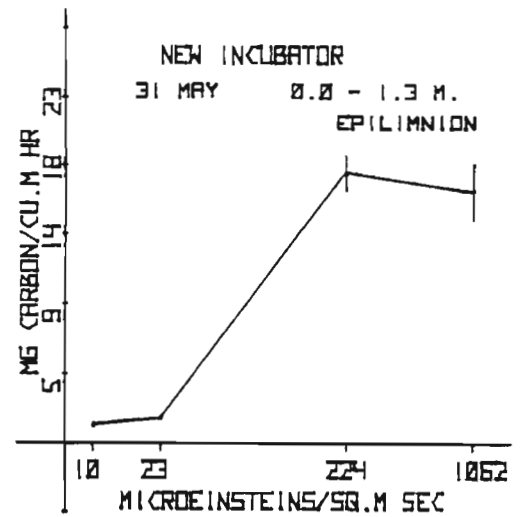
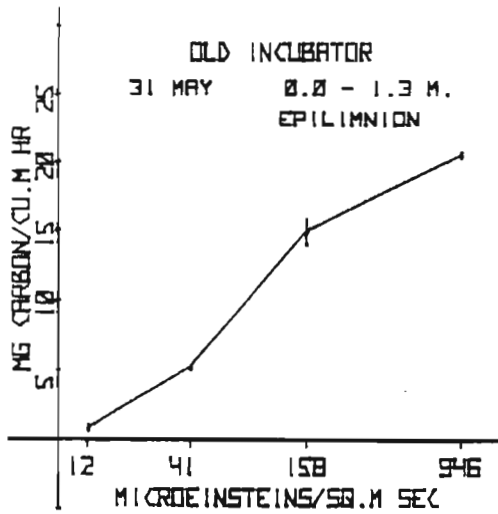
## LAKE 226 SW



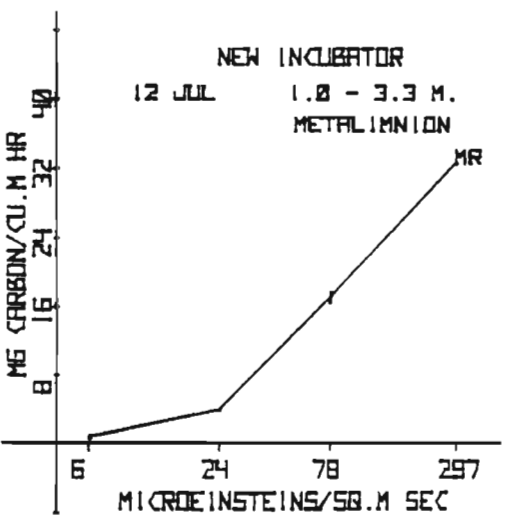
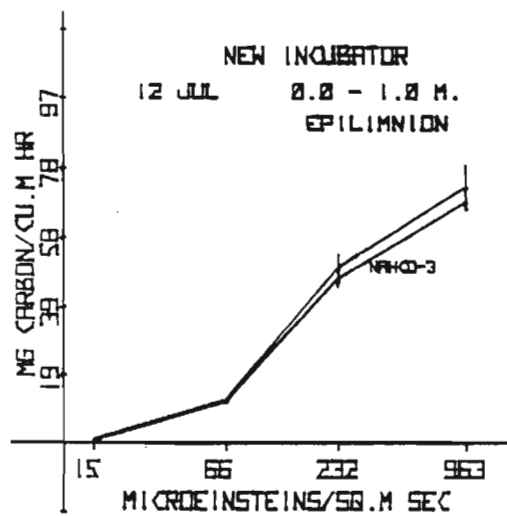
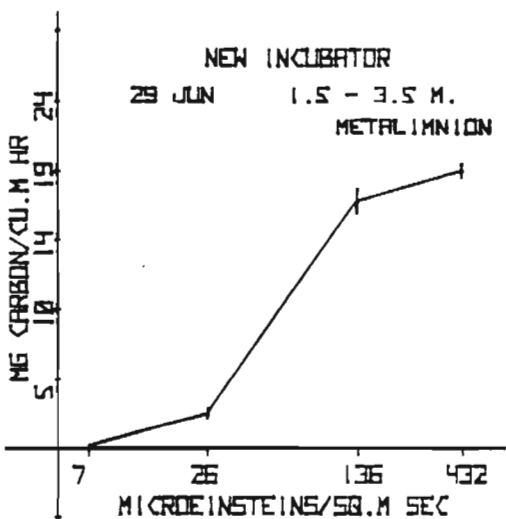
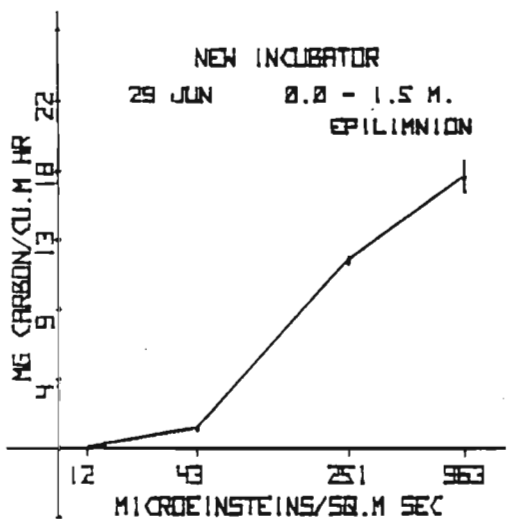
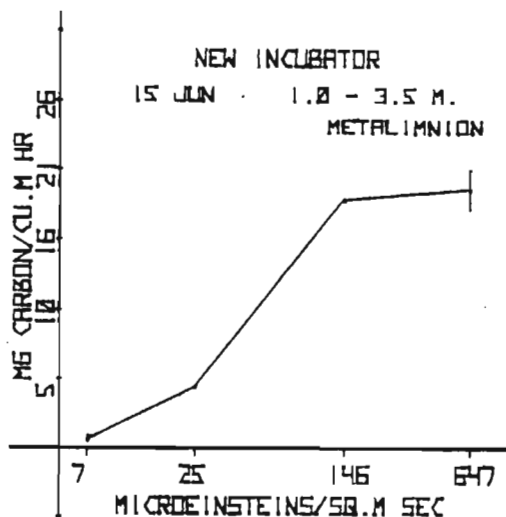
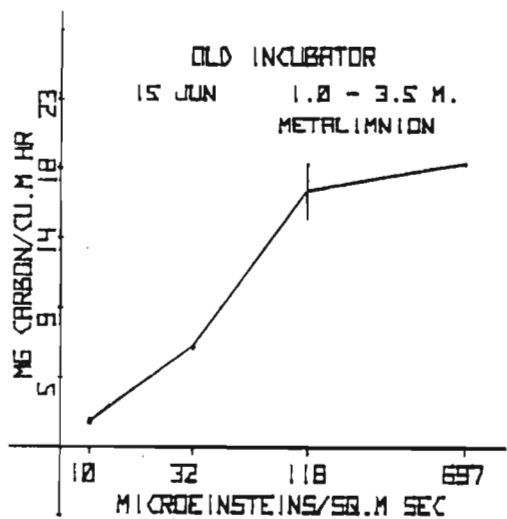
LAKE 227



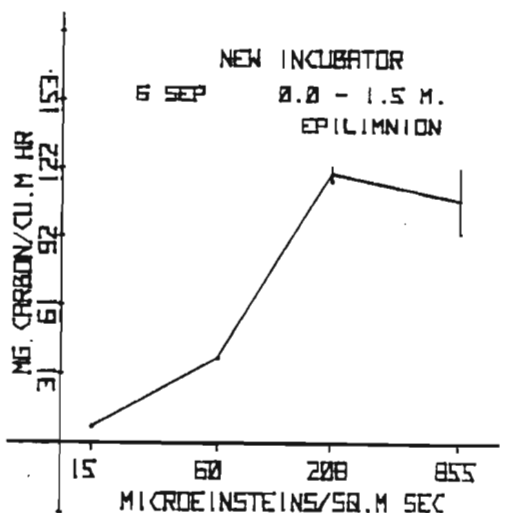
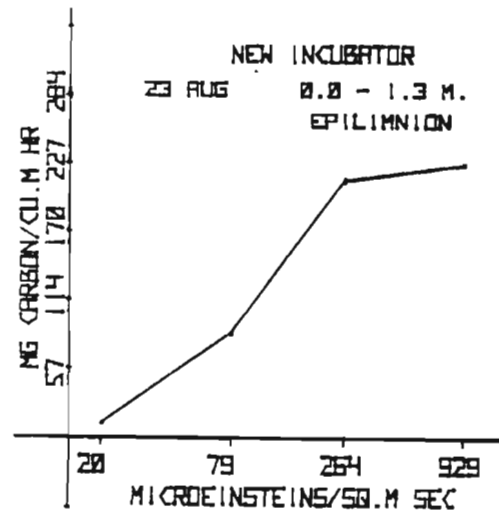
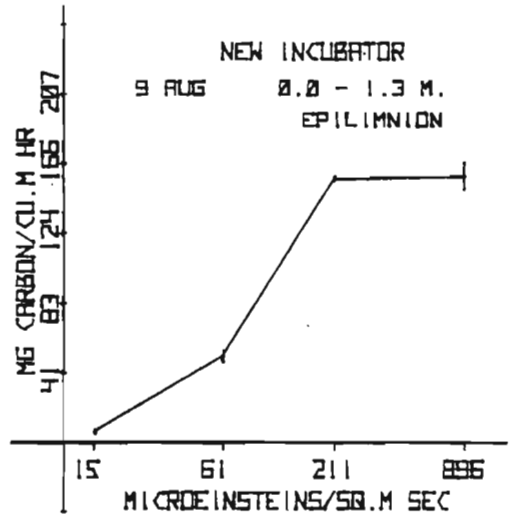
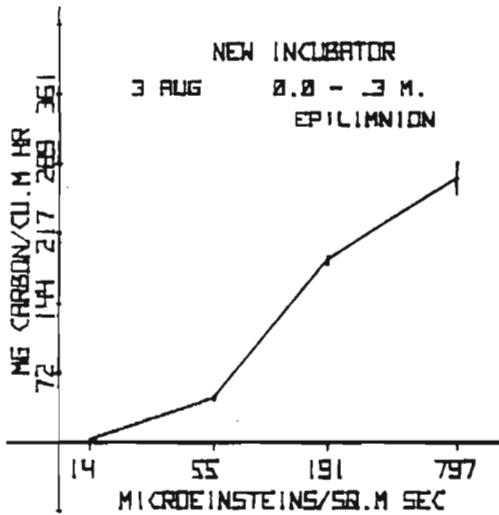
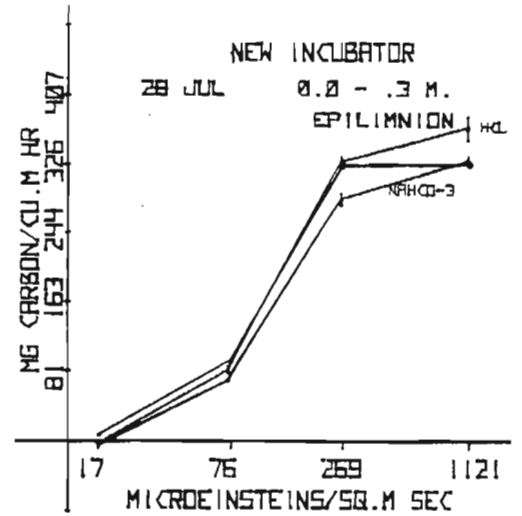
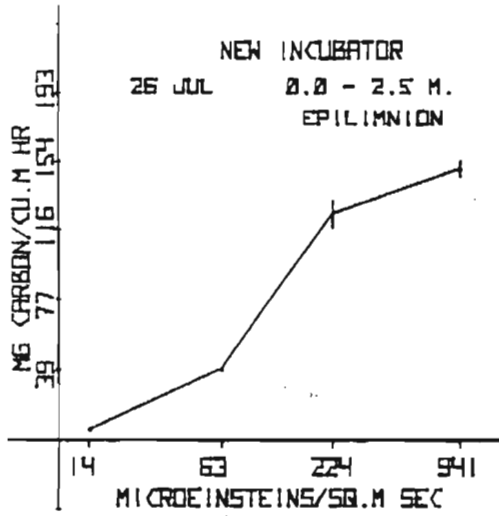
LAKE 227



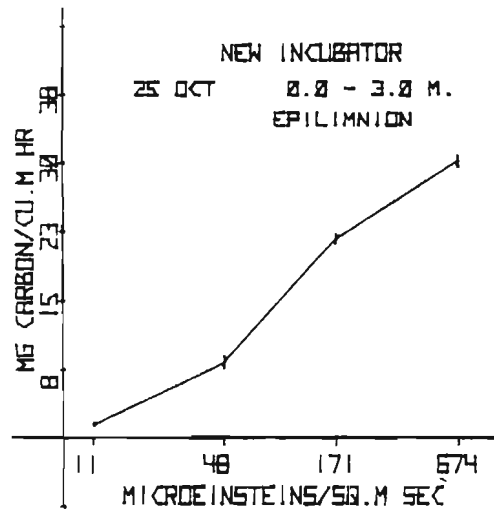
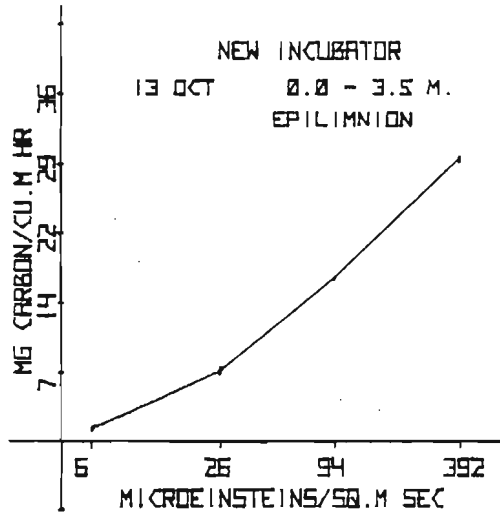
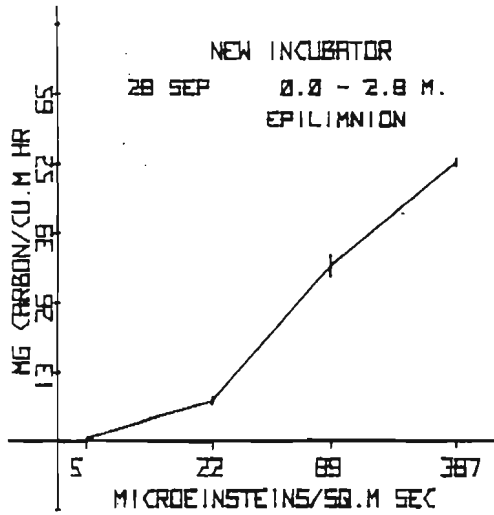
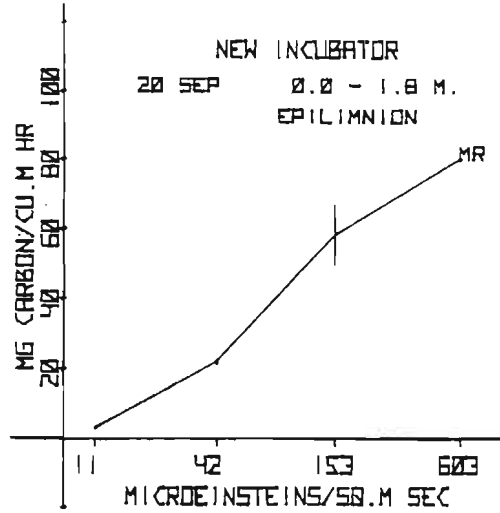
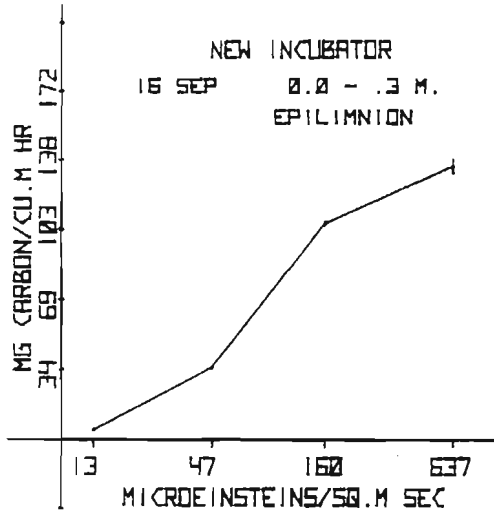
LAKE 227



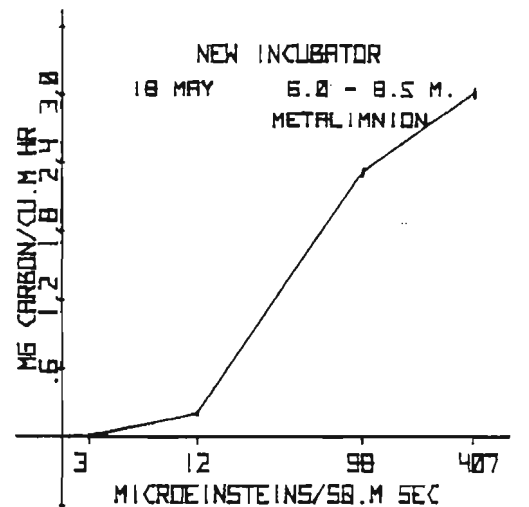
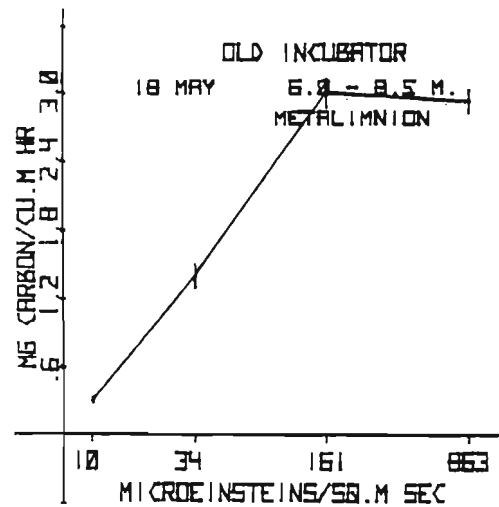
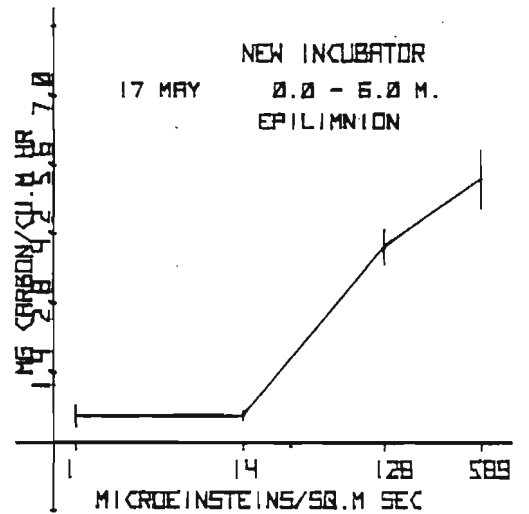
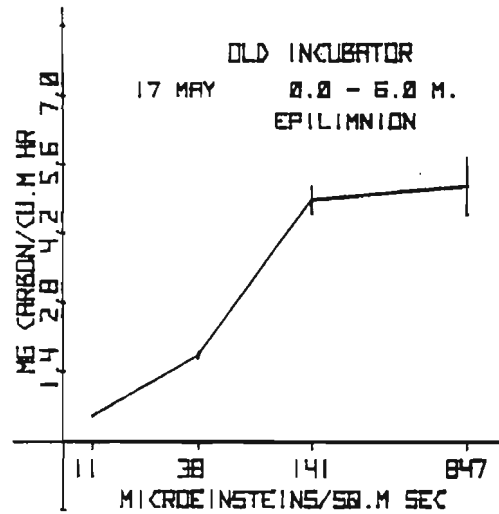
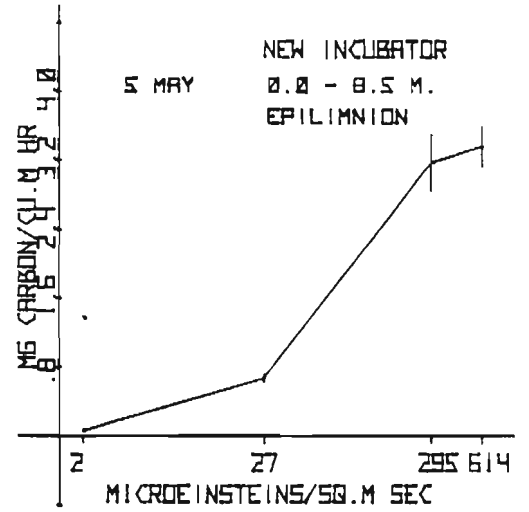
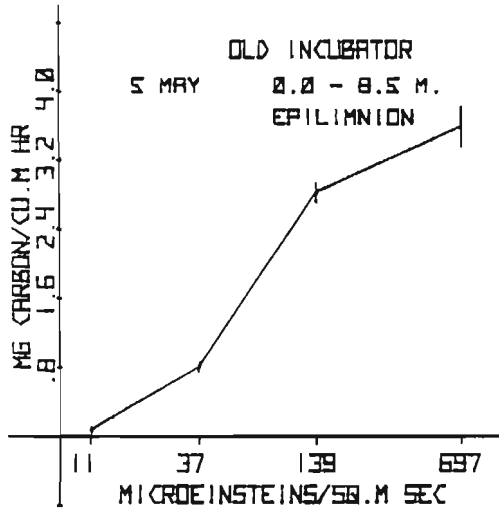
LAKE 227



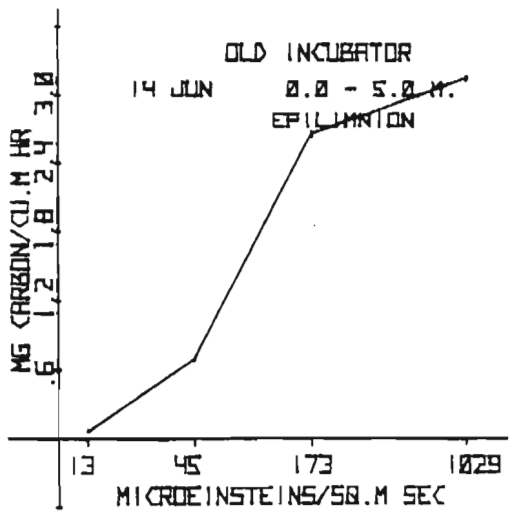
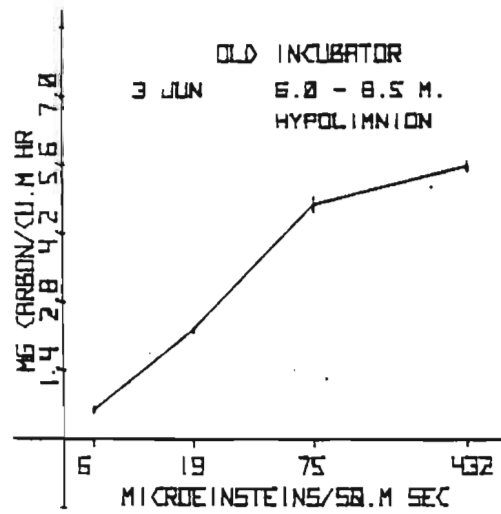
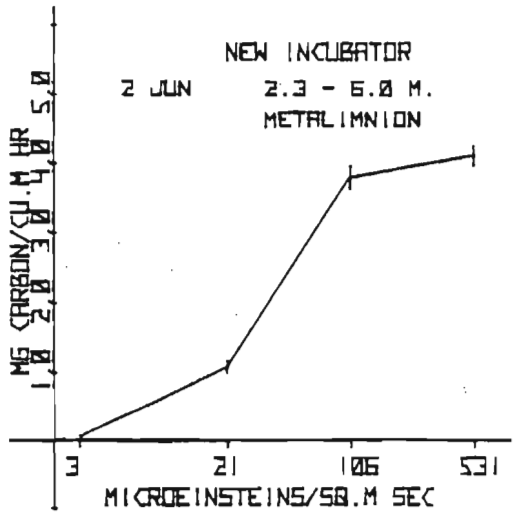
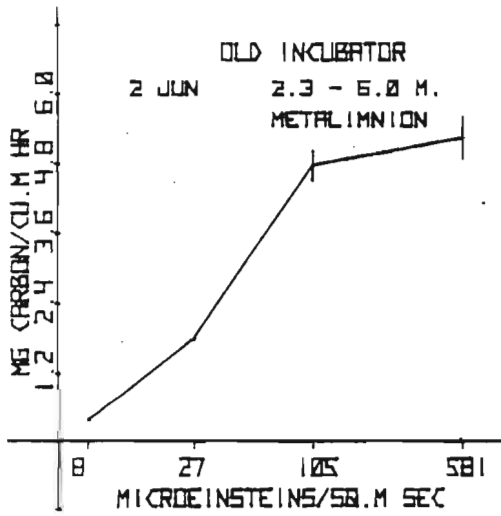
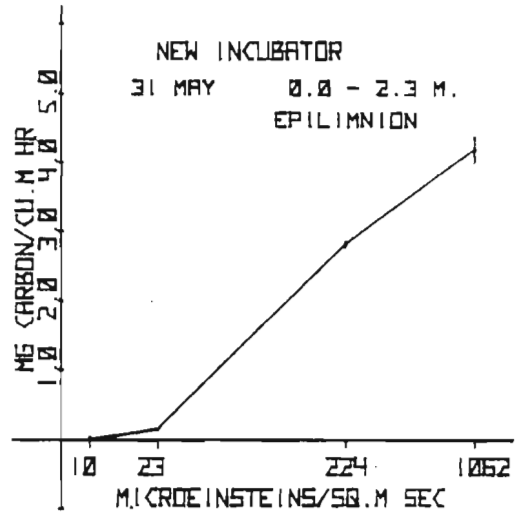
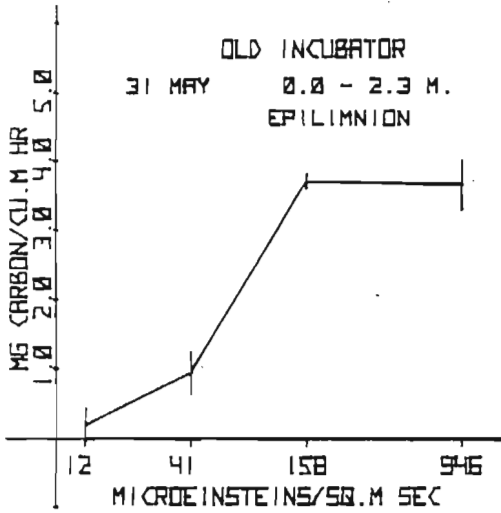
LAKE 227



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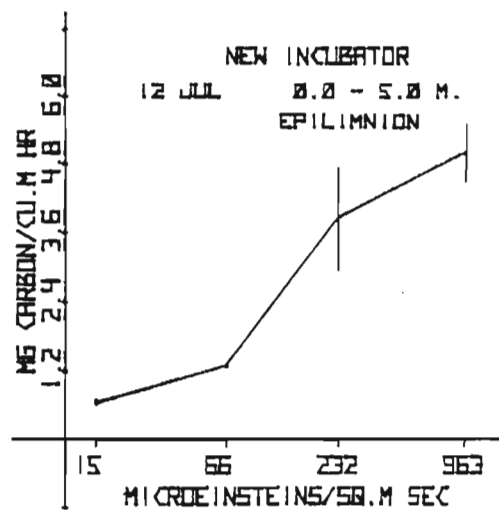
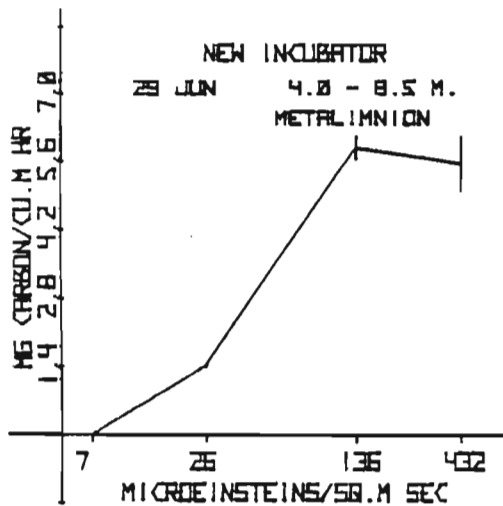
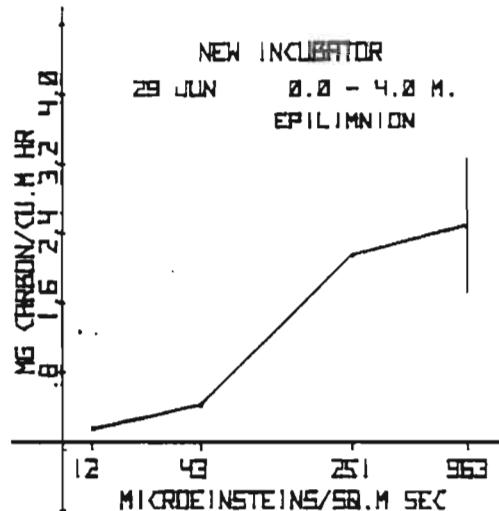
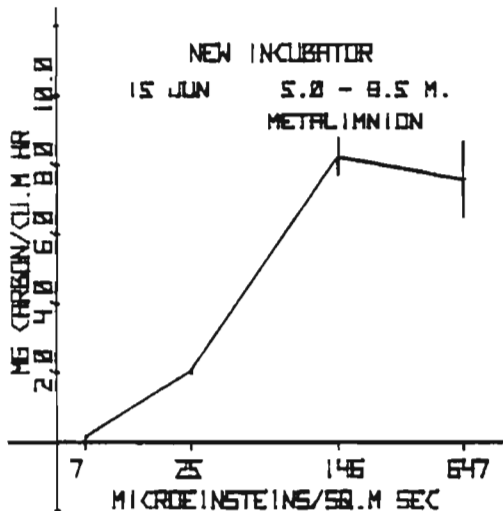
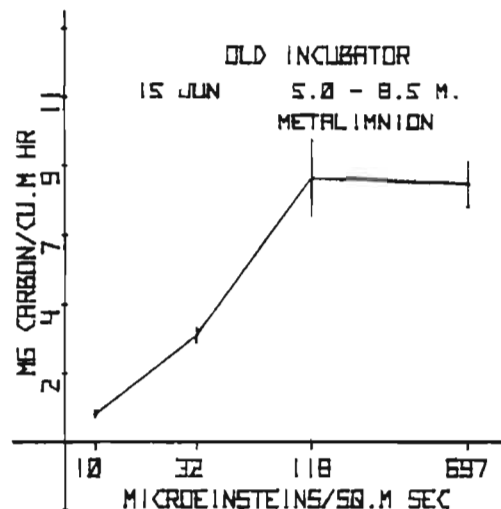
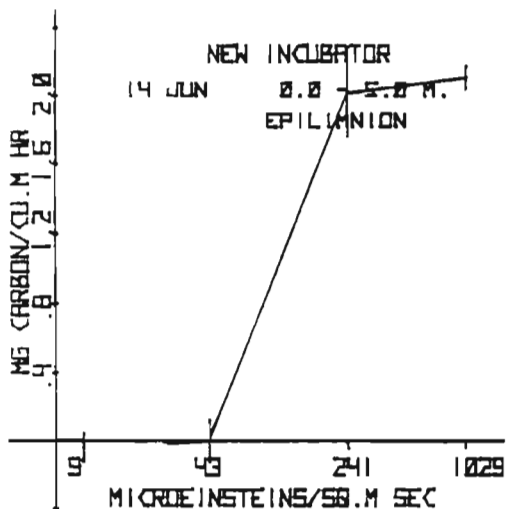


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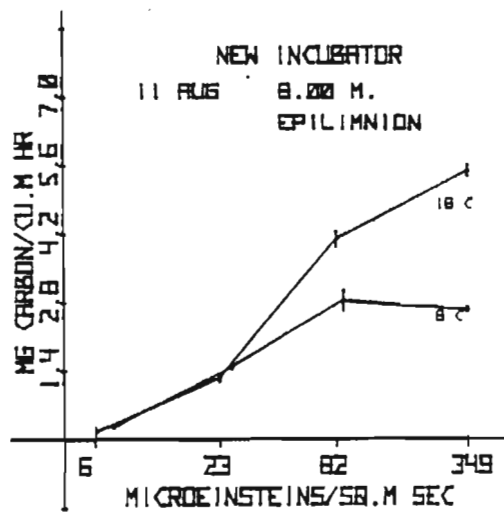
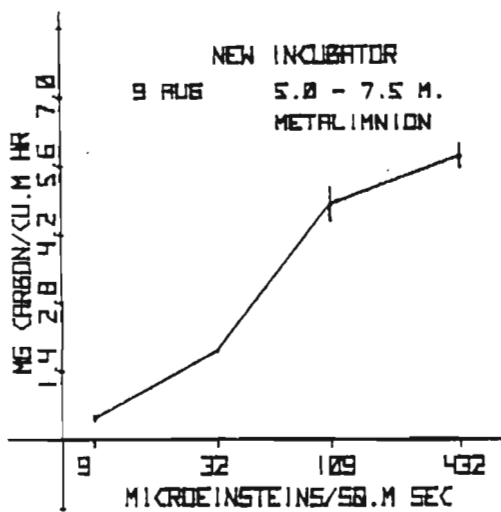
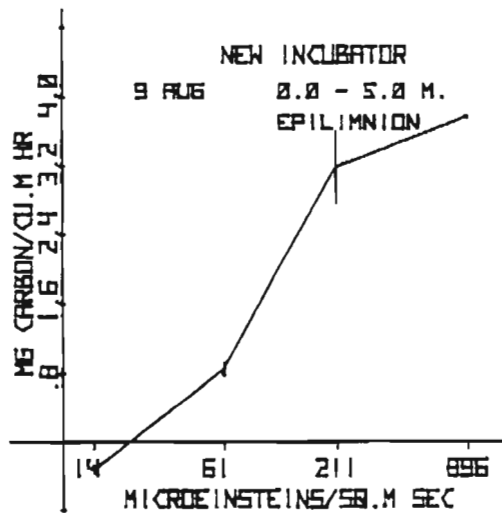
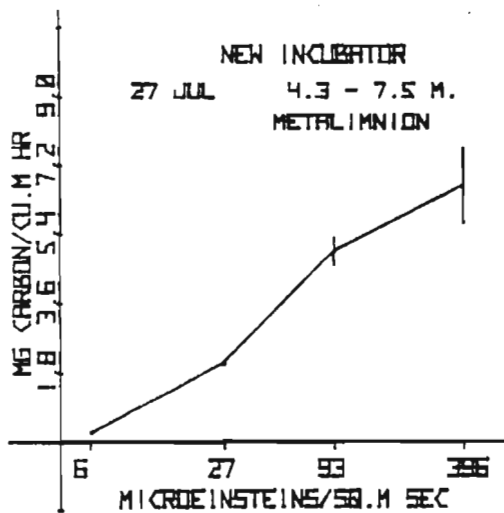
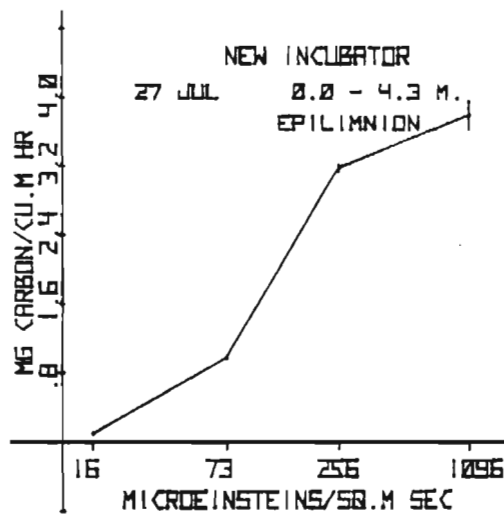
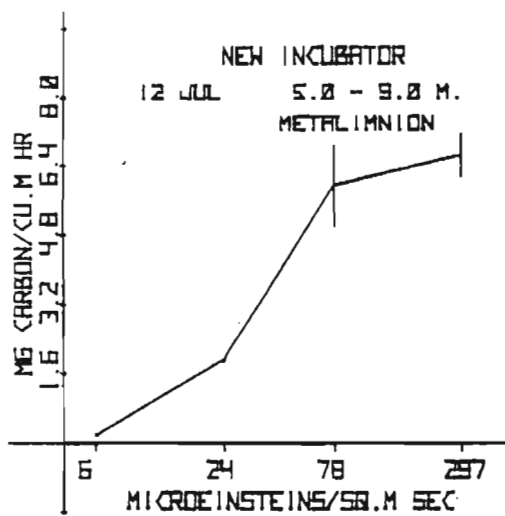




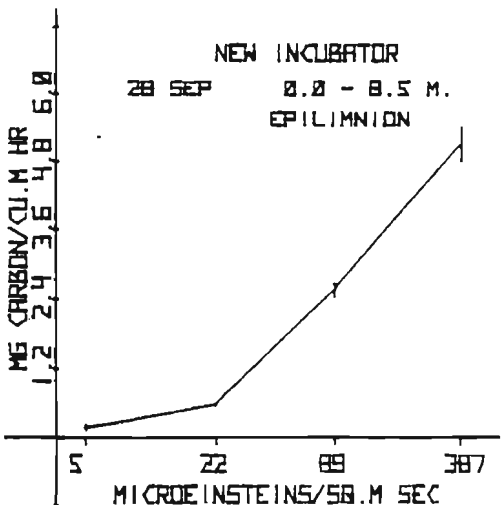
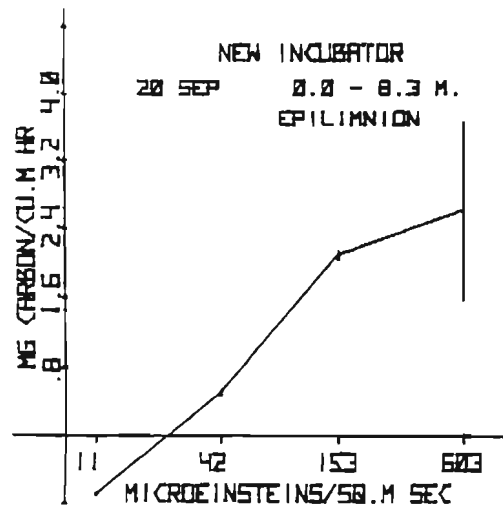
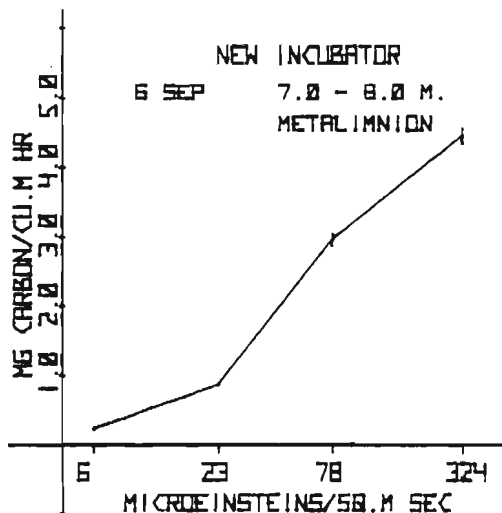
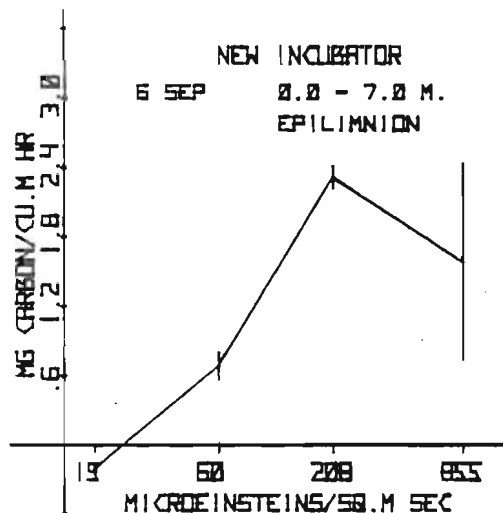
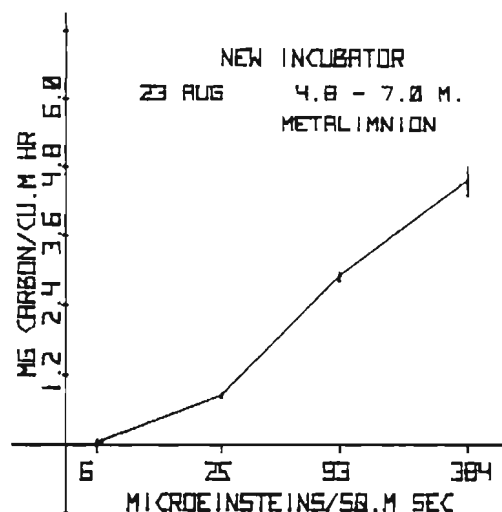
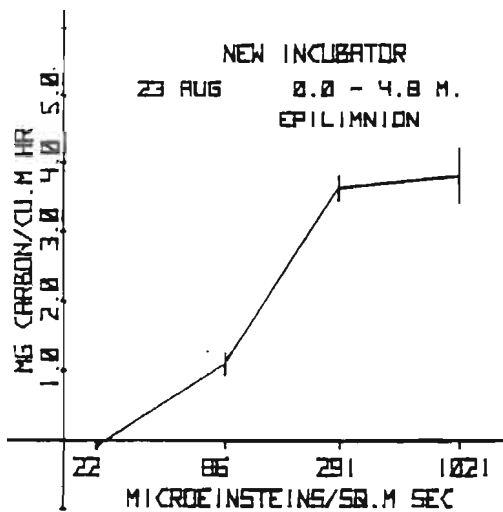
LAKE 239



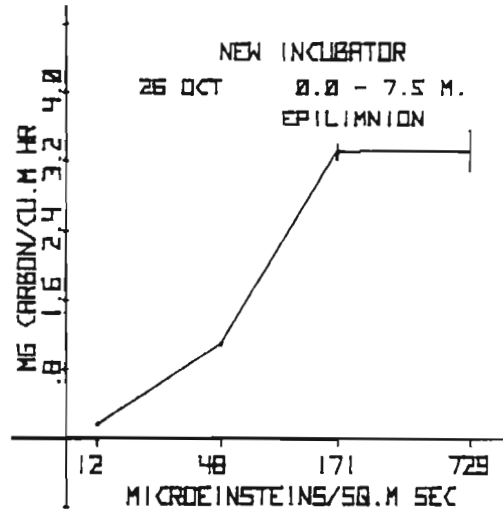
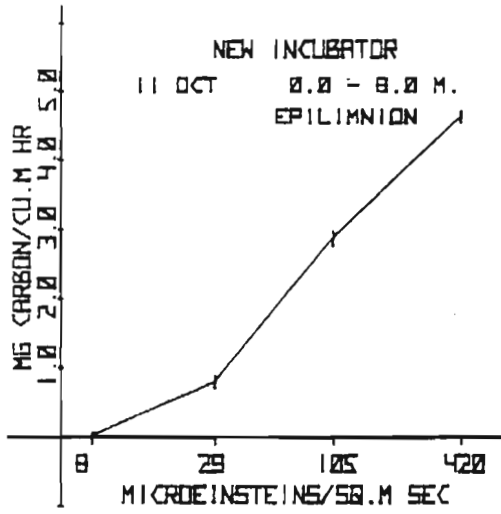
LAKE 239



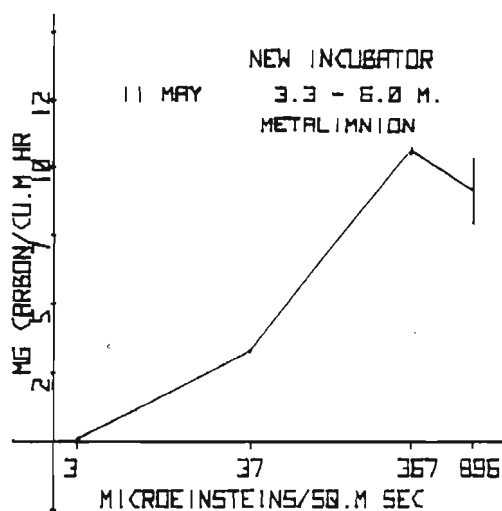
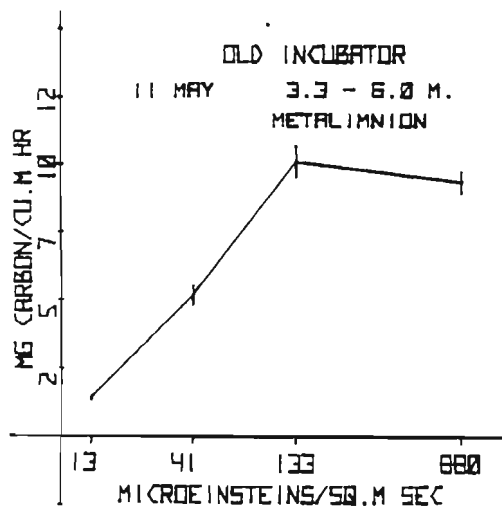
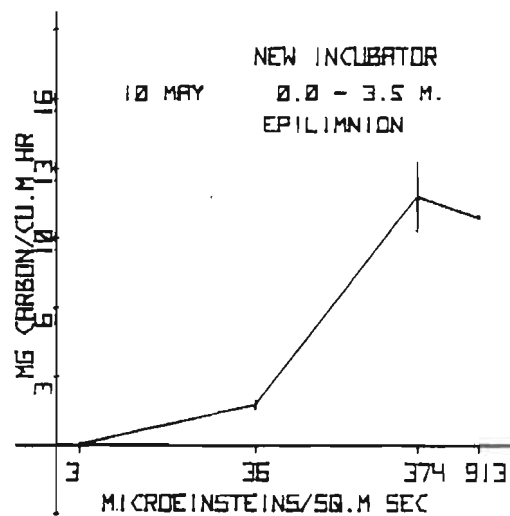
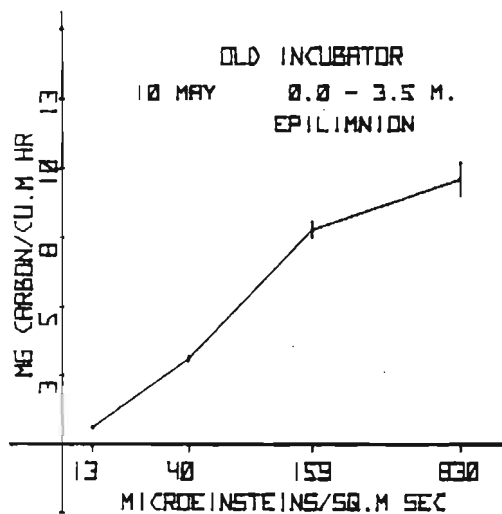
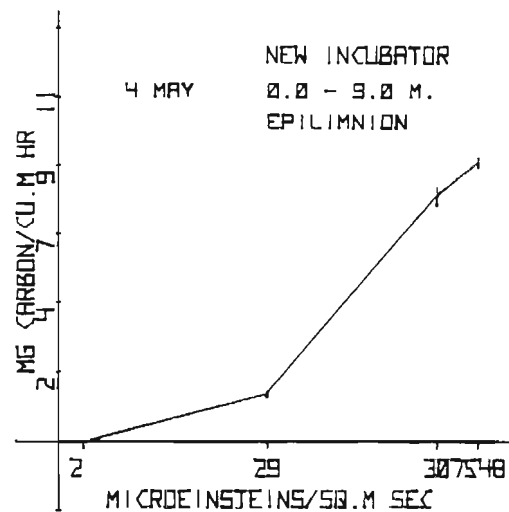
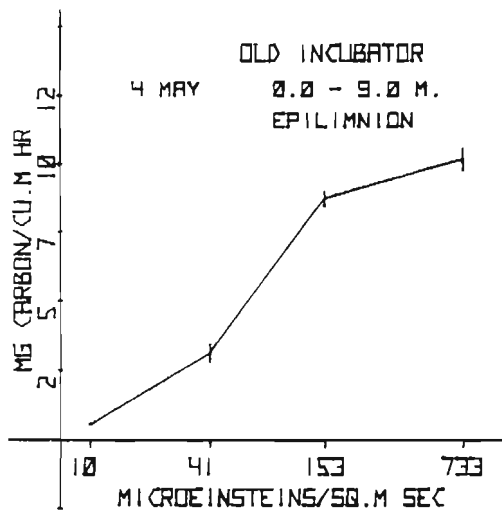
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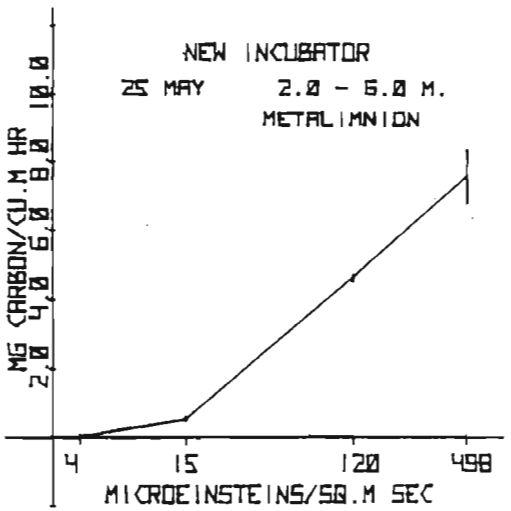
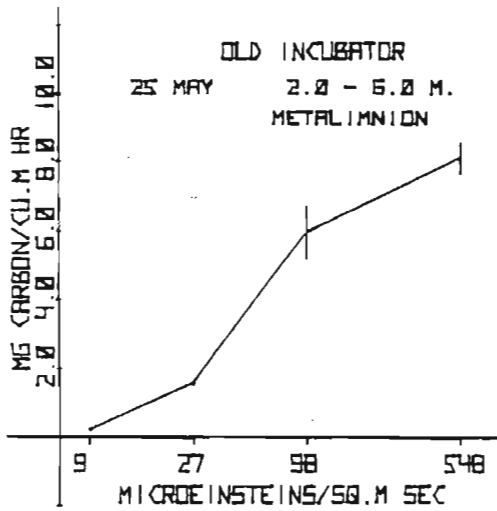
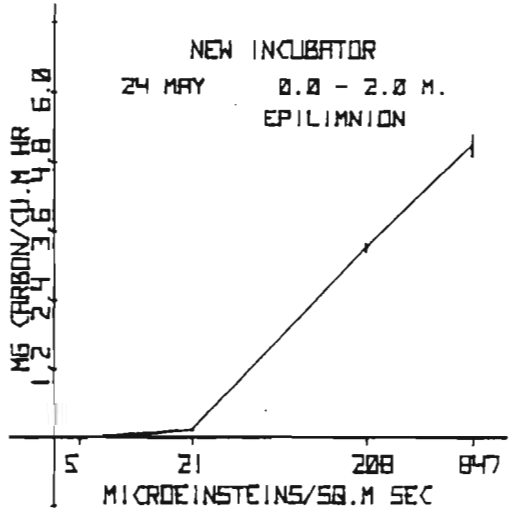
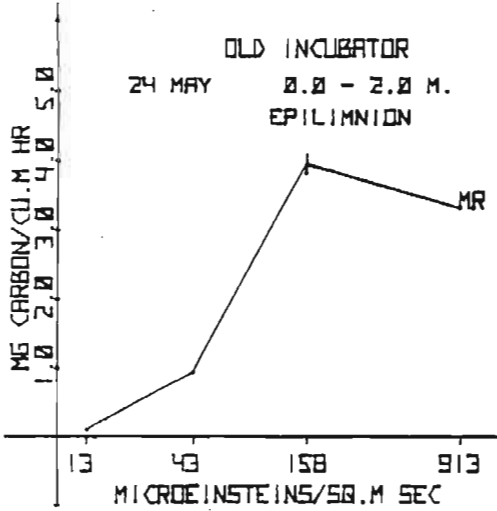
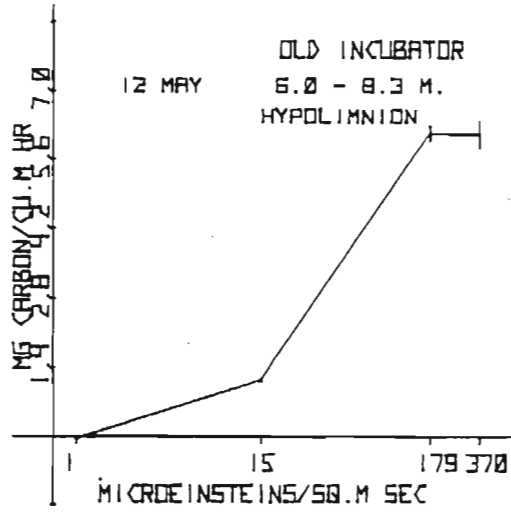
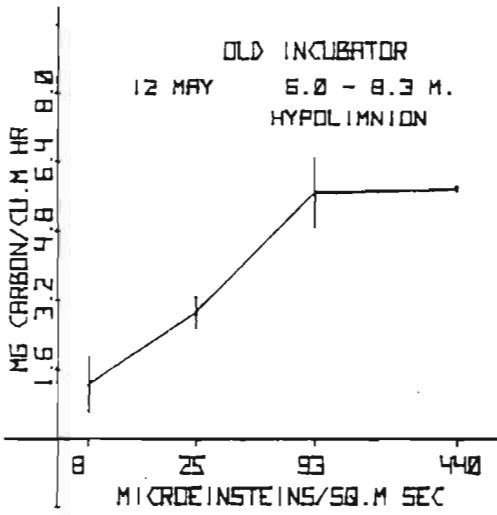
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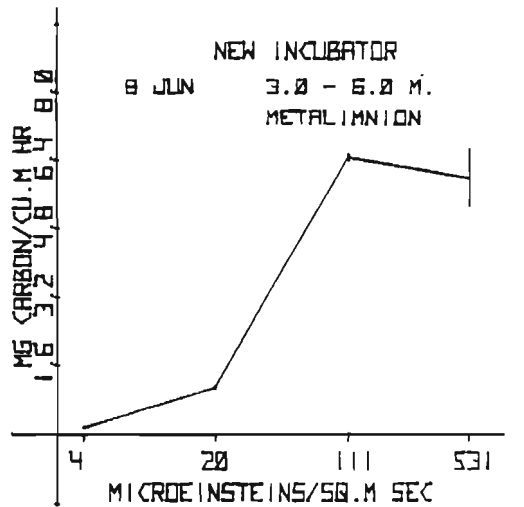
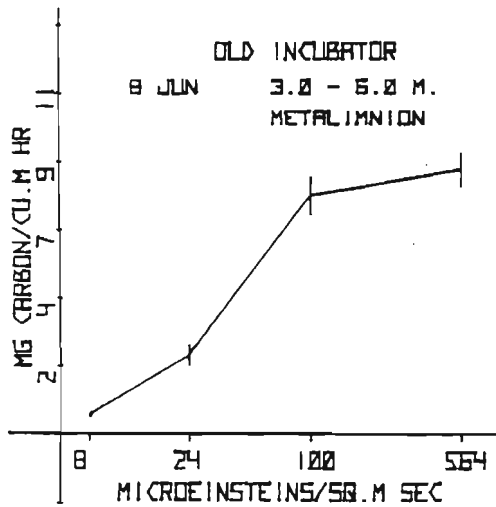
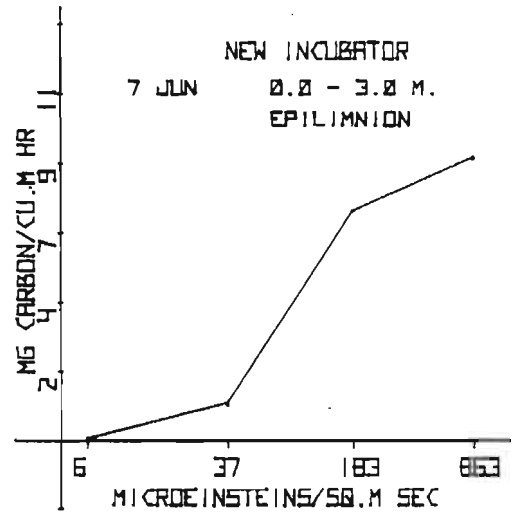
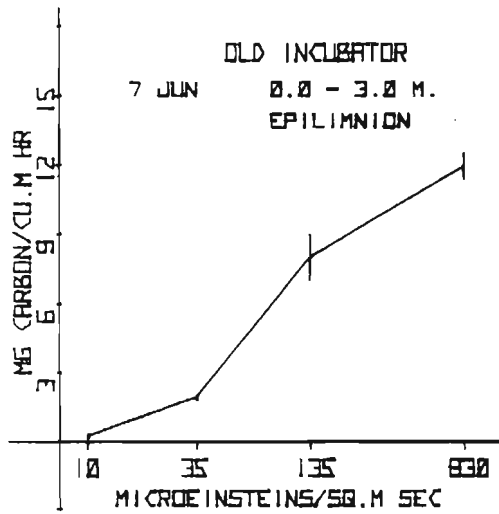
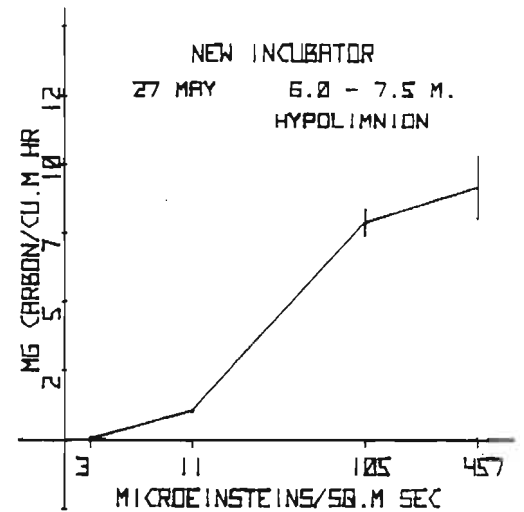
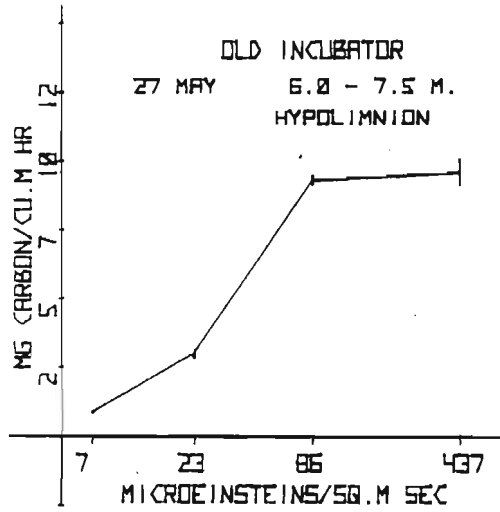
LAKE 302 N



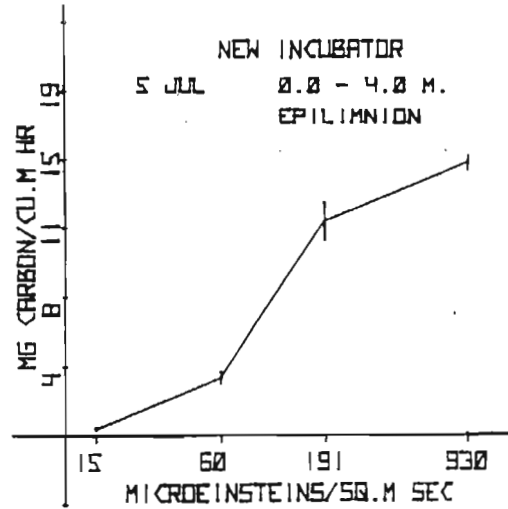
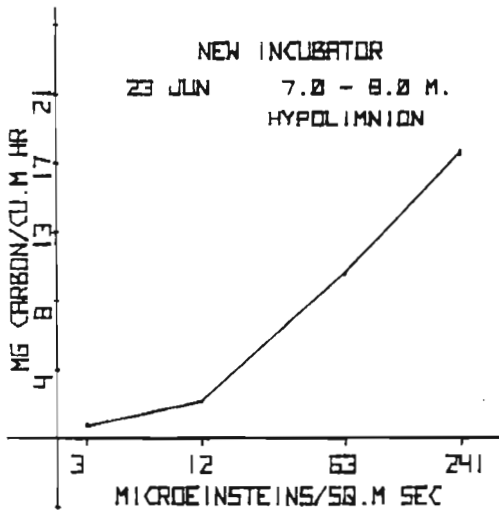
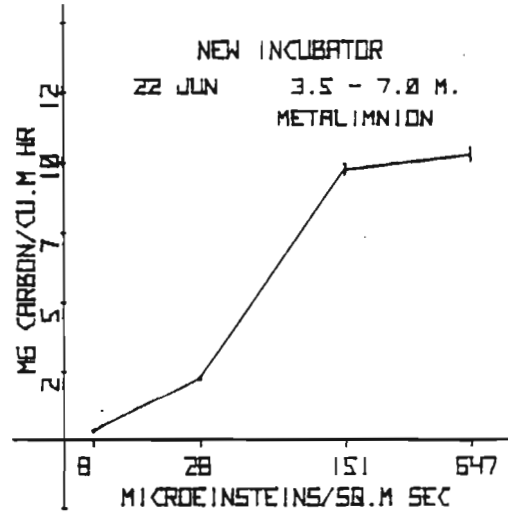
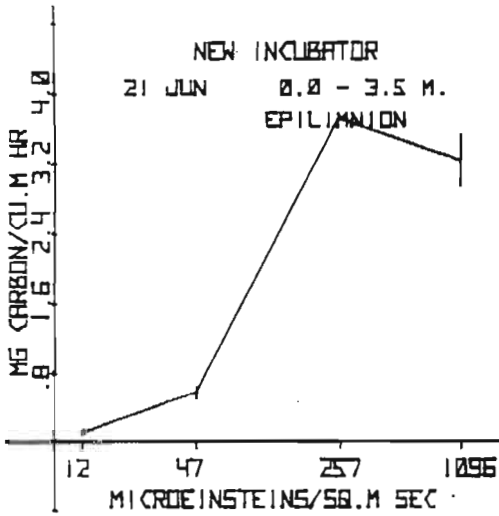
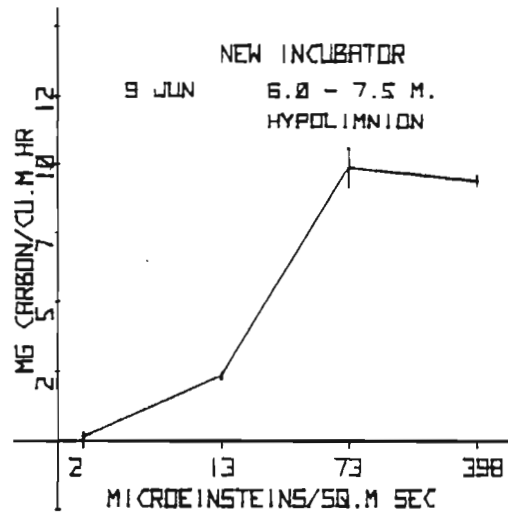
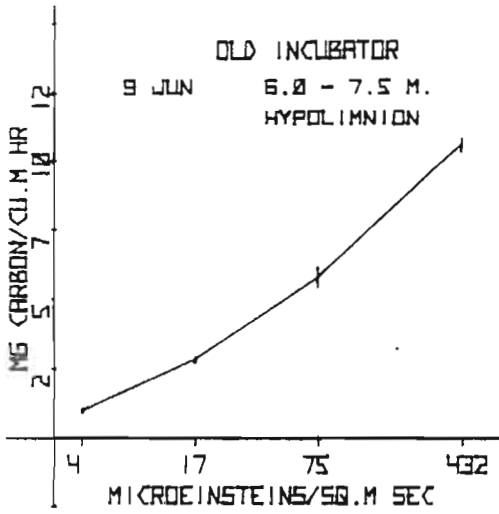
LAKE 302 N



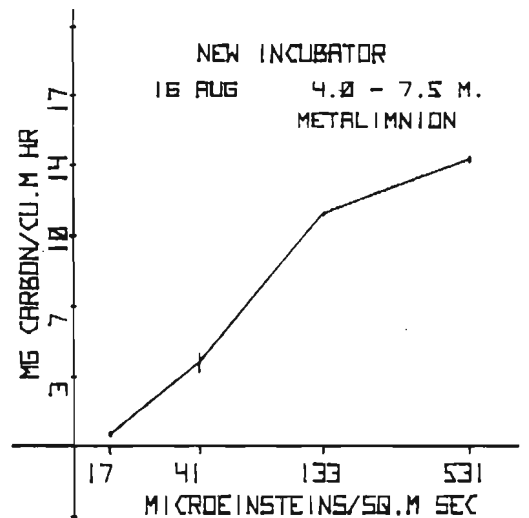
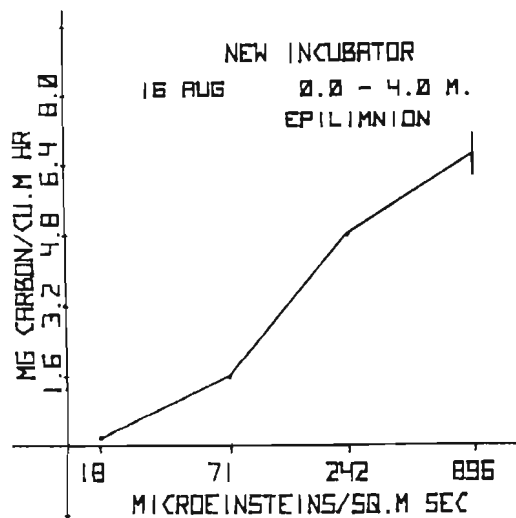
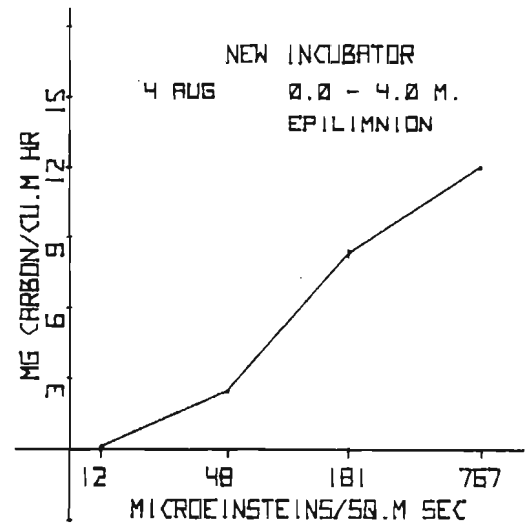
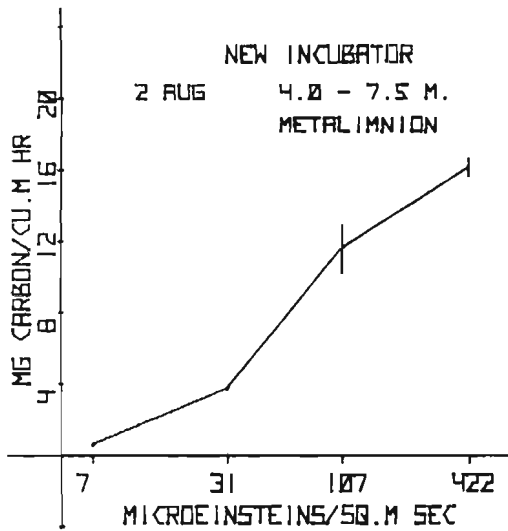
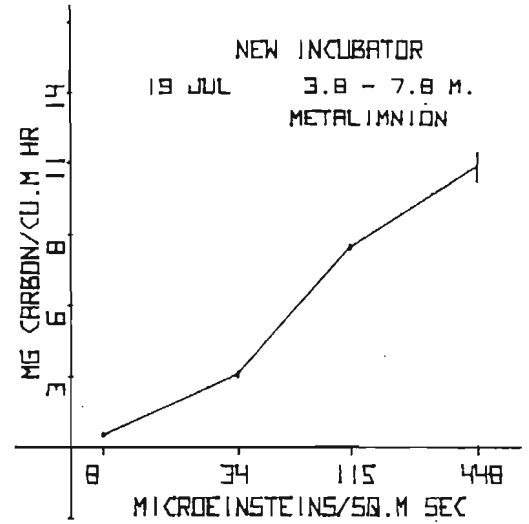
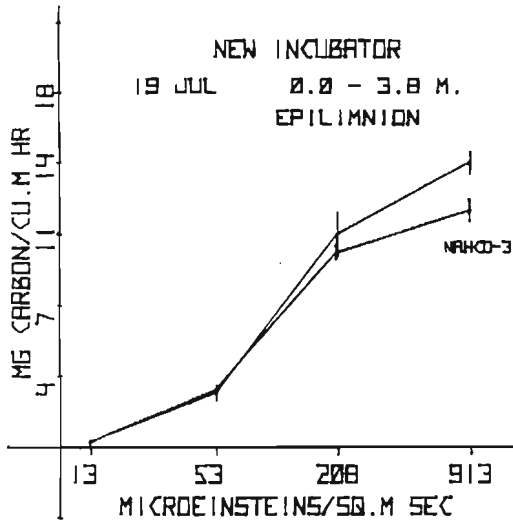
LAKE 302 N



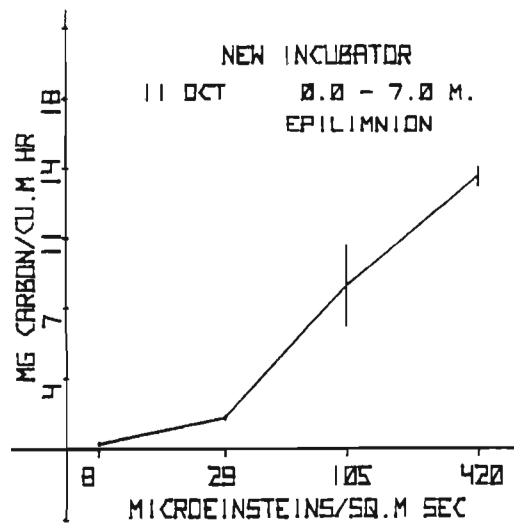
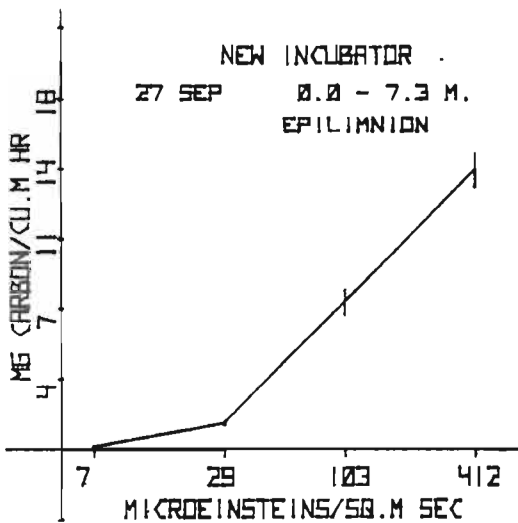
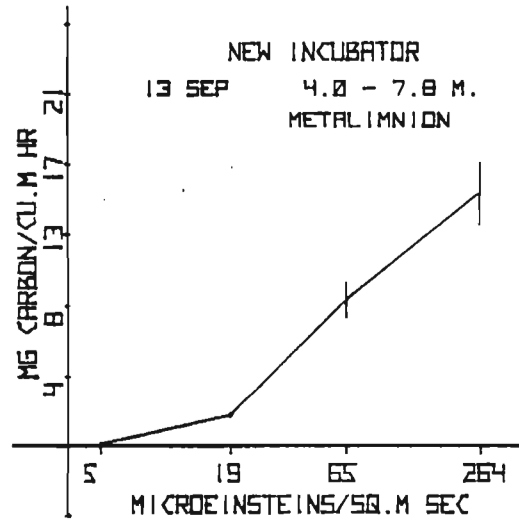
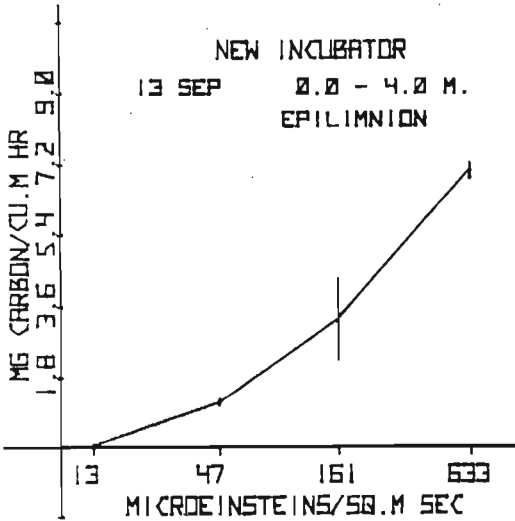
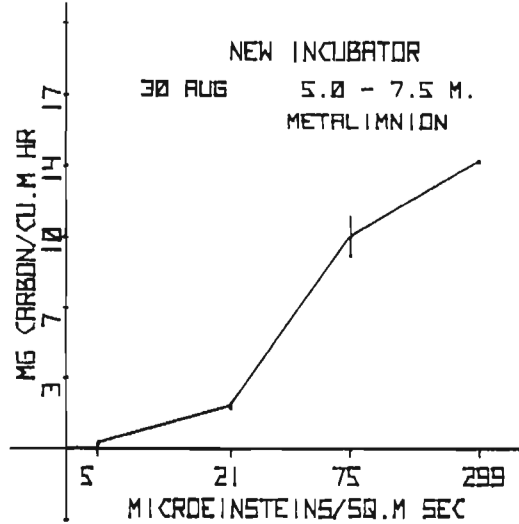
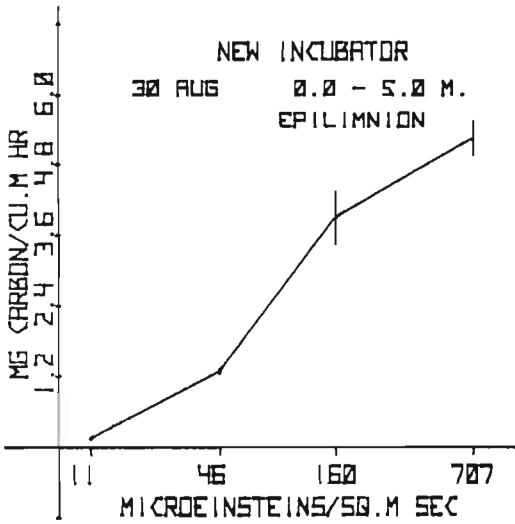
## LAKE 302 N



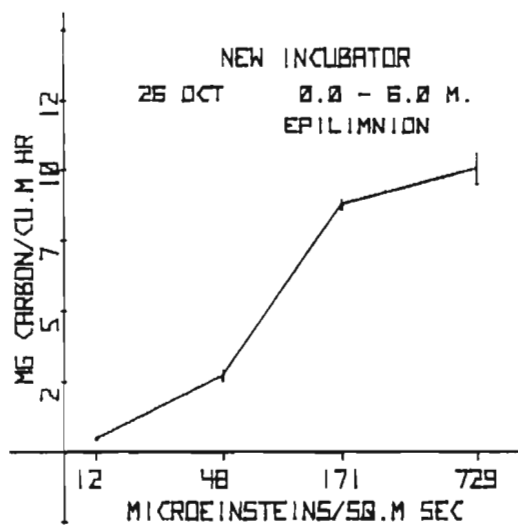




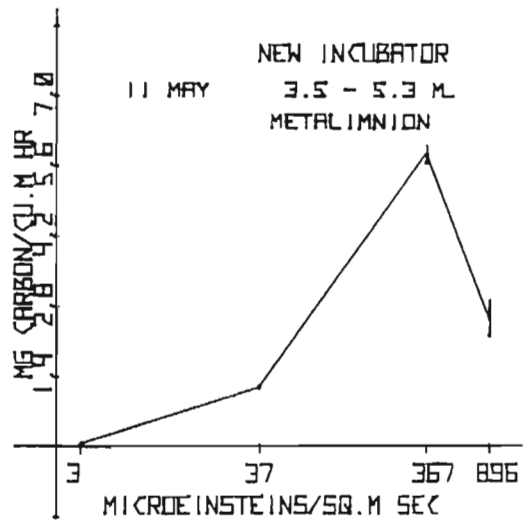
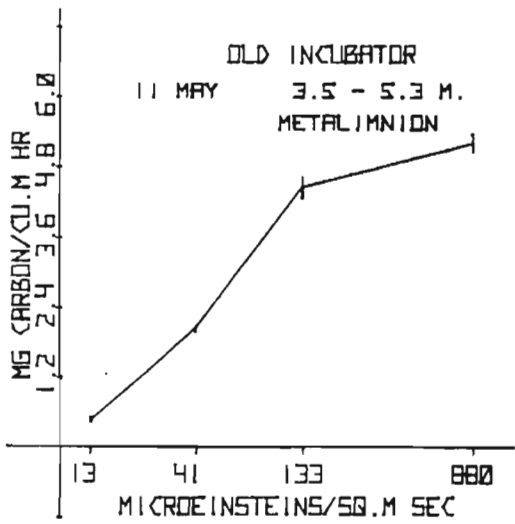
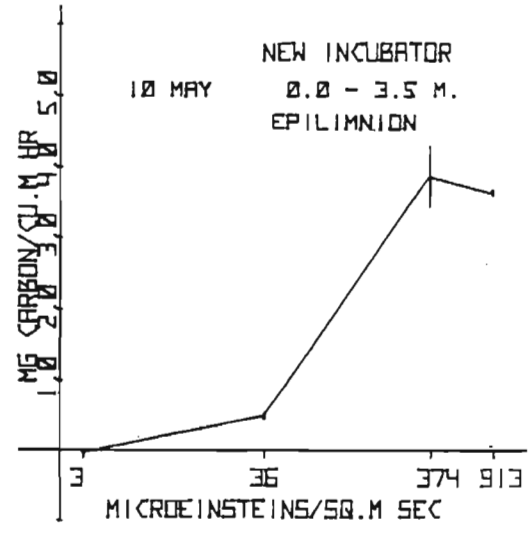
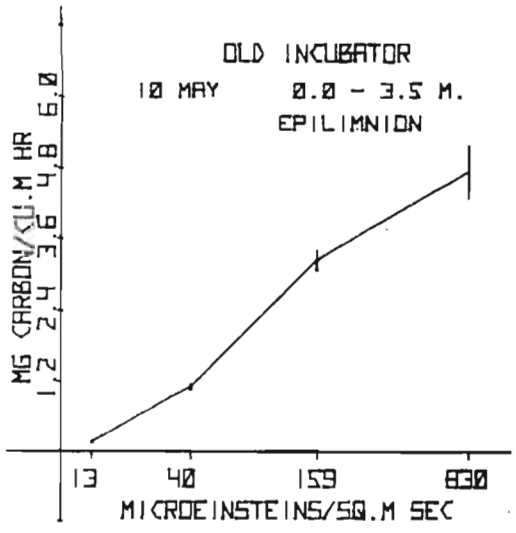
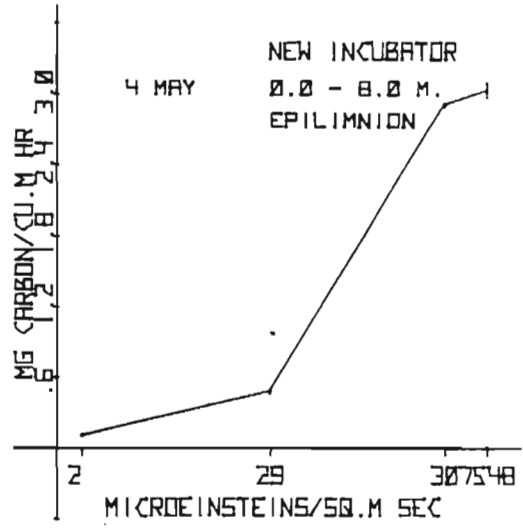
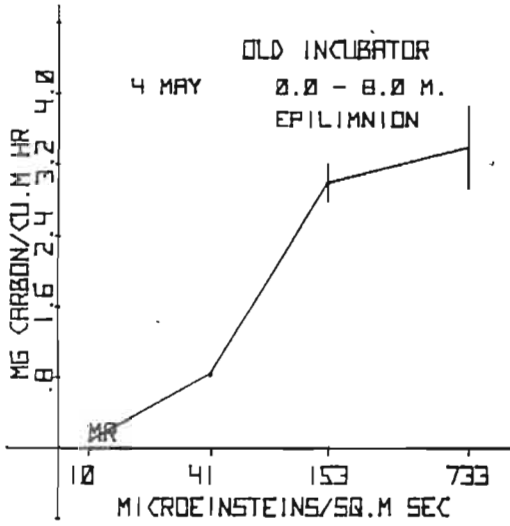
LAKE 302 N



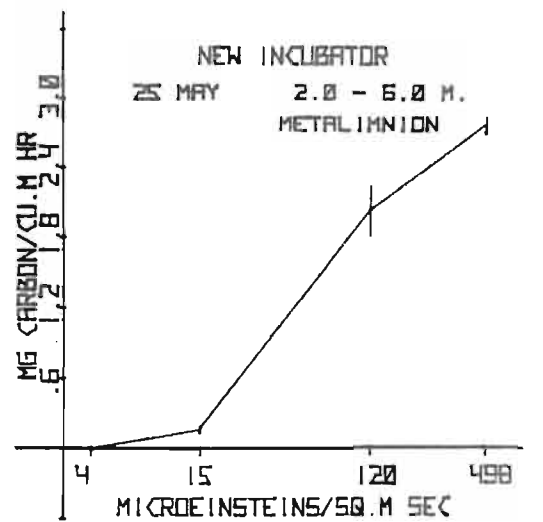
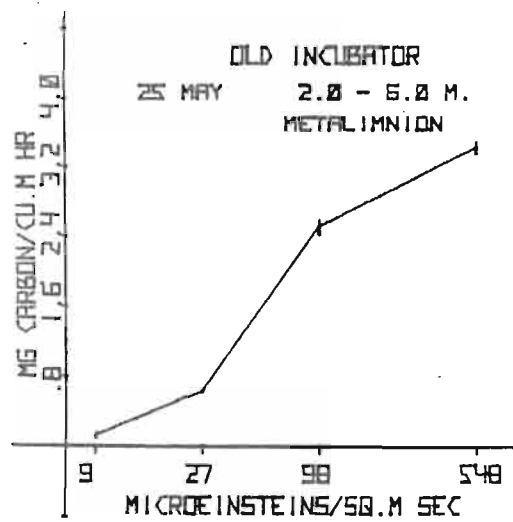
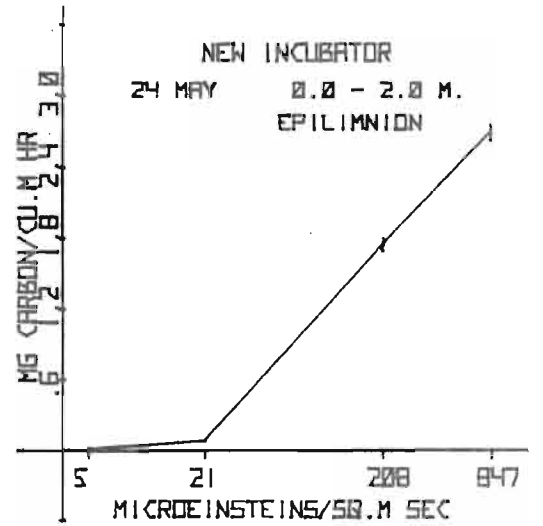
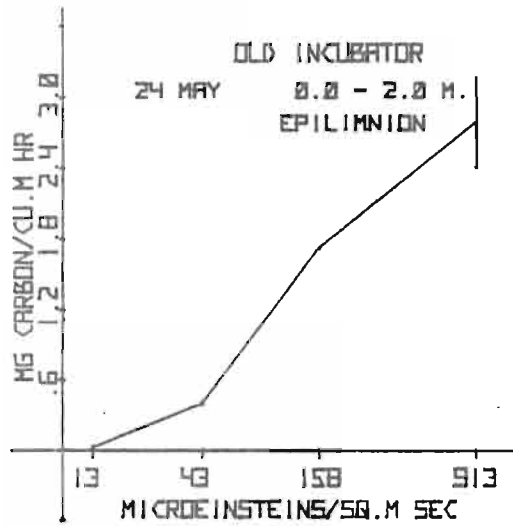
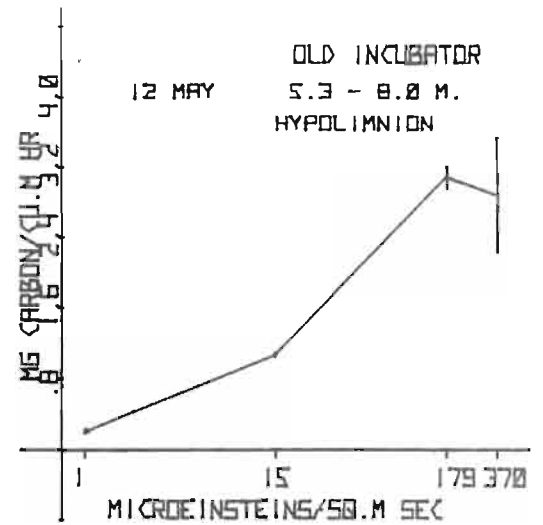
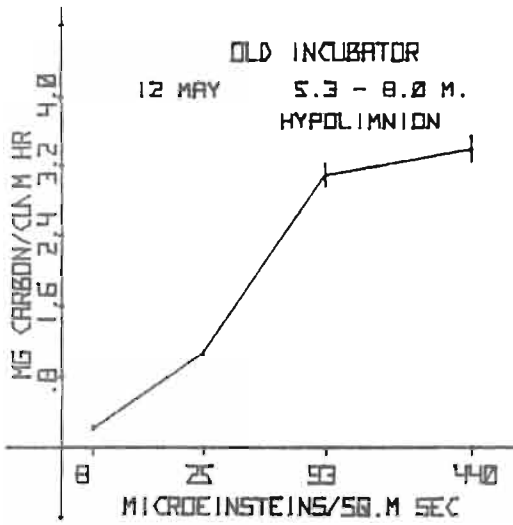
LAKE 302 N



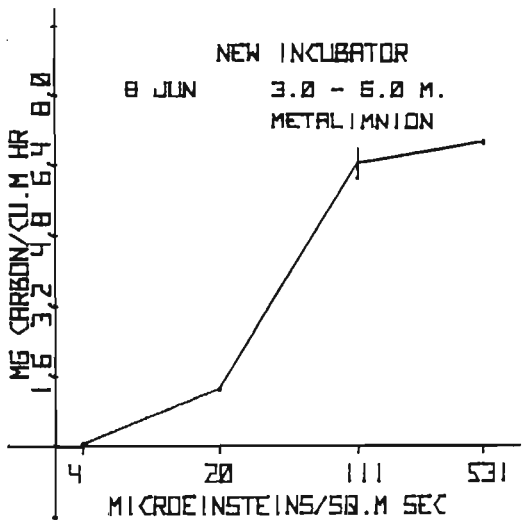
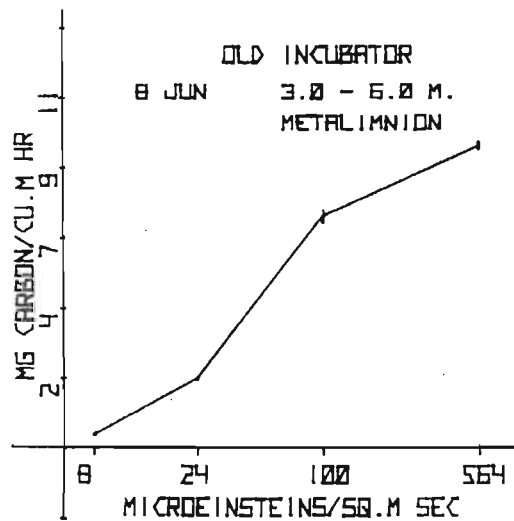
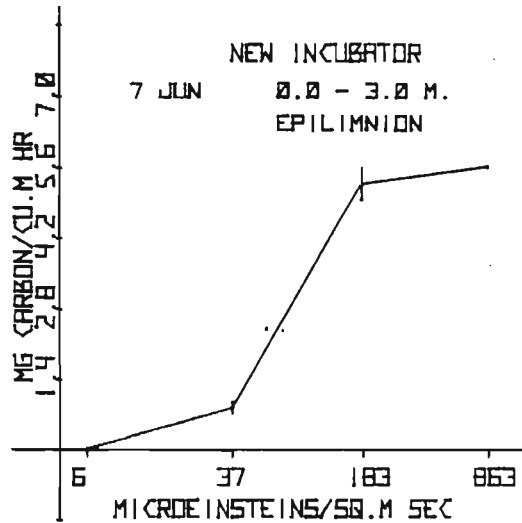
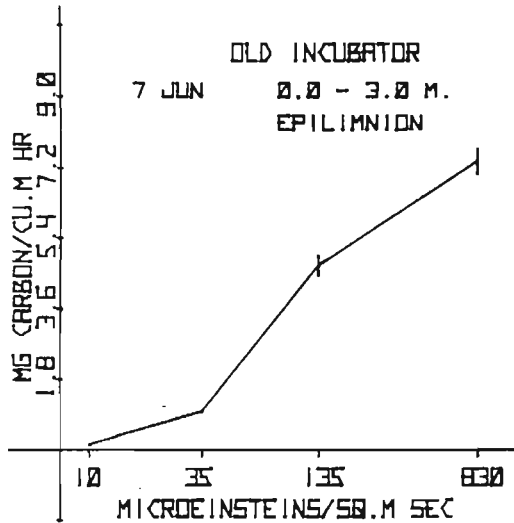
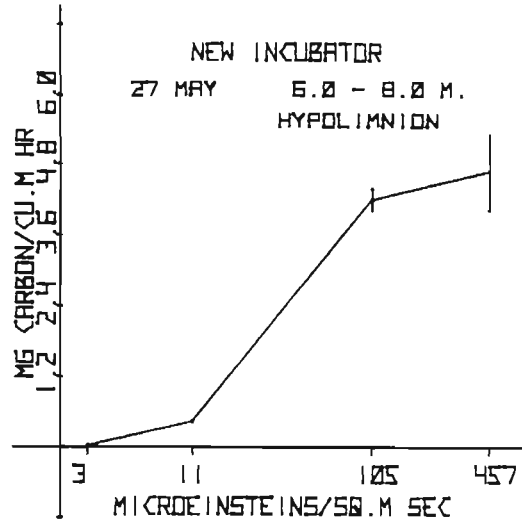
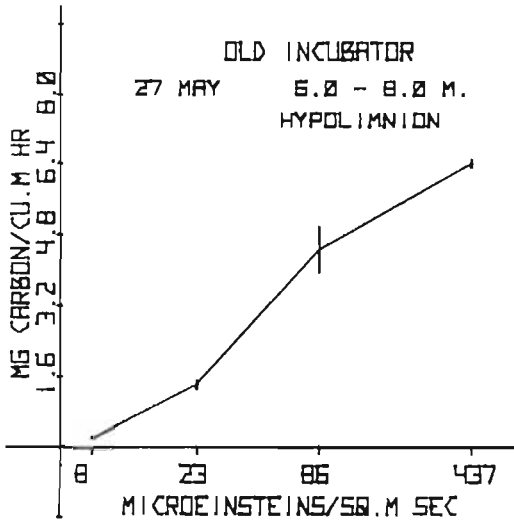
LAKE 302 S



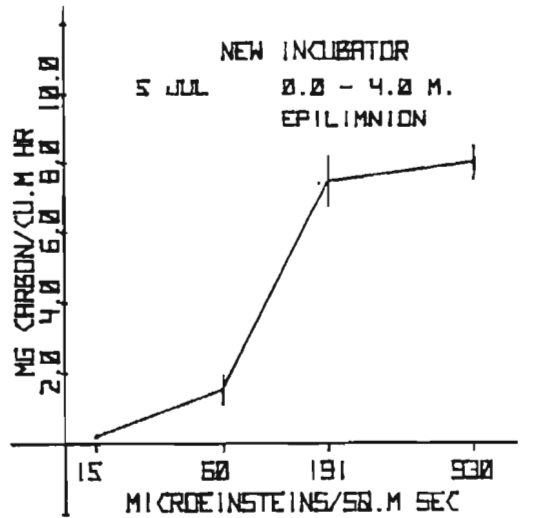
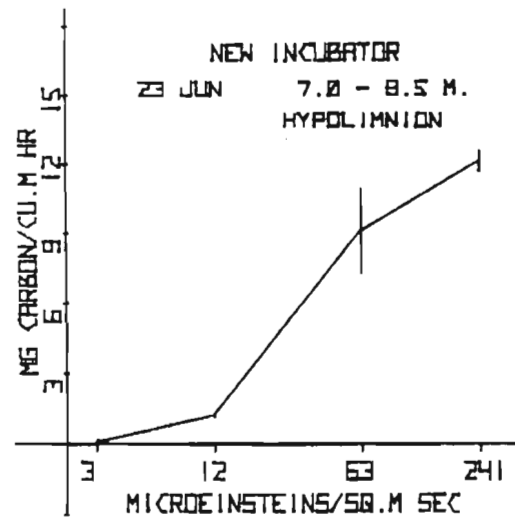
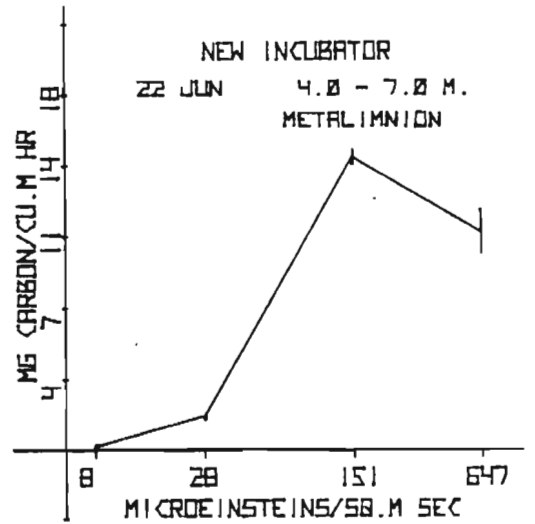
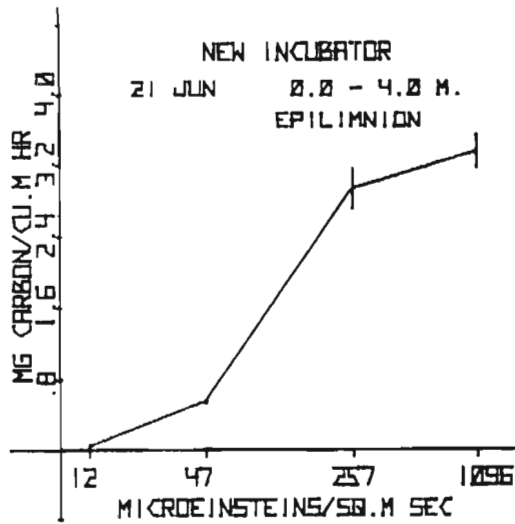
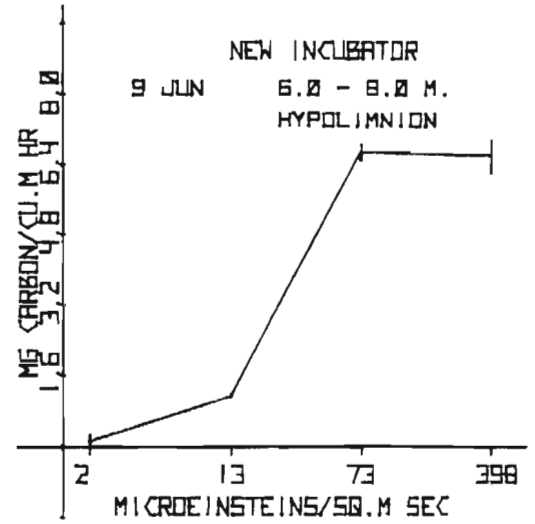
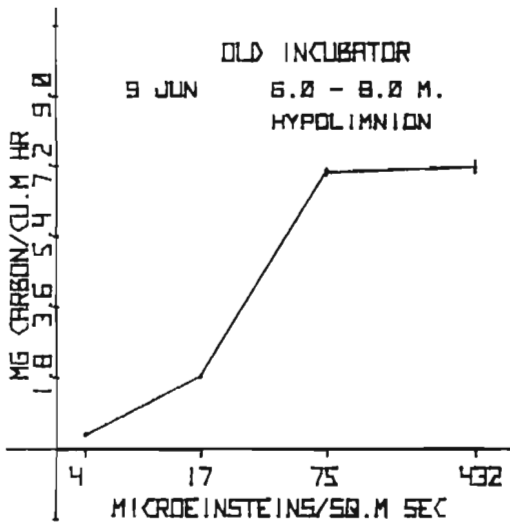
LAKE 302 5

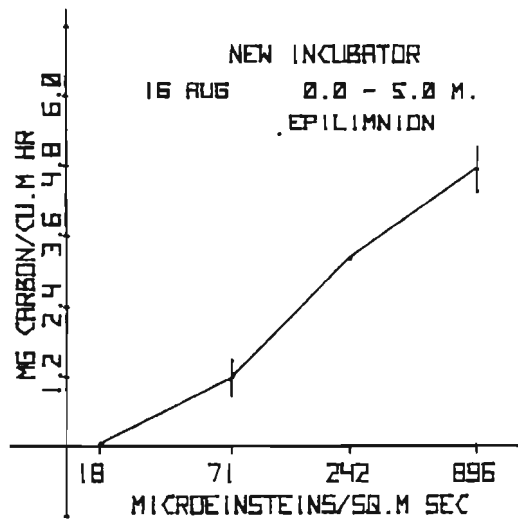
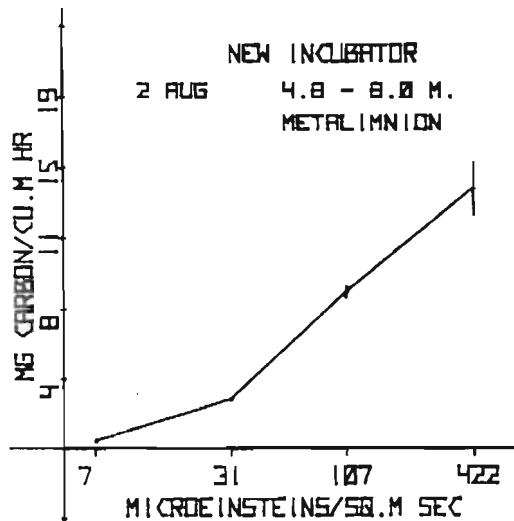
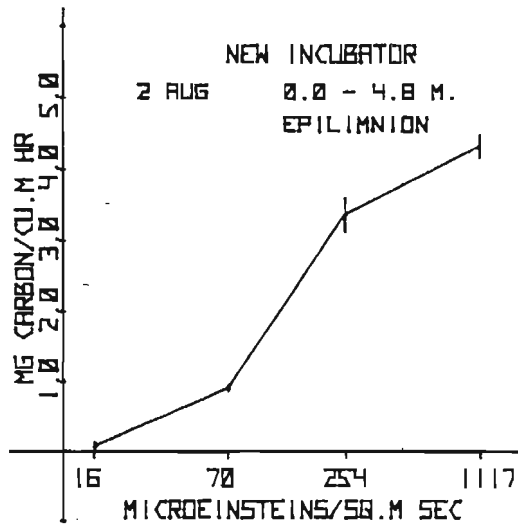
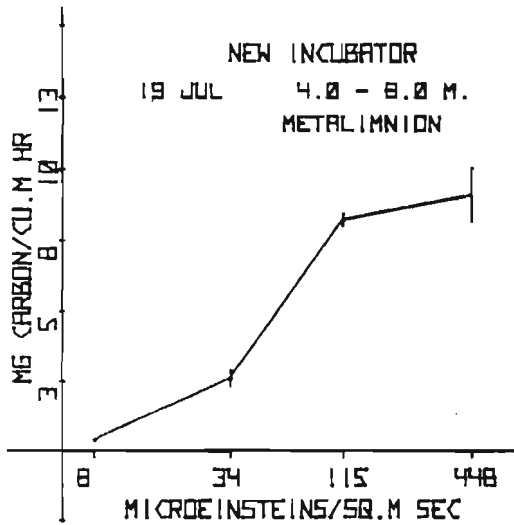
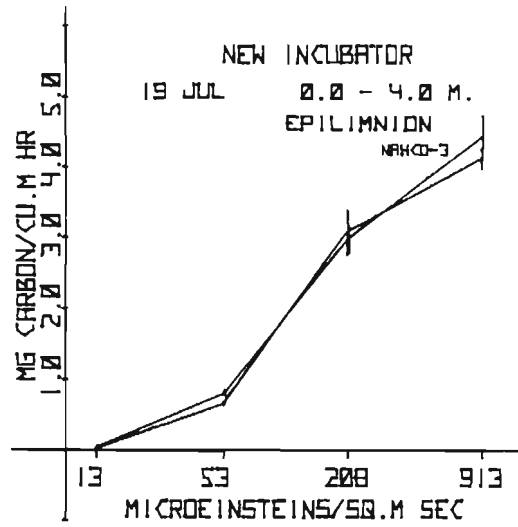
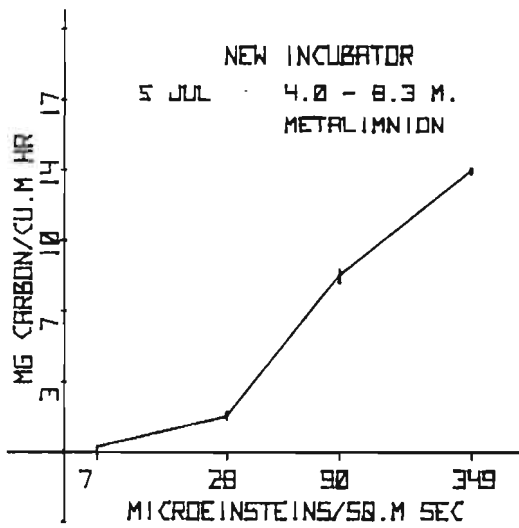


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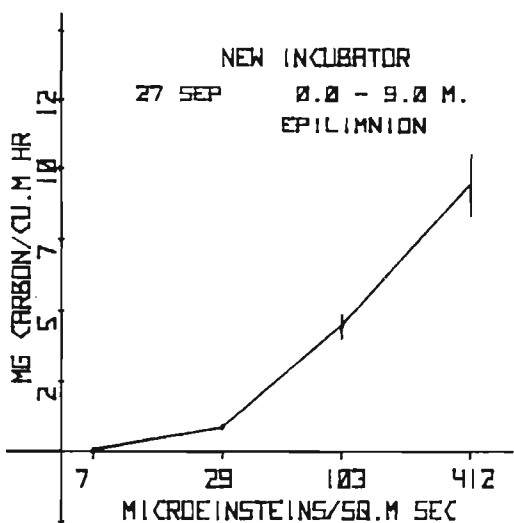
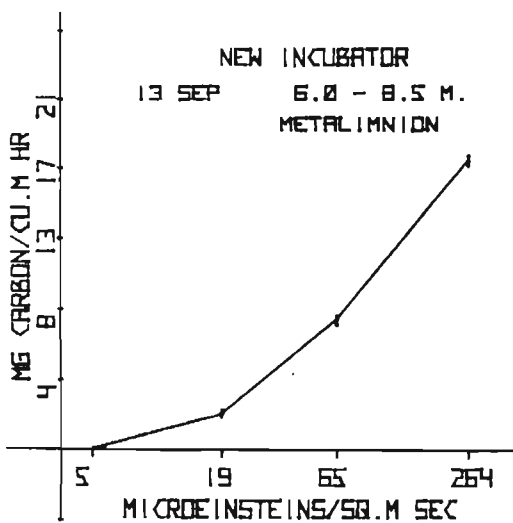
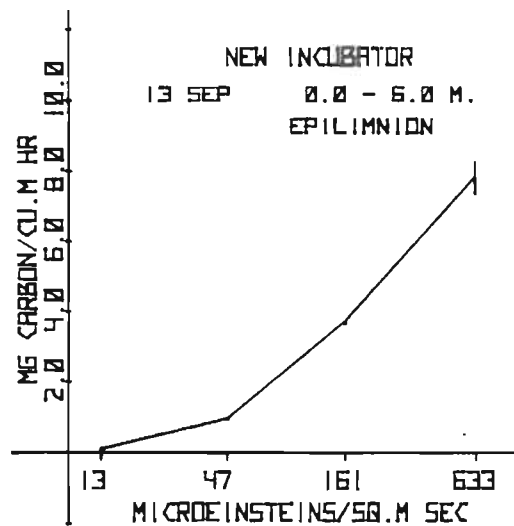
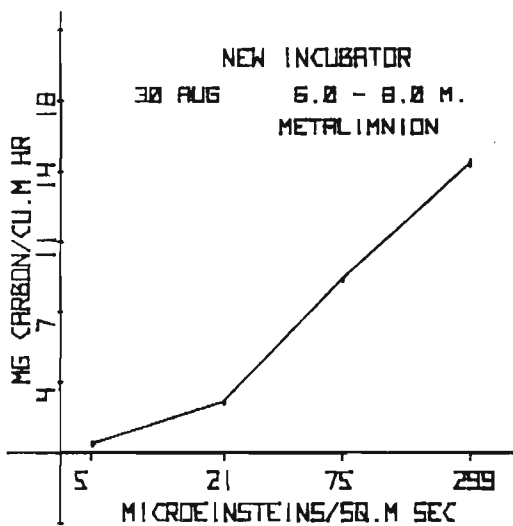
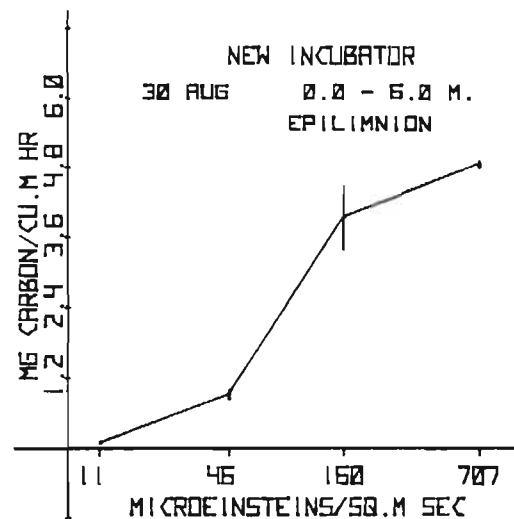
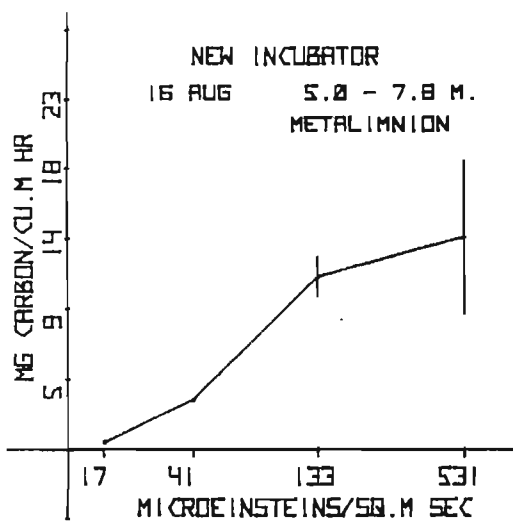
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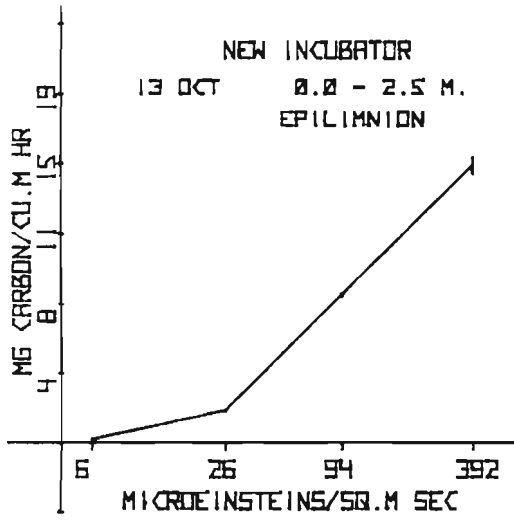




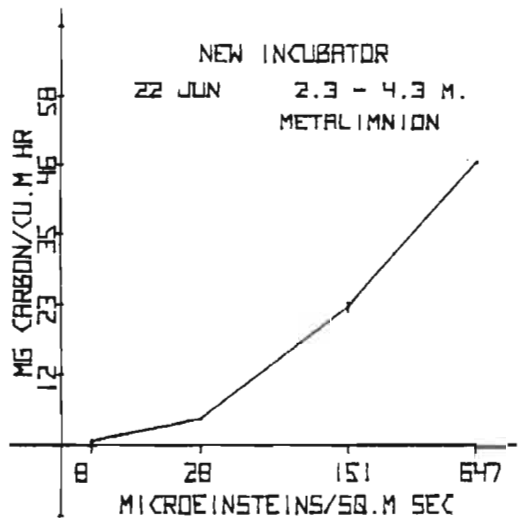
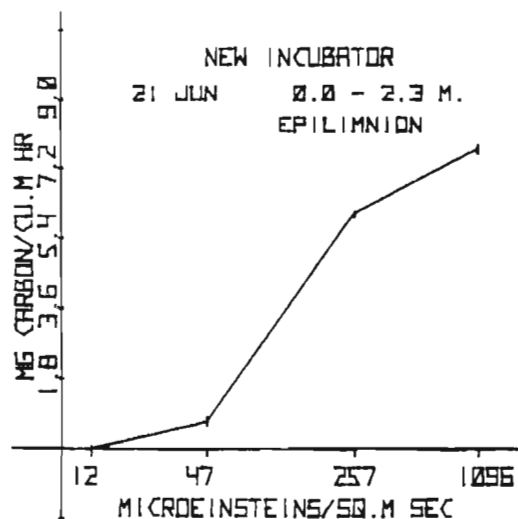
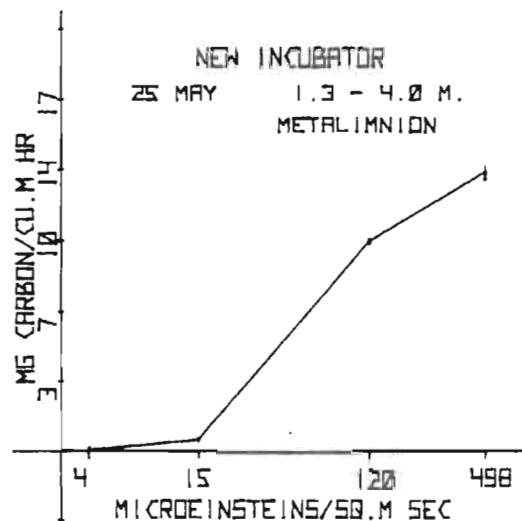
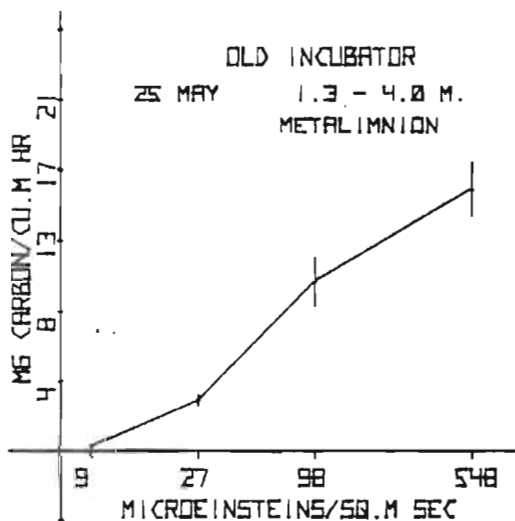
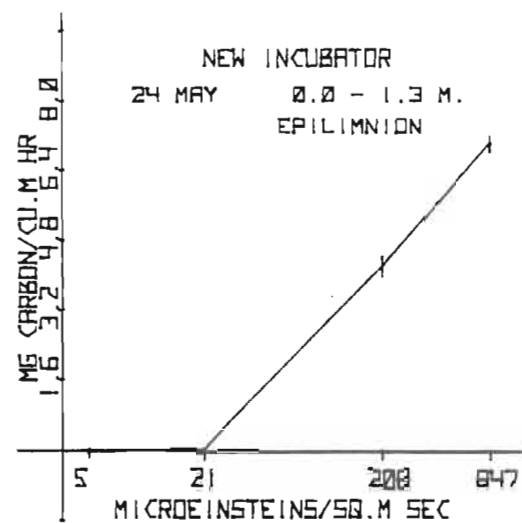
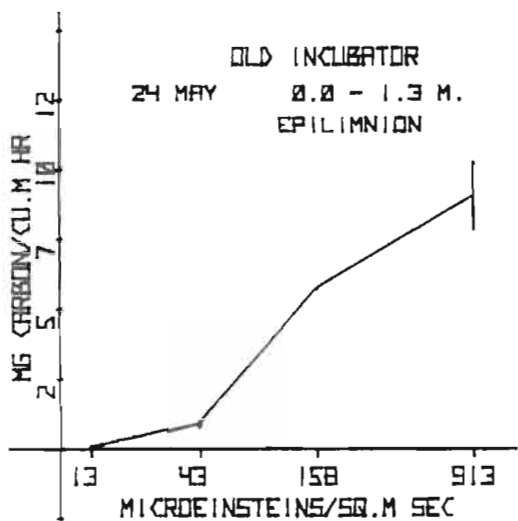


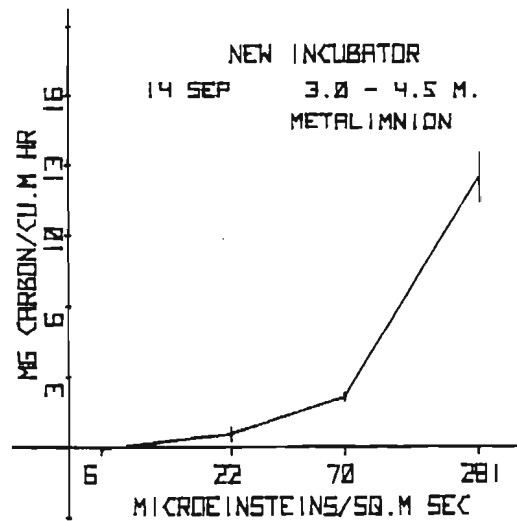
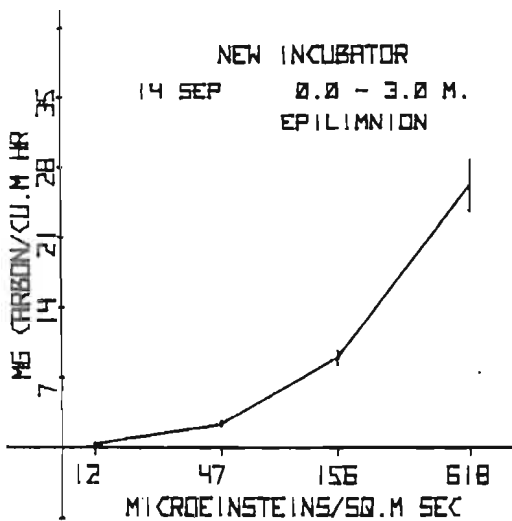
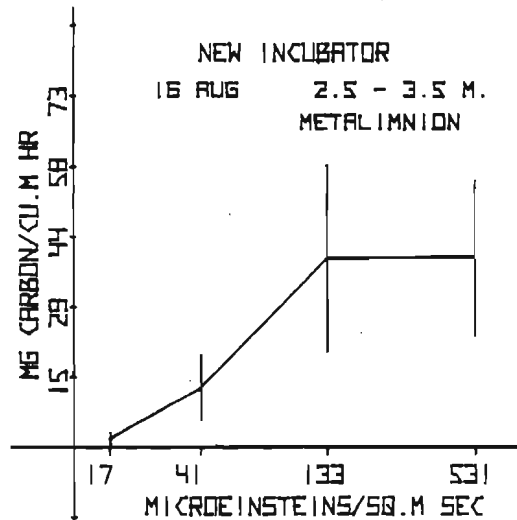
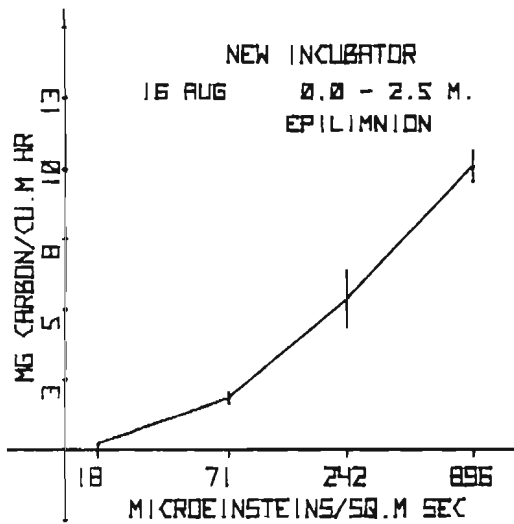
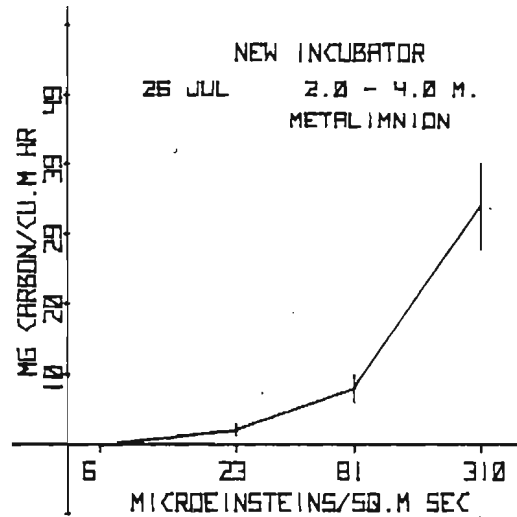
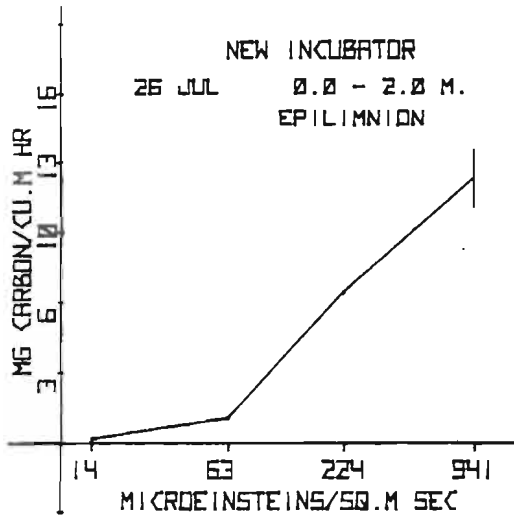
LAKE 302 5



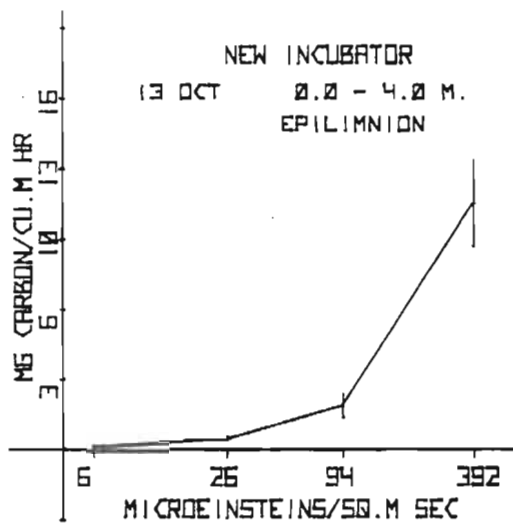


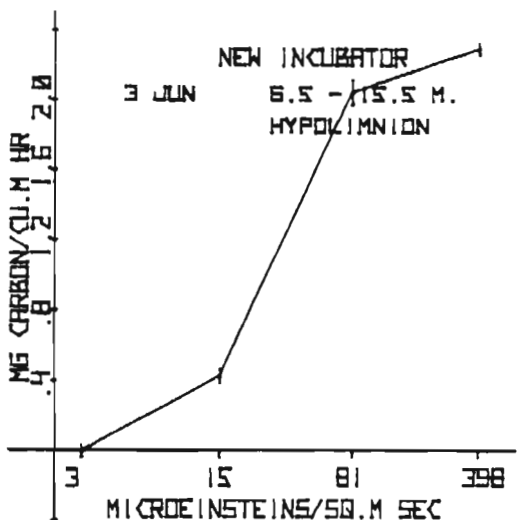
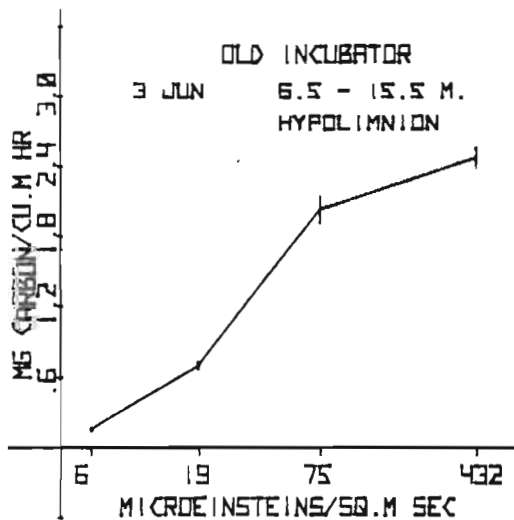
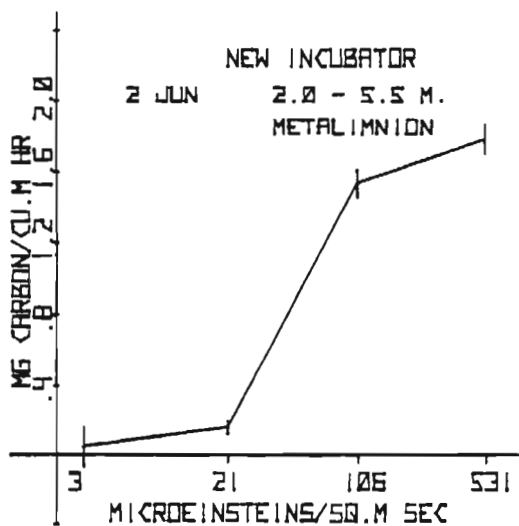
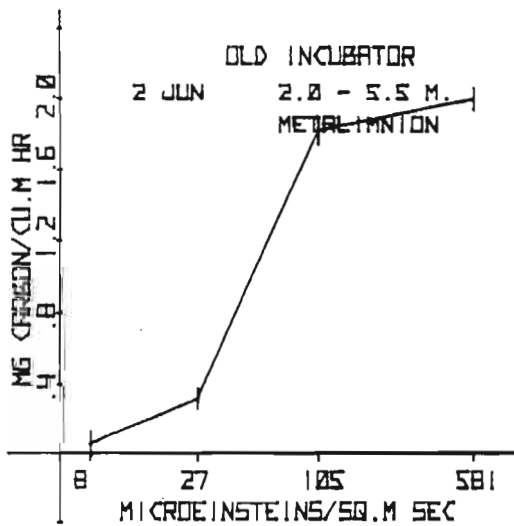
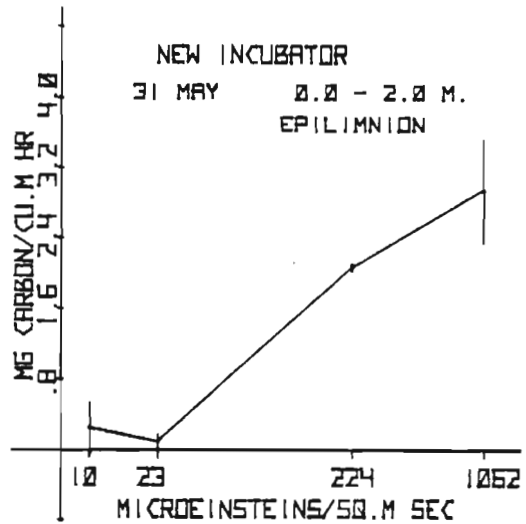
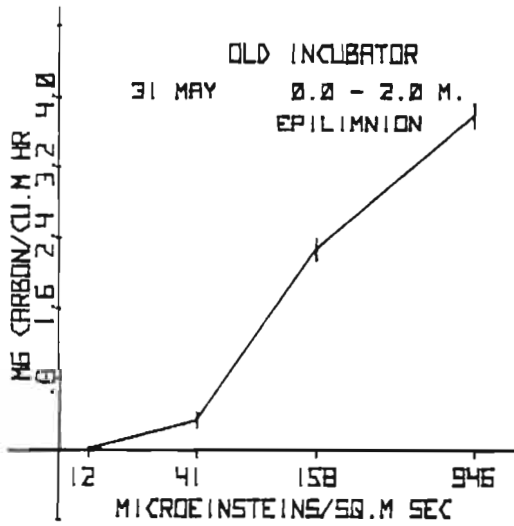
## LAKE 304

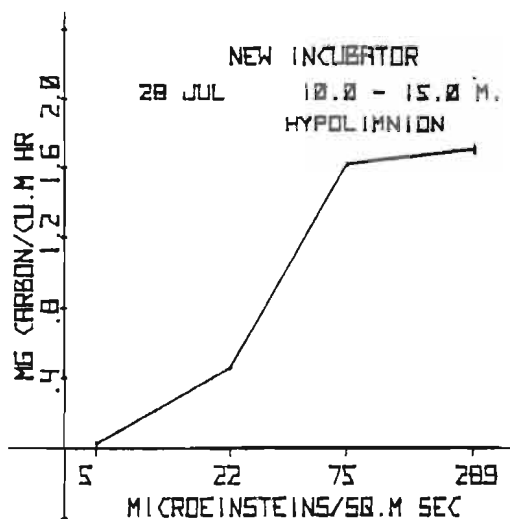
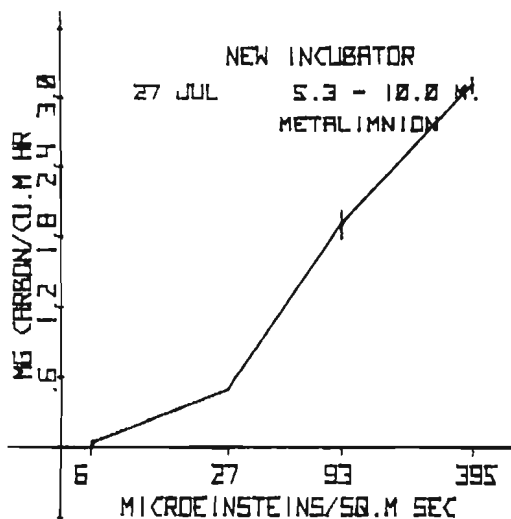
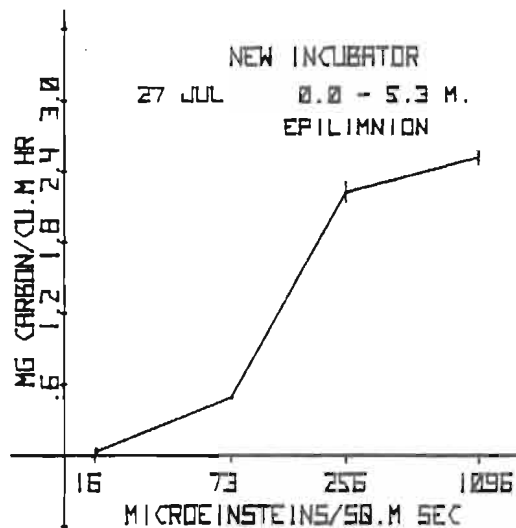
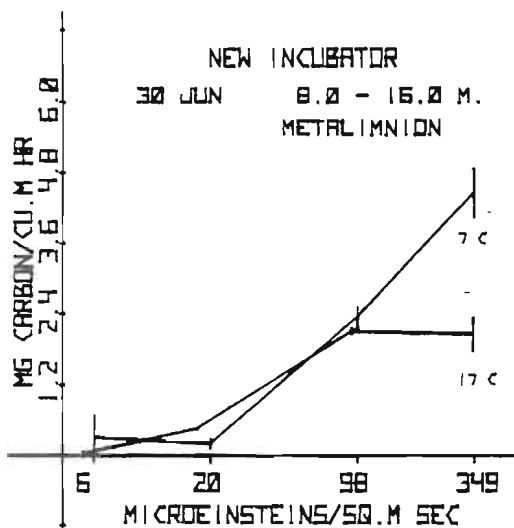
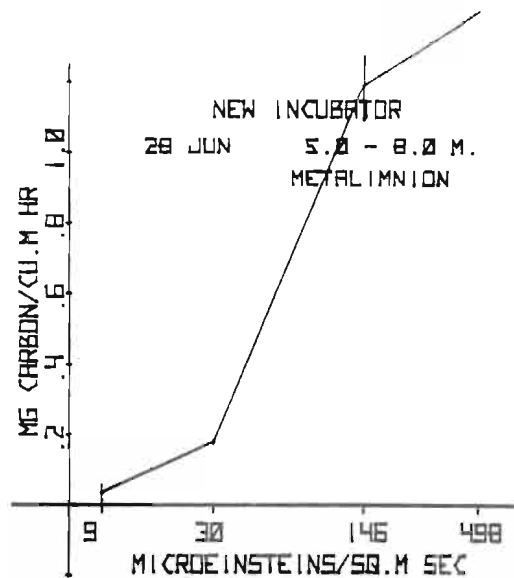
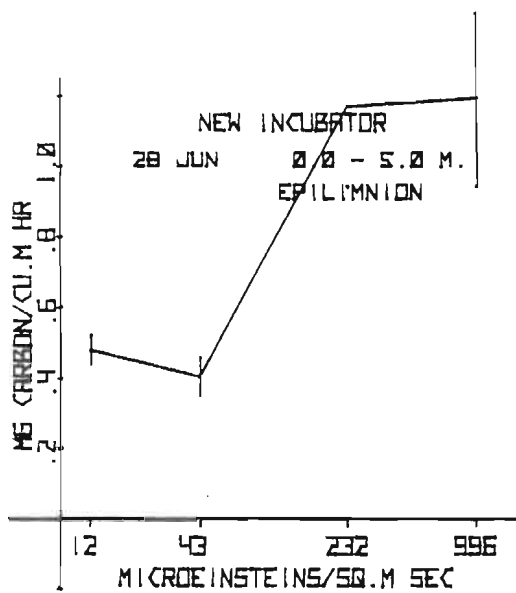


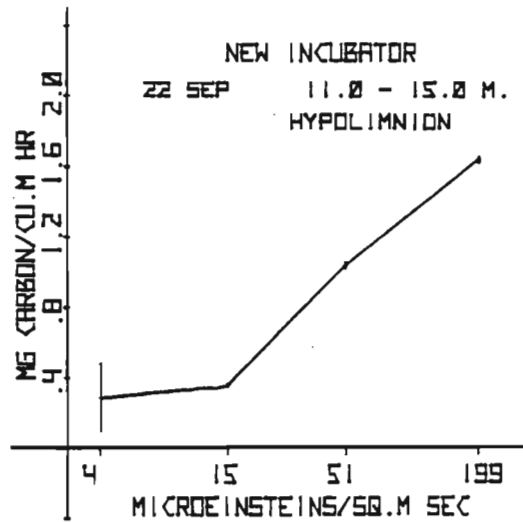
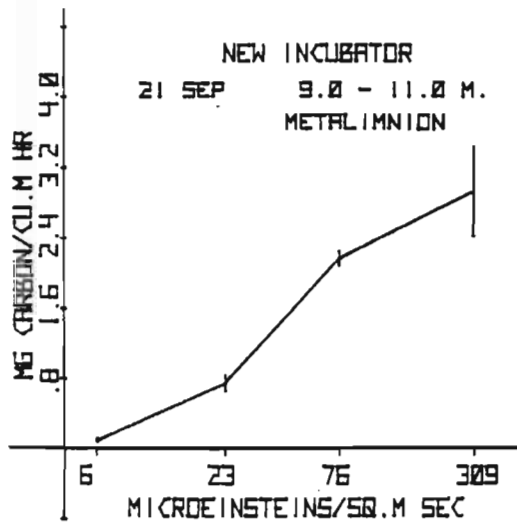
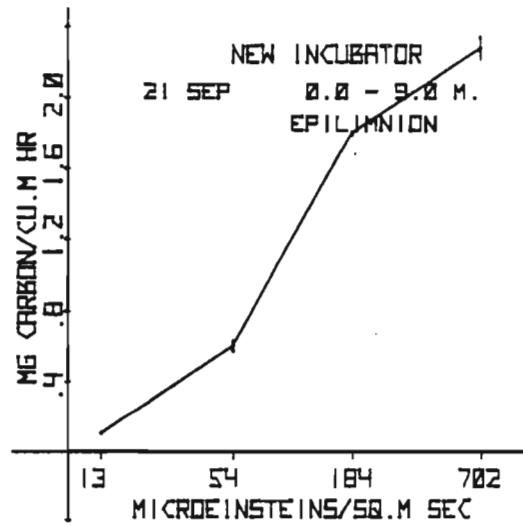
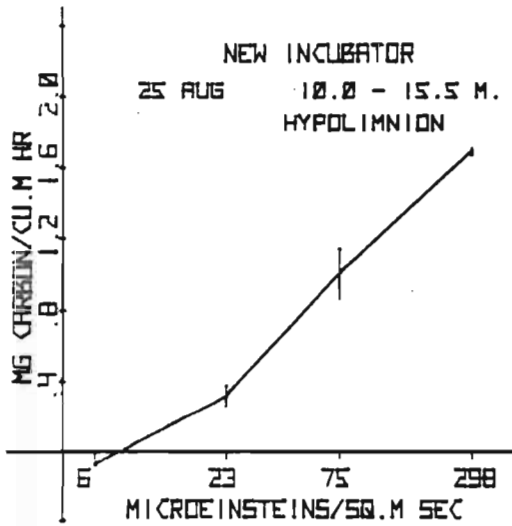
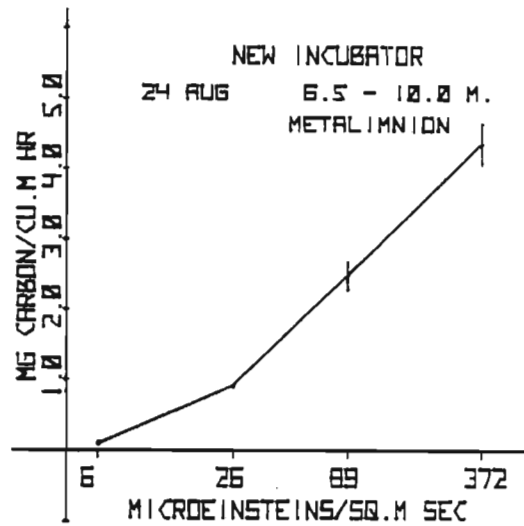
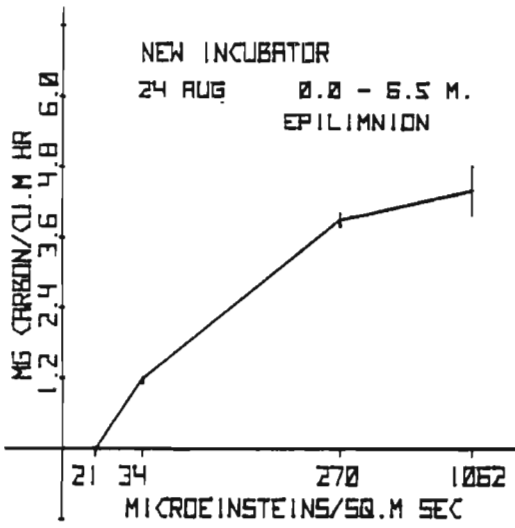


LAKE 304

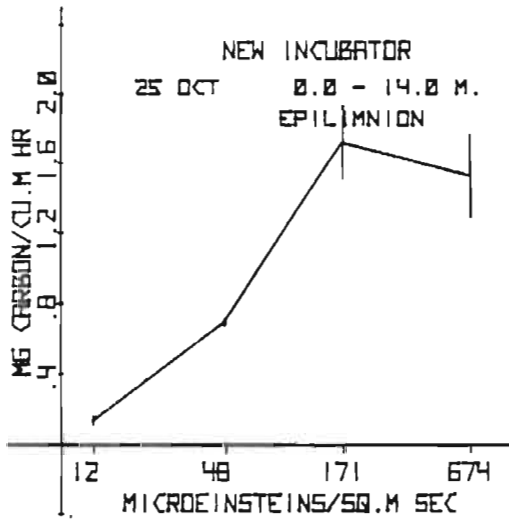


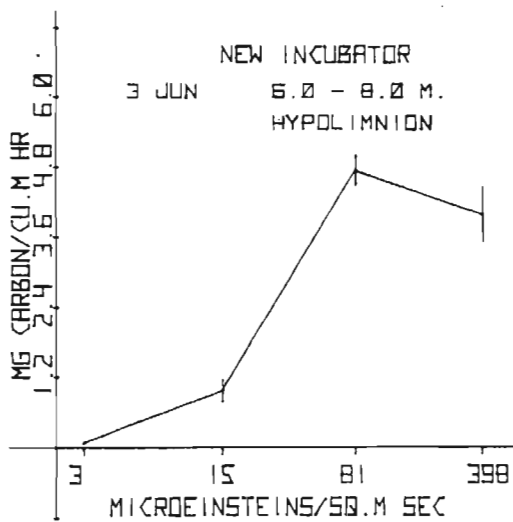
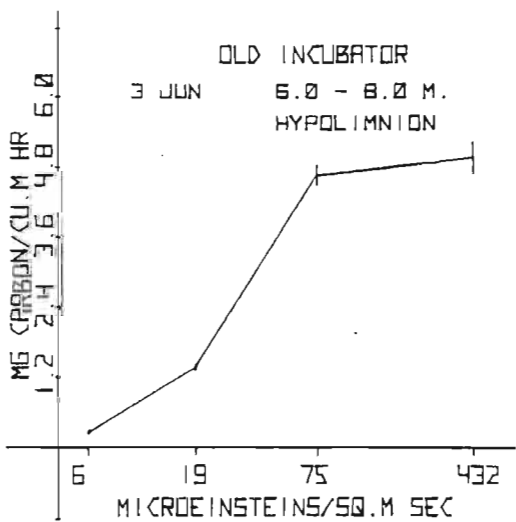
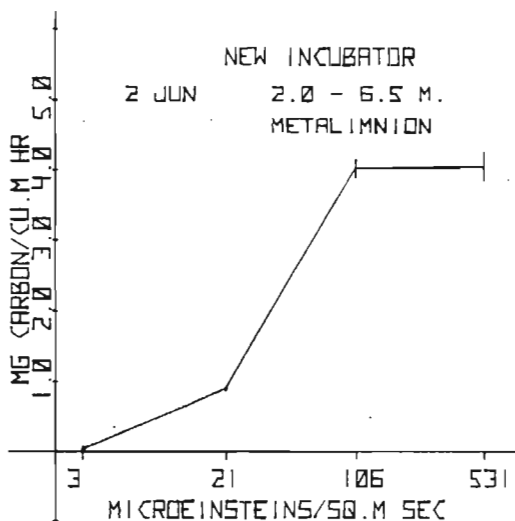
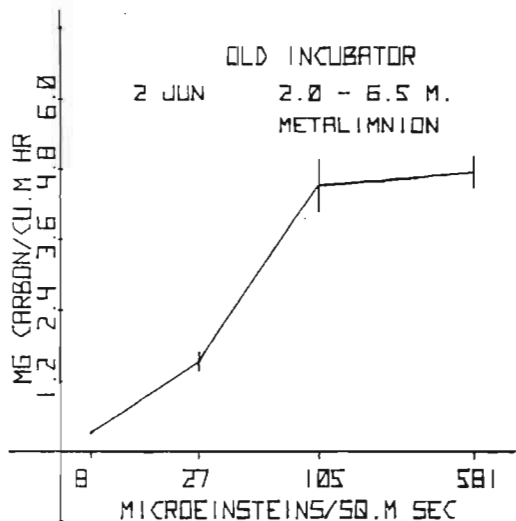
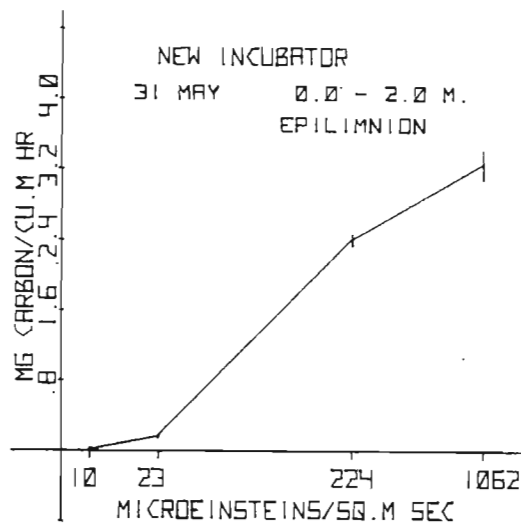
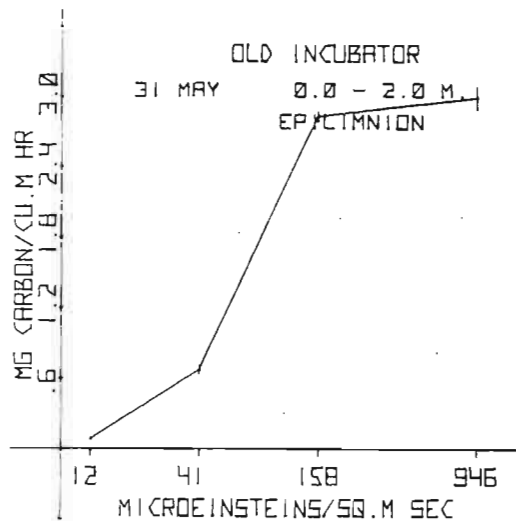


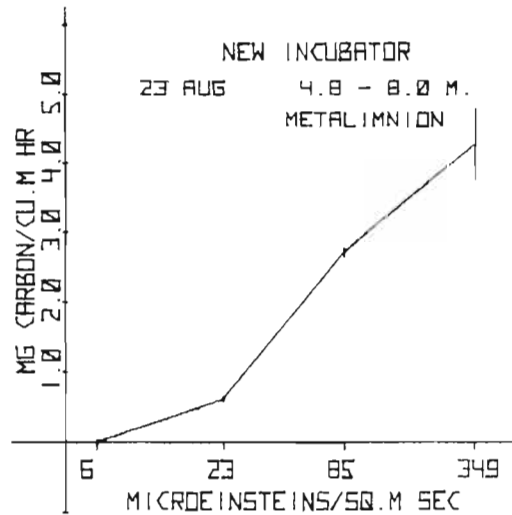
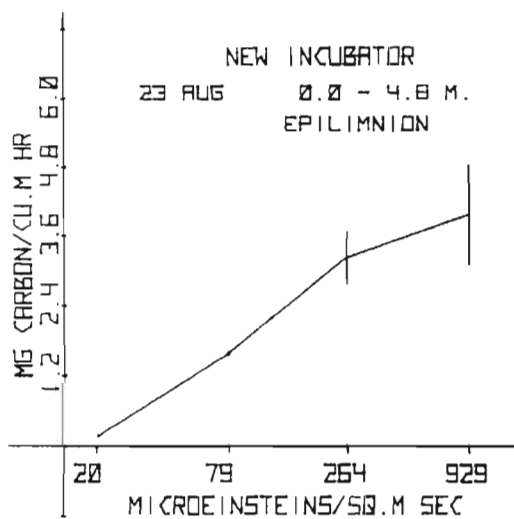
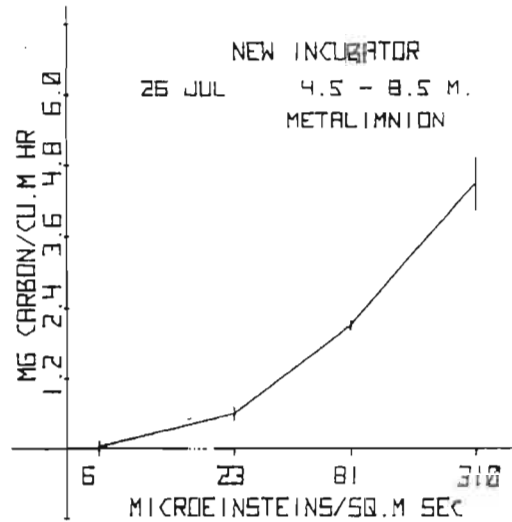
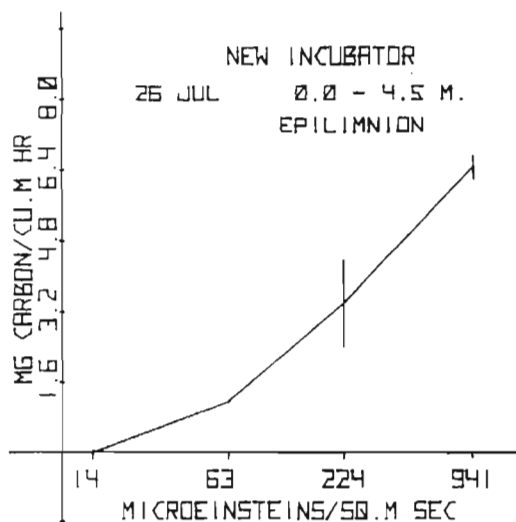
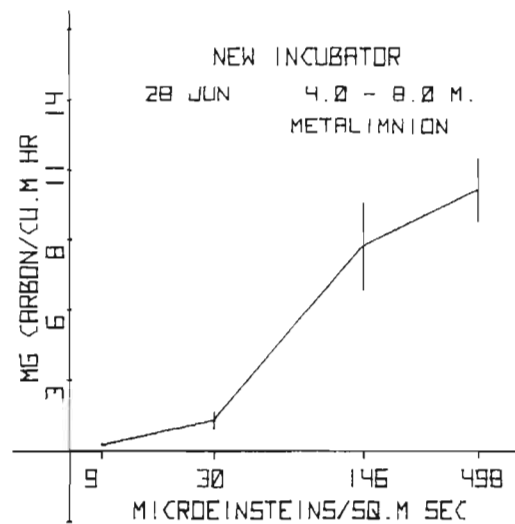
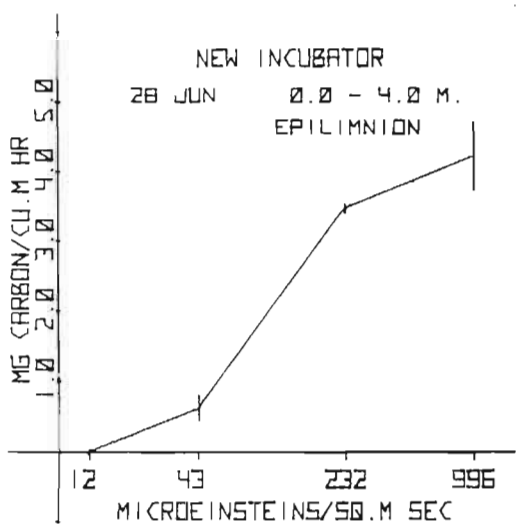


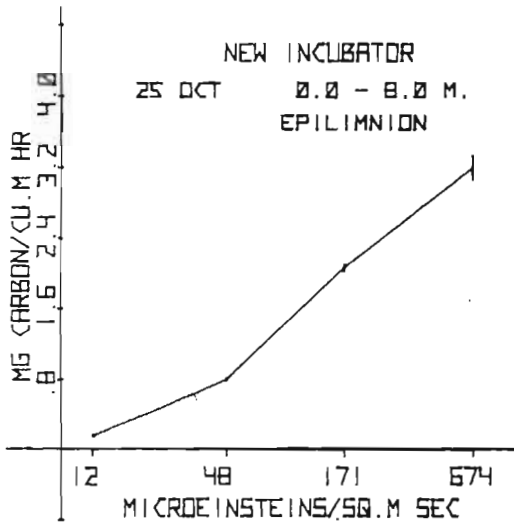
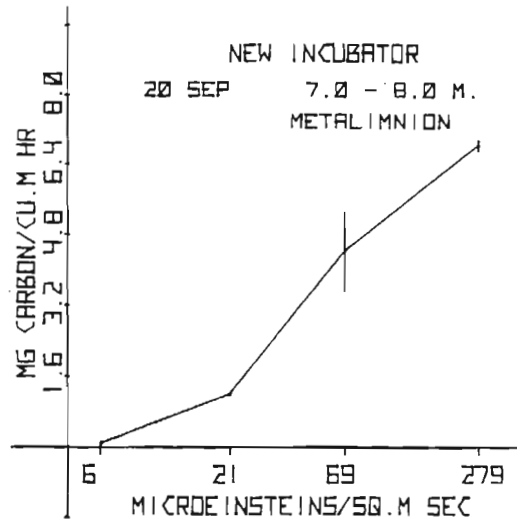
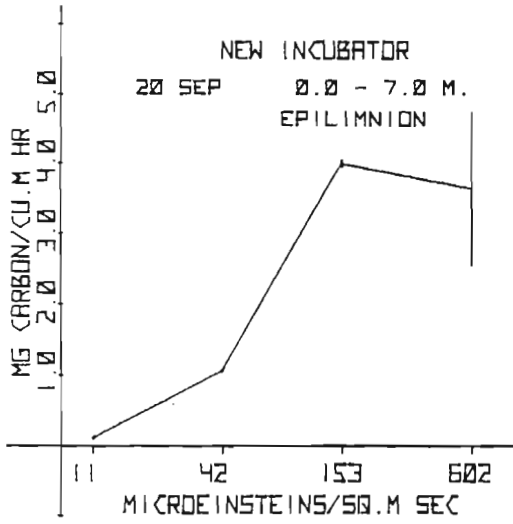




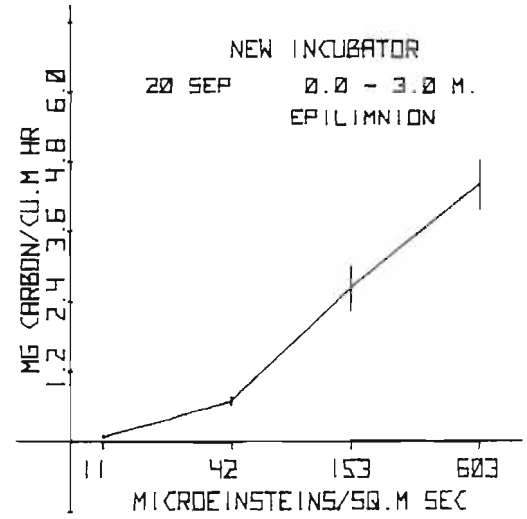
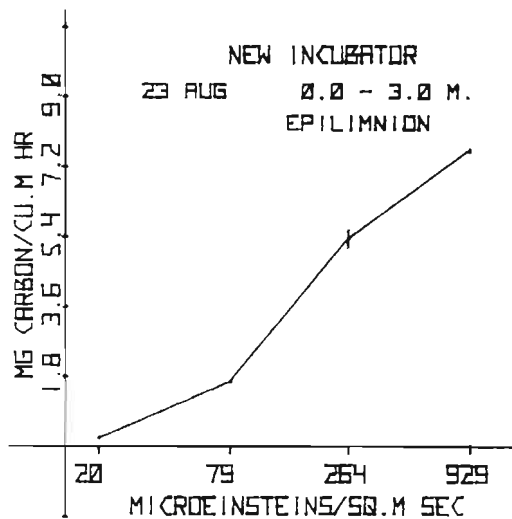
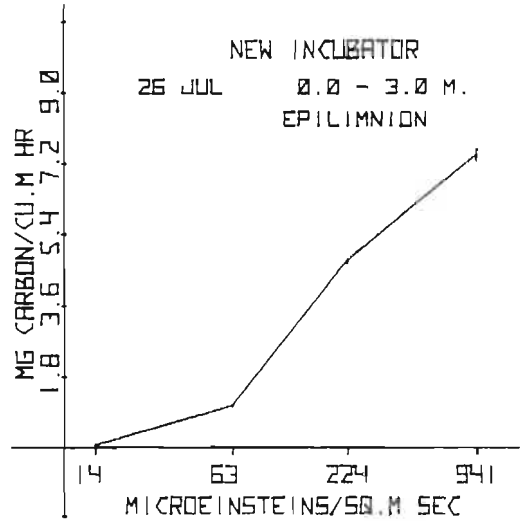
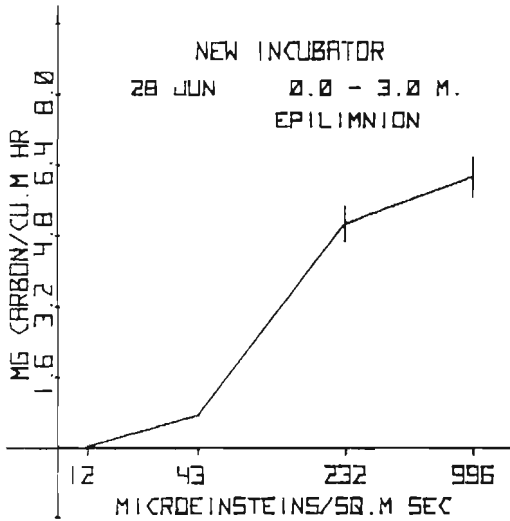
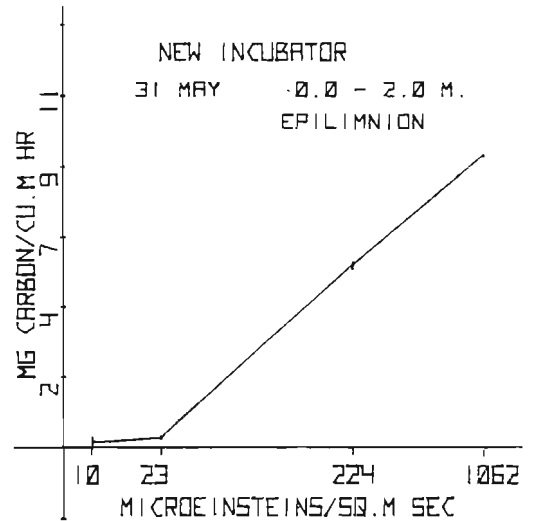
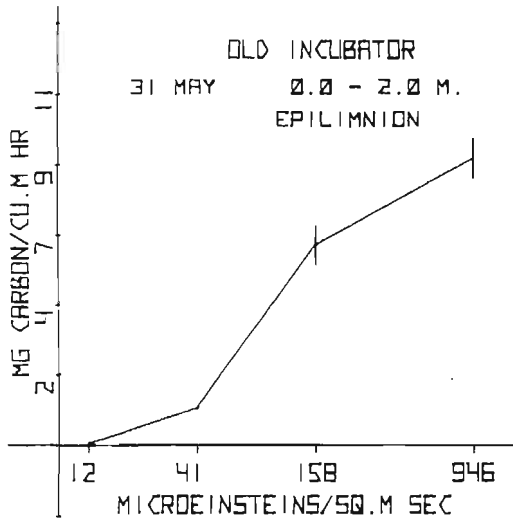




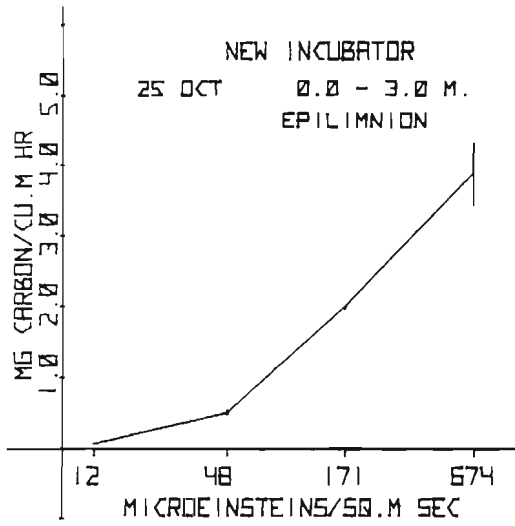




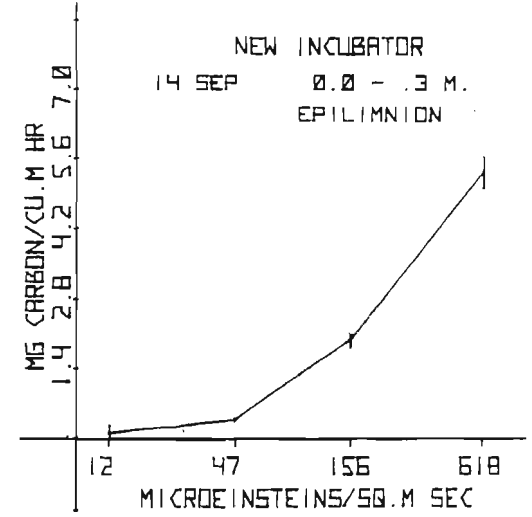
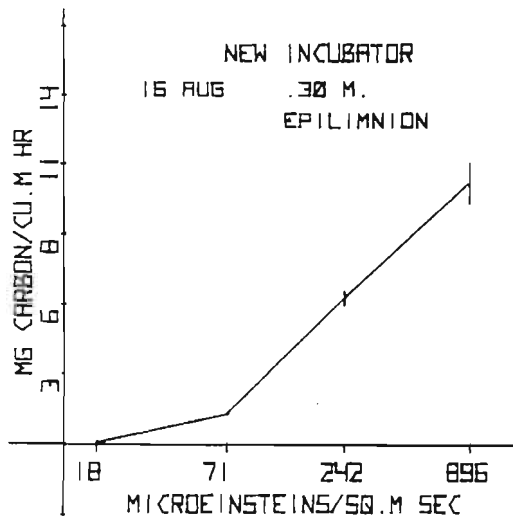
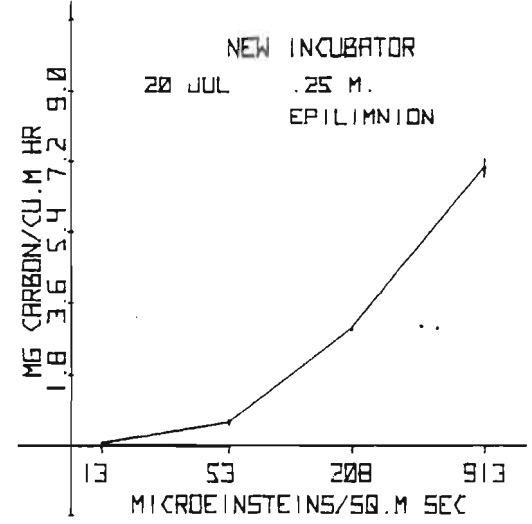
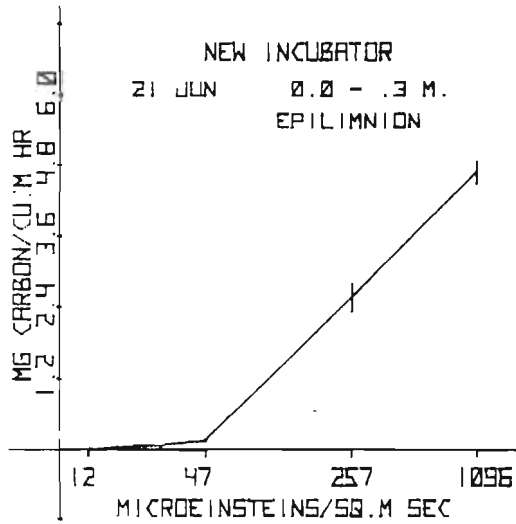
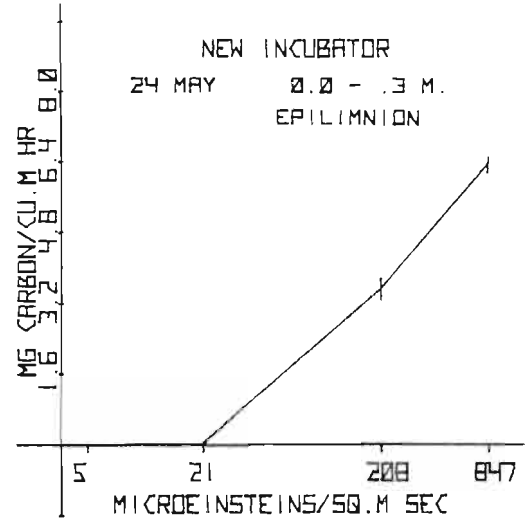
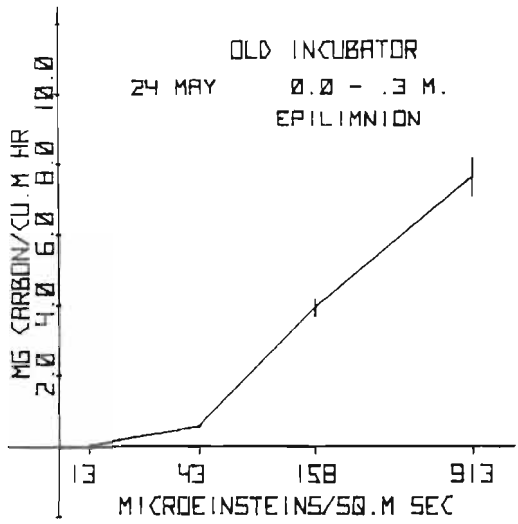
LAKE 382 BAY



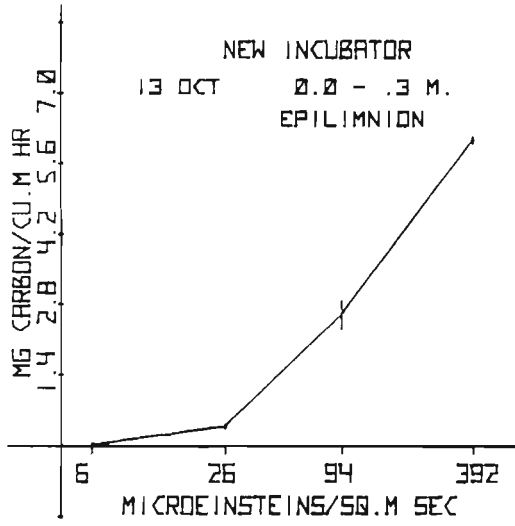
LAKE 382 BAY



LAKE 661



LAKE 661





## APPENDIX 3

## "NEW SITE" LAKE BASINS"

Data relevant to each sampling time are listed chronologically according to lake basin.

"Inc Typ" refers to type of light incubator used for incubations. 0 - represents old incubator, 1 - represents new incubator.

The date stated is that of sample collection and incubation. The time of actual field collection is reported as Central Daylight Time.

The depth is the range from which the integrated water sample was taken.

Temperature is that at which the incubation was carried out and may vary  $\pm 1^\circ\text{C}$ . Dissolved inorganic carbon (DIC) analysis was done on pre-incubation water samples. Units reported are micromoles  $\text{L}^{-1}$ . Values for suspended carbon and chlorophyll are in micrograms  $\text{L}^{-1}$ .

Values I1 through I4 are incubator irradiances in microeinsteins  $\text{m}^{-2} \text{sec}^{-1}$ .

Values P1 through P4 are rates of inorganic carbon uptake at the four separate incubator irradiances in units of milligrams carbon  $\text{m}^{-2} \text{h}^{-1}$ . The two given values at each irradiance are those of replicate samples.

The mean coefficient of variation (C.V.) of the four sets of replicates are given. \$\$\$\$ occurs when negative values appear under P4 and P3 causing the C.V. value to exceed the field width of 999.9. See Note: 1 and 2.

Live biomass is calculated from algal cell counts and approximated cell volumes of the species encountered in the sample. Values are reported in grams  $\text{m}^{-3}$ .

## Notes:

1. Production values are unusually erratic or differ from expected results and should be considered with caution.

2. Missing values are denoted with -10.00. The sample may have been lost during the incubation or not processed.
3.  $\text{NaHCO}_3$  was added to the sample prior to incubation.
4. HCL was added to the sample prior to incubation.
5. Samples were incubated at a temperature other than from which the lake sample was taken.

## LAKE 93

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC  | SUSP<br>CAR. | CHLOR<br>A | I4  | P4 | I3           | P3 | I2         | P2  | I1           | P1  | C.V.<br>(%)  | BIO-<br>MASS | NOTE |   |
|------------|--------|-------------|-------------|------------|------|--------------|------------|-----|----|--------------|----|------------|-----|--------------|-----|--------------|--------------|------|---|
| 1          | 26 MAY | 0.0-        | .3          | 1005       | 18.0 | 64           | 450        | 2.3 | 5  | -.00<br>-.01 | 27 | .10<br>.12 | 213 | 2.73<br>3.29 | 946 | 5.50<br>4.98 | 10.81        | 1.31 |   |
| 1          | 8 JUL  | .3-         | .3          | 1000       | 20.0 | 60           | 600        | 4.0 | 16 | .48<br>.36   | 63 | .48<br>.57 | 204 | 3.49<br>2.92 | 863 | 5.21<br>5.02 | 11.80        | 1.46 |   |
| 1          | 17 AUG | .3-         | .3          | 1000       | 22.0 | 58           | -10        | 4.1 | 16 | -.01<br>-.03 | 65 | .41<br>.38 | 234 | 3.25<br>3.00 | 963 | 4.68<br>4.20 | 6.27         | 1.66 | 2 |
| 1          | 29 SEP | 0.0-        | .3          | 0945       | 13.5 | 105          | 710        | 5.2 | 8  | -.09<br>-.11 | 31 | .81<br>.63 | 101 | 4.21<br>4.21 | 408 | 9.39<br>8.31 | 8.56         | 1.95 |   |

## LAKE 110

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC  | SUSP<br>CAR. | CHLOR<br>A | I4    | P4 | I3          | P3 | I2         | P2  | I1           | P1  | C.V.<br>(%)  | BIO-<br>MASS | NOTE   |   |
|------------|--------|-------------|-------------|------------|------|--------------|------------|-------|----|-------------|----|------------|-----|--------------|-----|--------------|--------------|--------|---|
| 1          | 8 JUL  | .3-         | .3          | 0946       | 20.0 | 61           | -10        | -10.0 | 16 | .13<br>.08  | 63 | .90<br>.93 | 204 | 3.64<br>3.96 | 863 | 6.60<br>5.97 | 11.90        | -10.00 | 2 |
| 1          | 17 AUG | .3-         | .3          | 0952       | 22.0 | 55           | -10        | -10.0 | 16 | .05<br>-.38 | 65 | .48<br>.63 | 234 | 3.33<br>1.78 | 963 | 2.49<br>2.89 | 28.25        | -10.00 | 2 |
| 1          | 29 SEP | 0.0-        | .3          | 0928       | 13.5 | 83           | -10        | -10.0 | 8  | .04<br>.03  | 31 | .72<br>.73 | 101 | 2.64<br>2.78 | 408 | 6.30<br>6.42 | 5.76         | -10.00 | 2 |

## LAKE 111

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC  | SUSP<br>CAR. | CHLOR<br>A | I4  | P4 | I3           | P3 | I2         | P2  | I1           | P1  | C.V.<br>(%)  | BIO-<br>MASS | NOTE |   |
|------------|--------|-------------|-------------|------------|------|--------------|------------|-----|----|--------------|----|------------|-----|--------------|-----|--------------|--------------|------|---|
| 1          | 26 MAY | 0.0-        | .3          | 0955       | 18.0 | 73           | 290        | .9  | 5  | -.04<br>-.03 | 27 | .10<br>.08 | 213 | 2.71<br>2.53 | 946 | 3.83<br>3.75 | 6.20         | .59  |   |
| 1          | 8 JUL  | .3-         | .3          | 0951       | 20.0 | 65           | 1960       | 1.4 | 16 | .02<br>.04   | 63 | .68<br>.41 | 204 | 1.87<br>2.23 | 863 | 4.84<br>5.32 | 28.42        | 2.39 |   |
| 1          | 17 AUG | .3-         | .3          | 0955       | 22.0 | 62           | -10        | 1.9 | 16 | -.09<br>-.10 | 65 | .28<br>.29 | 234 | 1.72<br>.80  | 963 | 3.49<br>3.06 | 21.50        | .94  | 2 |
| 1          | 29 SEP | 0.0-        | .3          | 0934       | 13.5 | 70           | 410        | 2.4 | 8  | .06<br>.05   | 31 | .42<br>.34 | 101 | 1.92<br>2.20 | 408 | 4.30<br>4.34 | 9.49         | .66  |   |

## LAKE 373

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC  | SUSP<br>CAR. | CHLOR<br>A | I4  | P4 | I3           | P3 | I2          | P2  | I1           | P1  | C.V.<br>(%)  | BIO-<br>MASS | NOTE |   |
|------------|--------|-------------|-------------|------------|------|--------------|------------|-----|----|--------------|----|-------------|-----|--------------|-----|--------------|--------------|------|---|
| 1          | 8 JUL  | .3-         | .3          | 1012       | 20.0 | 146          | 150        | 1.3 | 14 | -.13<br>-.14 | 58 | .14<br>.45  | 201 | .92<br>3.34  | 880 | 3.44<br>4.22 | 56.78        | .62  |   |
| 1          | 17 AUG | .3-         | .3          | 0948       | 22.0 | 152          | -10        | 1.6 | 16 | .99<br>-.05  | 65 | .41<br>1.23 | 234 | .93<br>3.27  | 963 | 3.80<br>4.19 | 78.46        | .73  | 2 |
| 1          | 29 SEP | 0.0-        | .3          | 0957       | 13.5 | 148          | 470        | 2.0 | 6  | -.04<br>-.03 | 23 | .19<br>.31  | 88  | 1.51<br>1.69 | 367 | 3.99<br>4.12 | 13.90        | .42  |   |

## LAKE 375

| INC TYP | DATE   | DEPTH M. | TIME CDT | TEMP °C | DIC  | SUSP CAR. | CHLOR A | I4  | P4 | I3           | P3 | I2          | P2  | I1           | P1  | C.V. (%)     | BIO-MASS | NOTE |   |
|---------|--------|----------|----------|---------|------|-----------|---------|-----|----|--------------|----|-------------|-----|--------------|-----|--------------|----------|------|---|
| 1       | 8 JUL  | .3-      | .3       | 1012    | 20.0 | 314       | 430     | 2.0 | 14 | -.45<br>-.41 | 58 | .23<br>-.02 | 201 | 2.00<br>2.18 | 880 | 3.62<br>3.10 | 59.88    | .66  | 2 |
| 1       | 17 AUG | .3-      | .3       | 0946    | 22.0 | 294       | -10     | 2.3 | 17 | -.15<br>-.22 | 68 | .27<br>.29  | 244 | 2.64<br>2.78 | 963 | 3.88<br>4.38 | 5.94     | .77  | 2 |
| 1       | 29 SEP | 0.0-     | .3       | 1003    | 13.5 | 331       | 570     | 2.4 | 8  | .07<br>.06   | 31 | 1.83<br>.39 | 101 | 1.84<br>1.76 | 408 | 4.08<br>2.14 | 35.90    | .71  |   |

## LAKE 377

| INC TYP | DATE   | DEPTH M. | TIME CDT | TEMP °C | DIC  | SUSP CAR. | CHLOR A | I4  | P4 | I3           | P3 | I2          | P2  | I1           | P1  | C.V. (%)     | BIO-MASS | NOTE |   |
|---------|--------|----------|----------|---------|------|-----------|---------|-----|----|--------------|----|-------------|-----|--------------|-----|--------------|----------|------|---|
| 1       | 8 JUL  | .3-      | .3       | 1041    | 20.0 | 104       | 270     | 1.0 | 16 | .10<br>.09   | 63 | .54<br>2.25 | 204 | 2.93<br>3.00 | 863 | 5.76<br>4.81 | 27.36    | .87  |   |
| 1       | 17 AUG | .3-      | .3       | 0930    | 22.0 | 100       | -10     | 2.2 | 16 | .00<br>.21   | 65 | .39<br>.36  | 234 | 2.00<br>.95  | 963 | 2.98<br>3.17 | 49.98    | .70  | 2 |
| 1       | 29 SEP | 0.0-     | .3       | 1042    | 13.5 | 116       | 330     | 2.1 | 8  | -.05<br>-.12 | 31 | .25<br>.32  | 101 | 1.56<br>1.16 | 408 | 3.58<br>3.59 | 12.72    | .68  |   |

## LAKE 421

| INC TYP | DATE   | DEPTH M. | TIME CDT | TEMP °C | DIC  | SUSP CAR. | CHLOR A | I4  | P4 | I3           | P3 | I2           | P2  | I1           | P1  | C.V. (%)       | BIO-MASS | NOTE |   |
|---------|--------|----------|----------|---------|------|-----------|---------|-----|----|--------------|----|--------------|-----|--------------|-----|----------------|----------|------|---|
| 1       | 26 MAY | 0.0-     | .3       | 1020    | 18.0 | 153       | 690     | 2.1 | 5  | -.07<br>-.05 | 27 | .03<br>.05   | 213 | 3.06<br>3.04 | 946 | 4.92<br>4.39   | 15.58    | 2.03 |   |
| 1       | 8 JUL  | .3-      | .3       | 1033    | 20.0 | 139       | 960     | 5.3 | 16 | -.04<br>.06  | 63 | .73<br>.58   | 204 | 4.78<br>4.35 | 863 | 6.72<br>6.91   | 8.08     | 3.24 |   |
| 1       | 17 AUG | .3-      | .3       | 0938    | 22.0 | 127       | -10     | 4.2 | 17 | .11<br>.10   | 68 | 1.50<br>1.43 | 244 | 6.03<br>3.96 | 963 | 8.85<br>8.92   | 11.25    | 1.30 | 2 |
| 1       | 29 SEP | 0.0-     | .3       | 1029    | 13.5 | 168       | 1400    | 5.9 | 6  | .19<br>.41   | 23 | 1.97<br>2.17 | 88  | 9.57<br>8.68 | 367 | 13.19<br>14.83 | 18.86    | .98  |   |

## LAKE 428

| INC TYP | DATE   | DEPTH M. | TIME CDT | TEMP °C | DIC  | SUSP CAR. | CHLOR A | I4  | P4 | I3           | P3 | I2          | P2  | I1           | P1  | C.V. (%)     | BIO-MASS | NOTE |   |
|---------|--------|----------|----------|---------|------|-----------|---------|-----|----|--------------|----|-------------|-----|--------------|-----|--------------|----------|------|---|
| 1       | 26 MAY | 0.0-     | .3       | 1015    | 18.0 | 95        | 520     | 2.3 | 5  | -.03<br>-.03 | 27 | .16<br>.16  | 213 | 4.00<br>5.17 | 946 | 5.54<br>7.15 | 12.38    | 1.78 |   |
| 1       | 8 JUL  | .3-      | .3       | 1021    | 20.0 | 89        | 700     | 4.9 | 14 | .09<br>.04   | 58 | .70<br>1.05 | 201 | 4.58<br>4.70 | 880 | 7.04<br>6.93 | 23.43    | 1.92 |   |
| 1       | 17 AUG | .3-      | .3       | 0943    | 22.0 | 84        | -10     | 3.3 | 17 | .04<br>.04   | 68 | .76<br>.82  | 244 | 3.86<br>4.36 | 963 | 5.67<br>5.76 | 5.13     | 1.34 | 2 |
| 1       | 29 SEP | 0.0-     | .3       | 1012    | 13.5 | 111       | 770     | 4.9 | 6  | .05<br>.19   | 23 | .58<br>.74  | 88  | 2.86<br>3.06 | 367 | 7.27<br>6.95 | 26.81    | 1.20 |   |

## LAKE 430

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC  | SUSP<br>CAR. | CHLOR<br>A | I4  | P4 | I3           | P3 | I2           | P2  | I1           | P1  | C.V.<br>(%)    | BIO-<br>MASS | NOTE |   |
|------------|--------|-------------|-------------|------------|------|--------------|------------|-----|----|--------------|----|--------------|-----|--------------|-----|----------------|--------------|------|---|
| 1          | 8 JUL  | .3-         | .3          | 1027       | 20.0 | 85           | 530        | 6.0 | 14 | .48<br>.08   | 58 | 1.16<br>1.02 | 201 | 5.47<br>5.32 | 880 | 14.84<br>10.77 | 33.80        | 1.15 |   |
| 1          | 17 AUG | .3-         | .3          | 0940       | 22.0 | 77           | -10        | 9.1 | 17 | .13<br>.13   | 68 | 1.85<br>1.31 | 244 | 5.51<br>4.03 | 963 | 13.71<br>14.34 | 12.84        | 1.67 | 2 |
| 1          | 29 SEP | 0.0-        | .3          | 1022       | 13.5 | 141          | 500        | 1.4 | 6  | -.02<br>-.06 | 23 | .48<br>.43   | 88  | 2.04<br>2.09 | 367 | 8.05<br>9.29   | 6.42         | 1.14 |   |

## LAKE 622

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC  | SUSP<br>CAR. | CHLOR<br>A | I4  | P4 | I3           | P3                 | I2           | P2           | I1           | P1           | C.V.<br>(%)  | BIO-<br>MASS | NOTE |   |
|------------|--------|-------------|-------------|------------|------|--------------|------------|-----|----|--------------|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|------|---|
| 1          | 26 MAY | 0.0-        | .3          | 1010       | 18.0 | 103          | 350        | 1.5 | 5  | -.02<br>.00  | 27                 | .13<br>.15   | 213          | 2.48<br>3.60 | 946          | 5.04<br>6.28 | 16.61        | .97  |   |
| 1          | 8 JUL  | .3-         | .3          | 1005       | 20.0 | 102          | 700        | 2.8 | 14 | .06<br>.16   | 58                 | 1.04<br>1.28 | 201          | 1.43<br>2.43 | 880          | 3.46<br>4.47 | 33.78        | .84  |   |
| 1          | 17 AUG | .3-         | .3          | 1003       | 22.0 | 95           | -10        | 2.5 | 17 | -.19<br>-.23 | 68                 | -.57<br>.70  | 244          | .85<br>2.48  | 963          | 4.30<br>4.24 | 28.16        | .55  | 2 |
| 1          | 29 SEP | 0.0-        | .3          | 0950       | 13.5 | 136          | 350        | 2.9 | 6  | .04<br>.01   | 23-10.00<br>-10.00 | 88           | 2.21<br>2.46 | 367          | 7.09<br>6.25 | 30.01        | .69          |      |   |

## LAKE 629

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC  | SUSP<br>CAR. | CHLOR<br>A | I4  | P4 | I3          | P3 | I2          | P2  | I1           | P1  | C.V.<br>(%)  | BIO-<br>MASS | NOTE |   |
|------------|--------|-------------|-------------|------------|------|--------------|------------|-----|----|-------------|----|-------------|-----|--------------|-----|--------------|--------------|------|---|
| 1          | 26 MAY | 0.0-        | .3          | 1000       | 18.0 | 72           | 370        | 1.3 | 5  | .00<br>-.02 | 27 | .15<br>.14  | 213 | 2.12<br>3.00 | 946 | 4.76<br>3.55 | 16.35        | 1.14 |   |
| 1          | 8 JUL  | .3-         | .3          | 0956       | 20.0 | 69           | 230        | 2.4 | 16 | .02<br>.06  | 63 | .82<br>1.11 | 204 | 2.97<br>4.05 | 863 | 5.04<br>6.04 | 28.83        | .62  |   |
| 1          | 17 AUG | .3-         | .3          | 0958       | 22.0 | 56           | -10        | 2.8 | 16 | .06<br>.04  | 65 | .76<br>.69  | 234 | 1.09<br>3.01 | 963 | 5.15<br>4.84 | 11.94        | .76  | 2 |
| 1          | 29 SEP | 0.0-        | .3          | 0940       | 13.5 | 87           | 510        | 3.2 | 8  | .09<br>-.11 | 31 | .84<br>.81  | 101 | 3.20<br>1.22 | 408 | 6.74<br>4.78 | 10.34        | .63  |   |

## LAKE 658

| INC<br>TYP | DATE   | DEPTH<br>M. | TIME<br>CDT | TEMP<br>°C | DIC  | SUSP<br>CAR. | CHLOR<br>A | I4  | P4 | I3         | P3 | I2           | P2  | I1           | P1  | C.V.<br>(%)    | BIO-<br>MASS | NOTE |   |
|------------|--------|-------------|-------------|------------|------|--------------|------------|-----|----|------------|----|--------------|-----|--------------|-----|----------------|--------------|------|---|
| 1          | 8 JUL  | .3-         | .3          | 1037       | 20.0 | 126          | 510        | 3.7 | 14 | .73<br>.40 | 58 | 1.48<br>2.14 | 201 | 5.49<br>6.96 | 880 | 7.79<br>4.20   | 11.39        | 1.88 |   |
| 1          | 17 AUG | .3-         | .3          | 0935       | 22.0 | 117          | -10        | 4.3 | 17 | .07<br>.09 | 68 | .84<br>.64   | 244 | 3.58<br>3.46 | 963 | 4.95<br>4.96   | 10.08        | 1.37 | 2 |
| 1          | 29 SEP | 0.0-        | .3          | 1035       | 13.5 | 174          | 550        | 4.8 | 6  | .18<br>.37 | 23 | 1.08<br>1.16 | 88  | 3.85<br>5.40 | 367 | 11.37<br>10.61 | 20.13        | 1.28 |   |

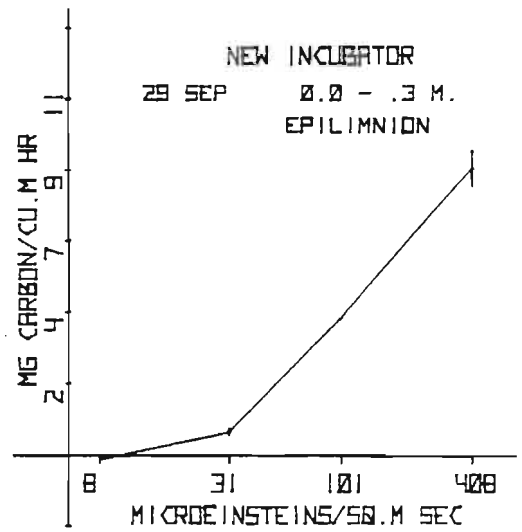
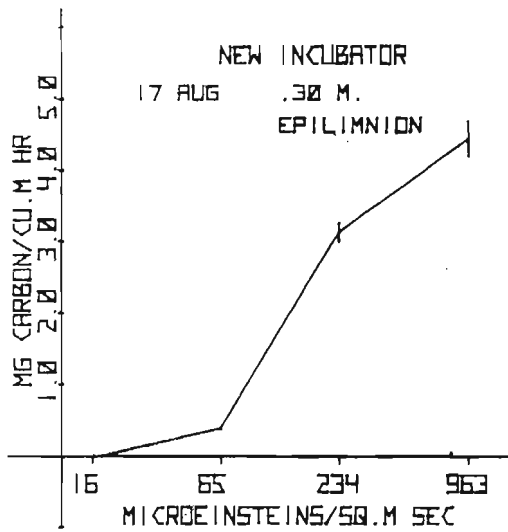
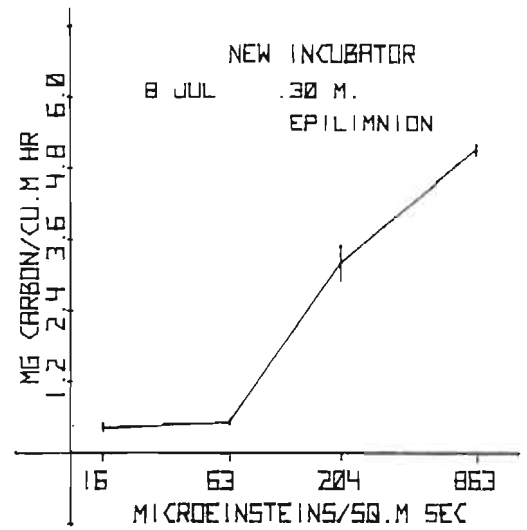
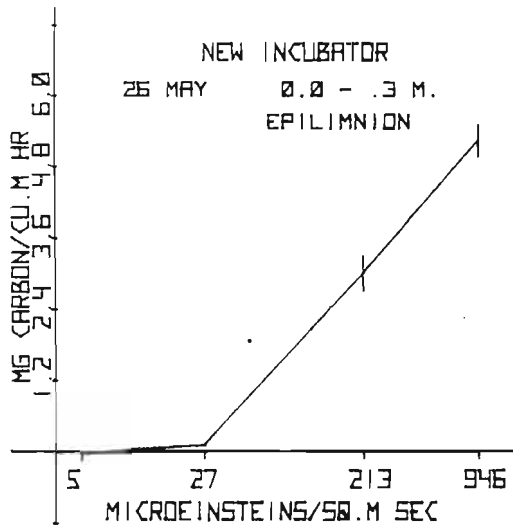
## APPENDIX 4

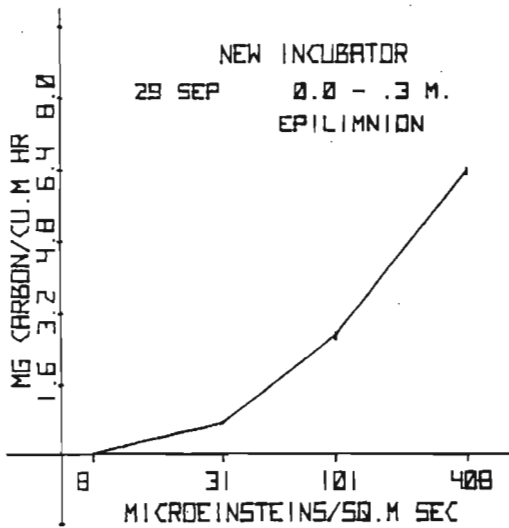
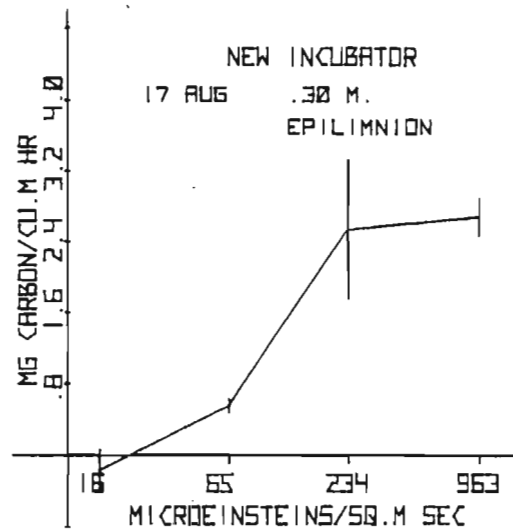
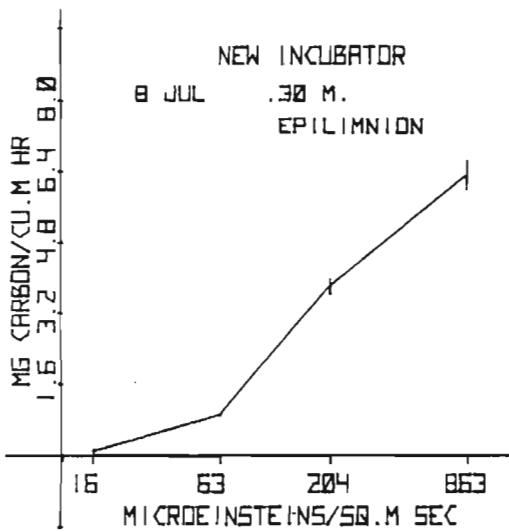
## "NEW SITE" LAKE BASINS

Plots of photosynthetic carbon uptake versus incubator irradiance are chronologically arranged according to lake basin. Irradiance is plotted on a logarithmic scale showing the actual light value. Production is plotted on a linear scale. The vertical bars of the plot join the replicate bottle values for each irradiance.

The light incubator type used to determine carbon uptake versus irradiance is shown on each plot as well as the date, depth and thermal zone.

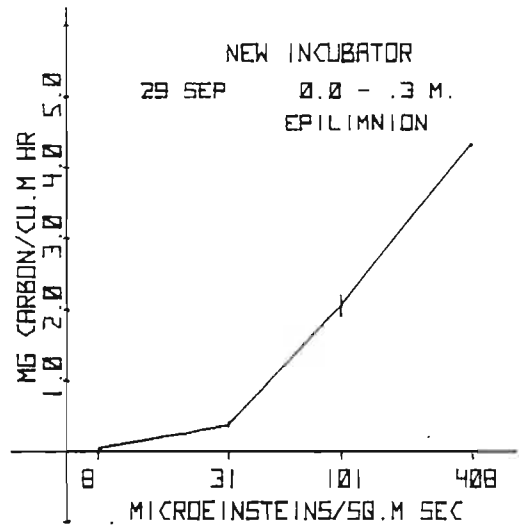
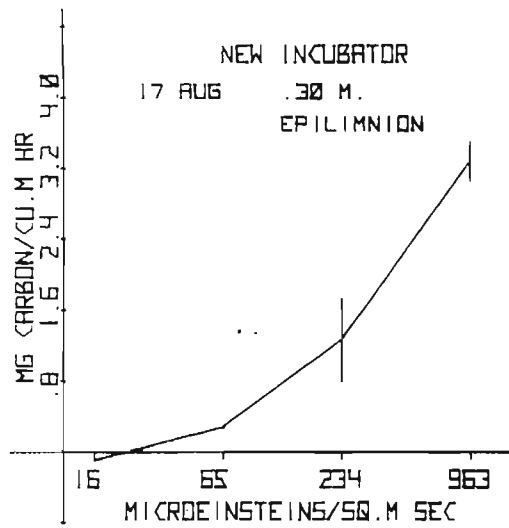
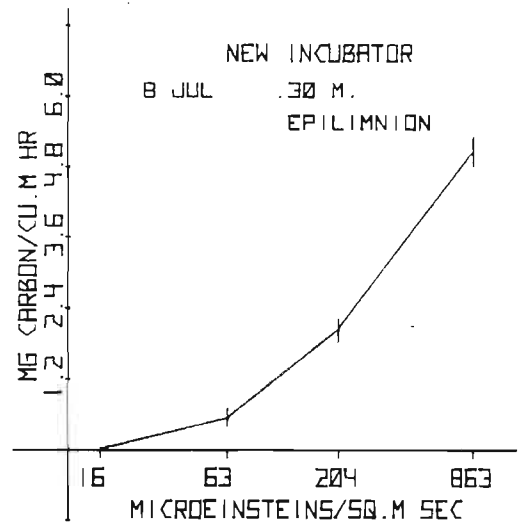
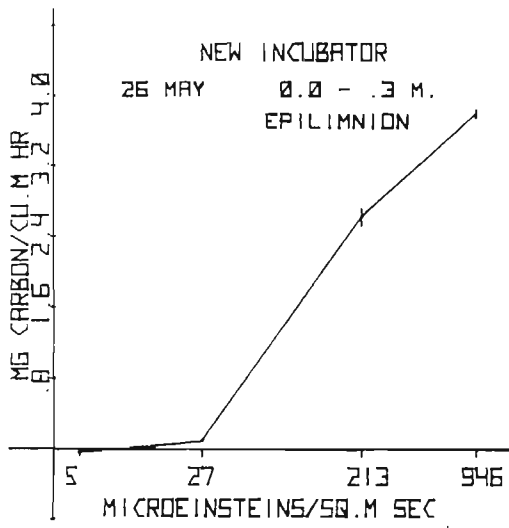
MR noted onplot indicates missing replicate.

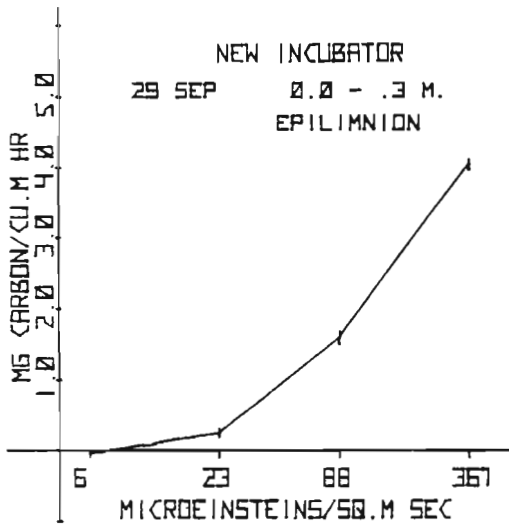
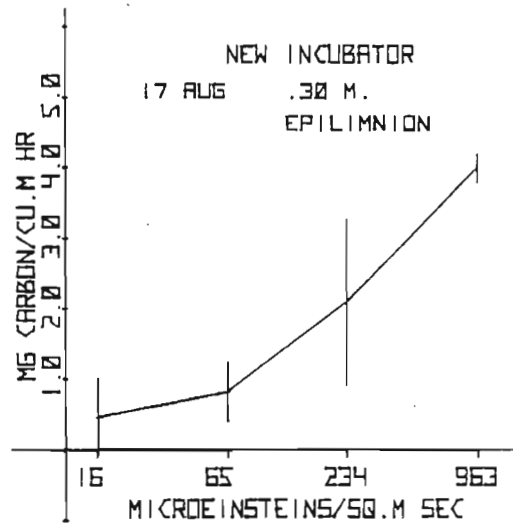
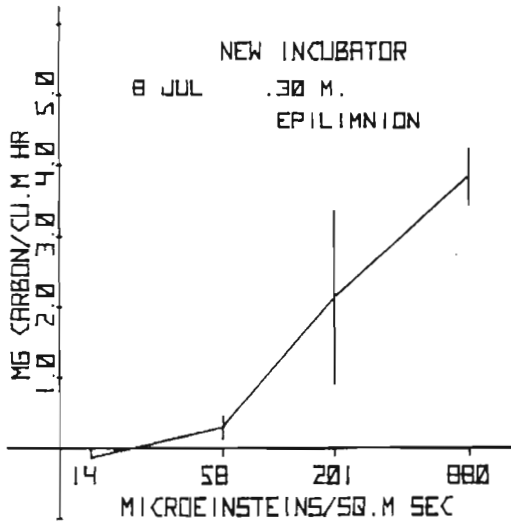




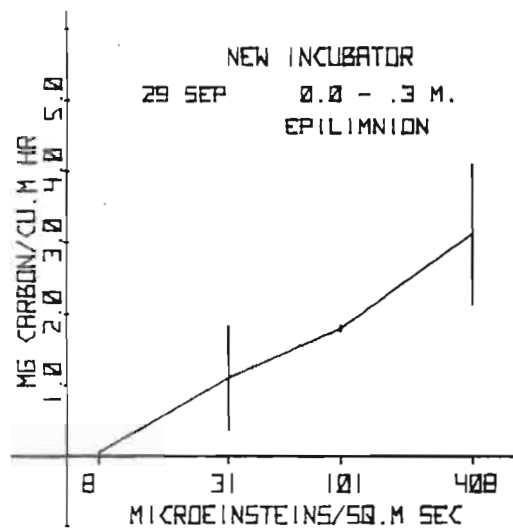
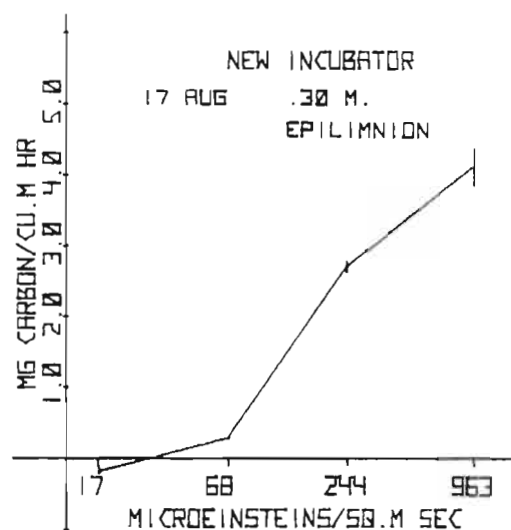
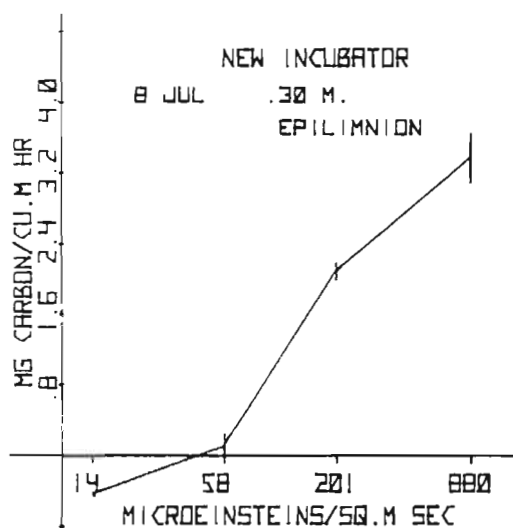


LAKE III

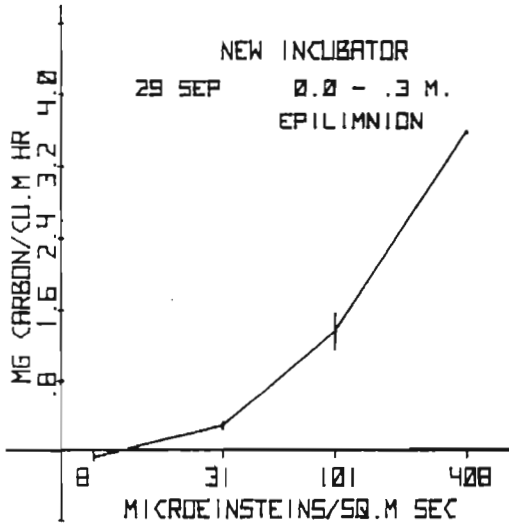
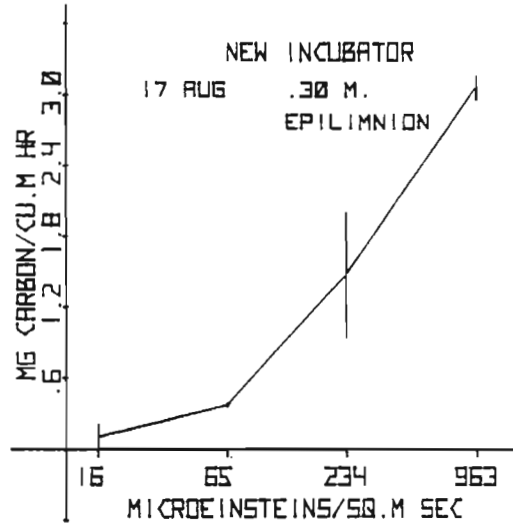
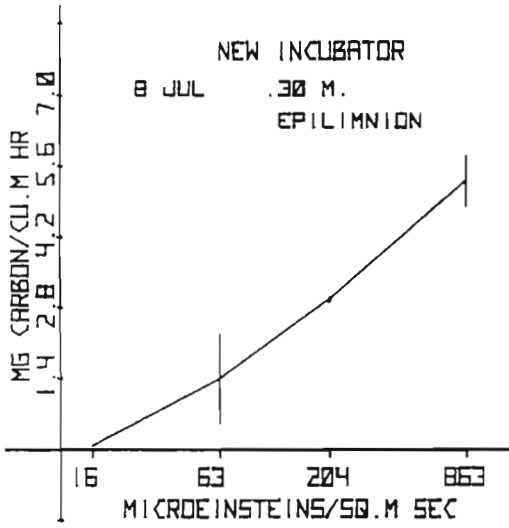




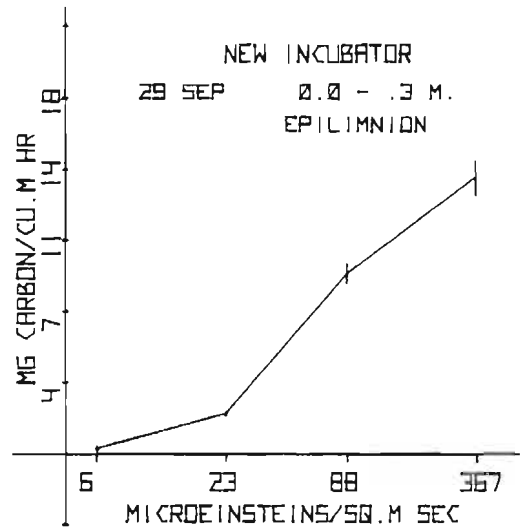
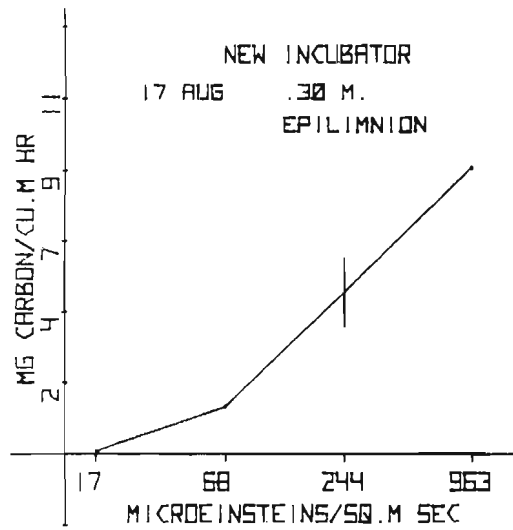
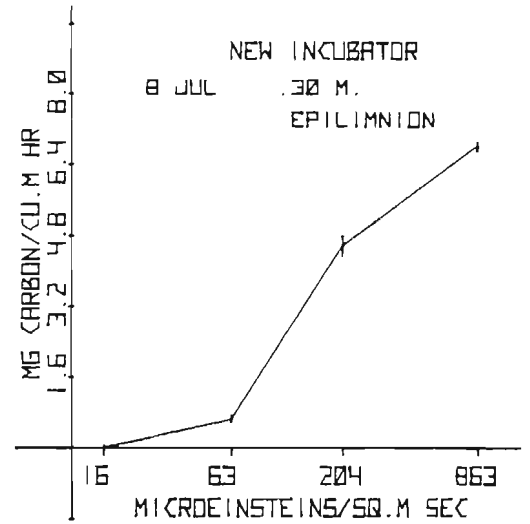
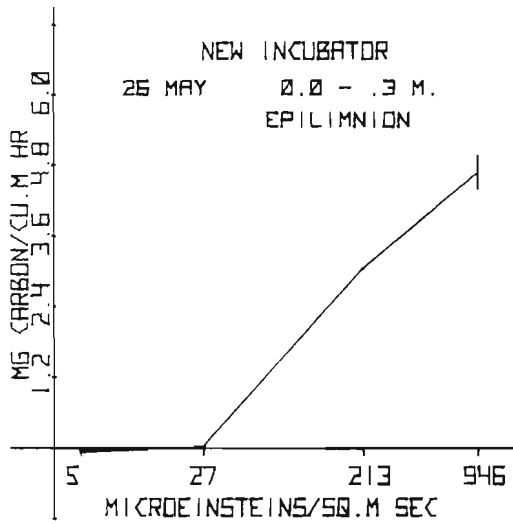
LAKE 375



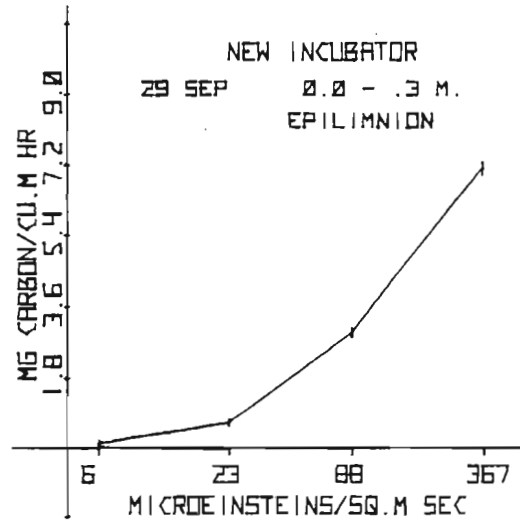
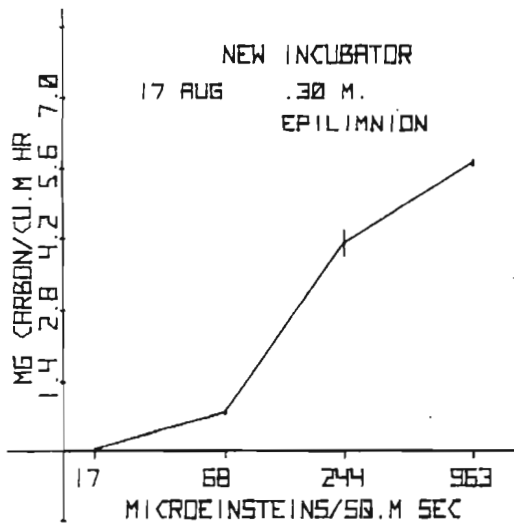
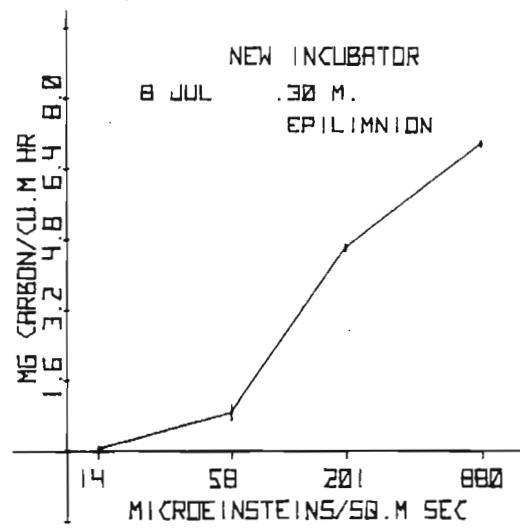
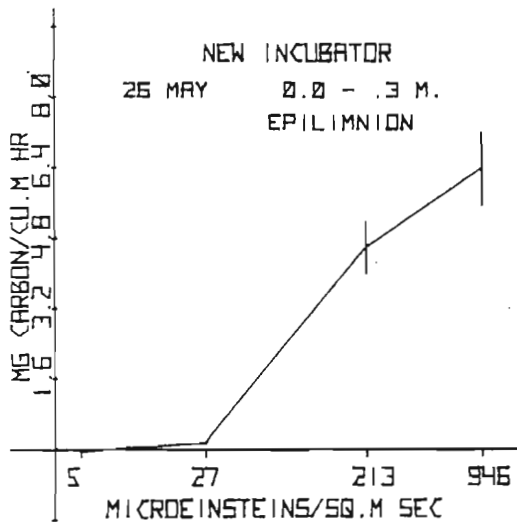
LAKE 377

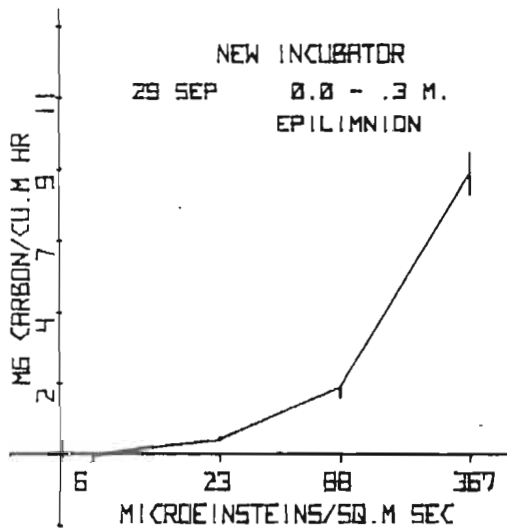
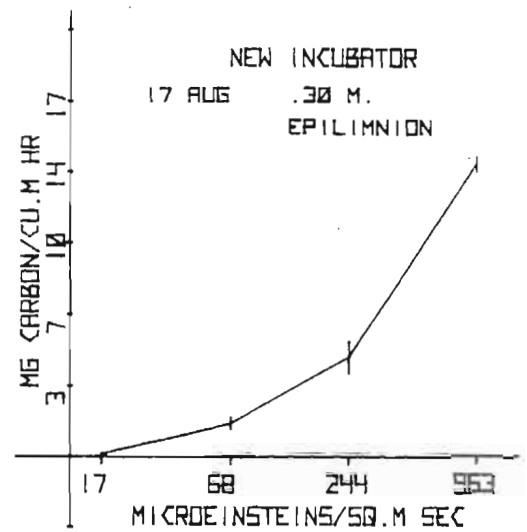
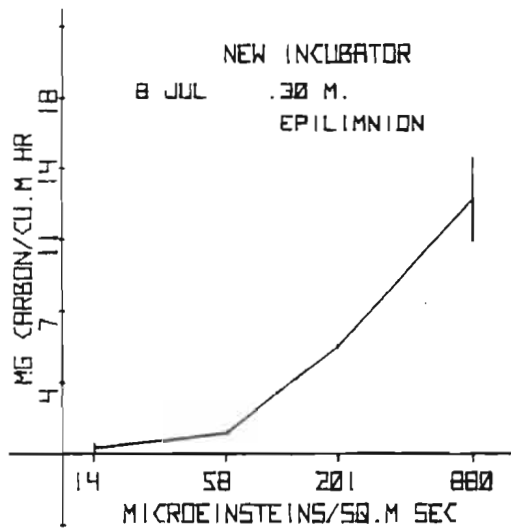


LAKE 421

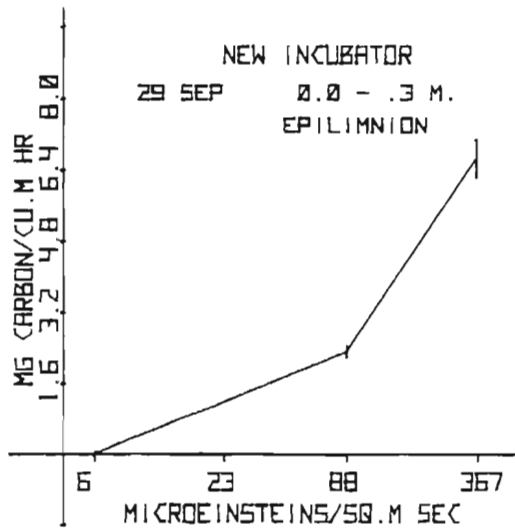
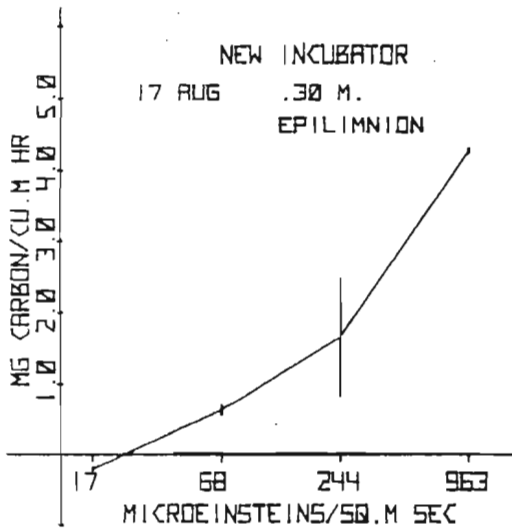
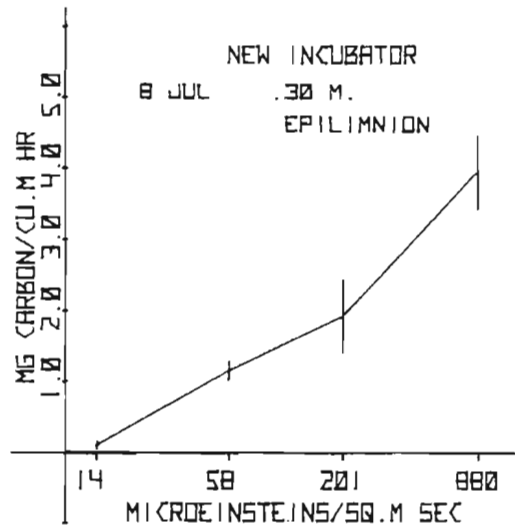
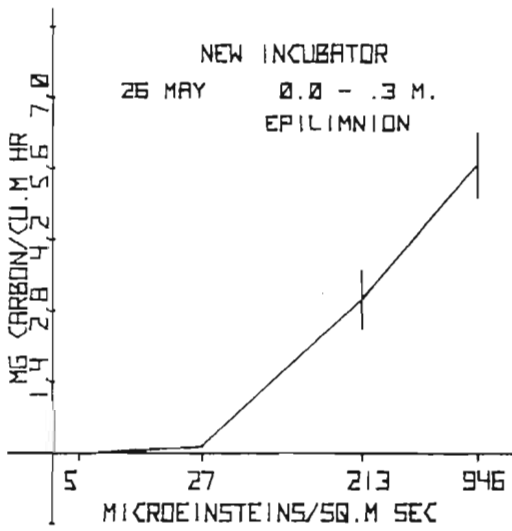


LAKE 428

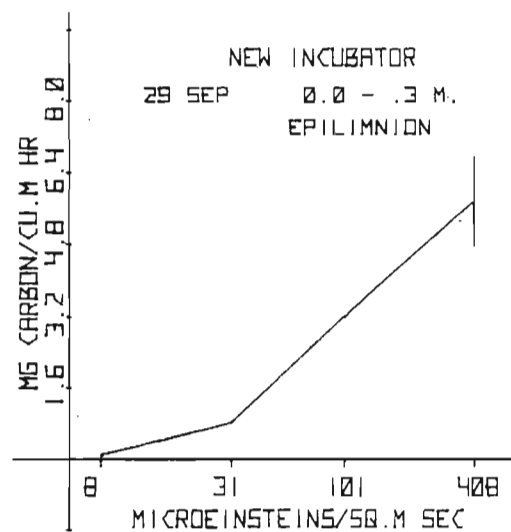
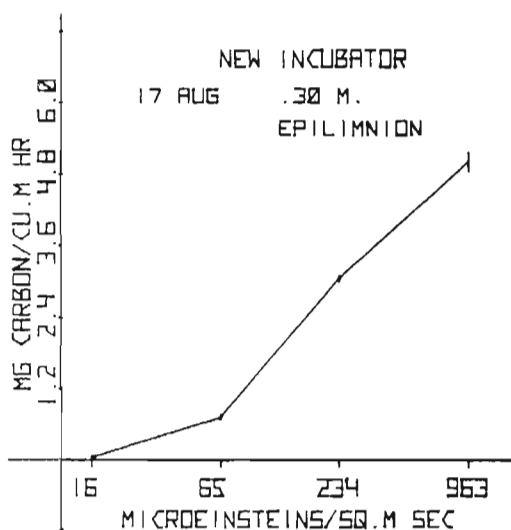
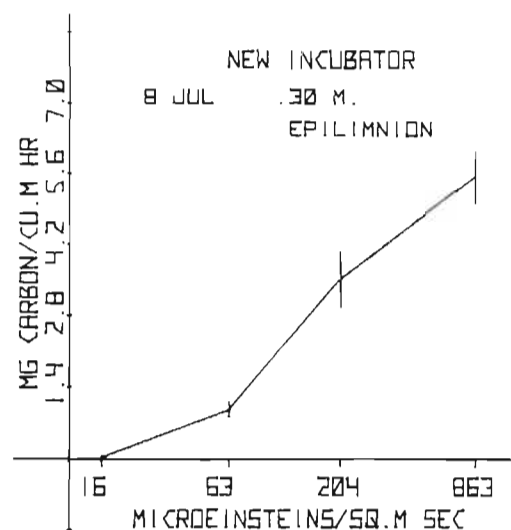
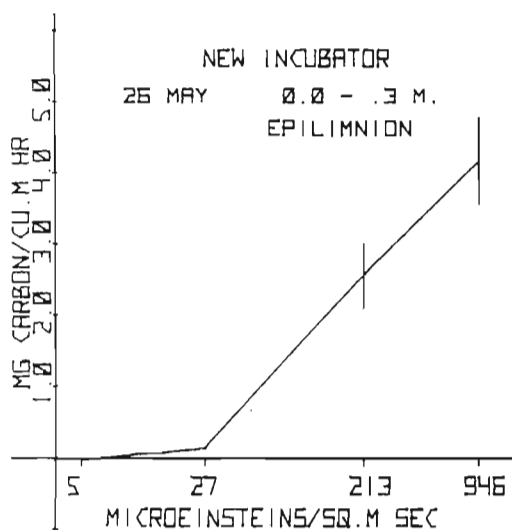




LAKE 622







LAKE 658

