Pond Dynamics/Aquaculture Collaborative Research Data Reports

Volume Three, Number Two
Indonesia Project

Cycle II of the
CRSP Global Experiment

POND DYNAMICS/AQUACULTURE COLLABORATIVE RESEARCH DATA REPORTS

Volume Three, Number Two.
Indonesia: Cycle II of The Global Experiment

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DISCLAIMER

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FOREWORD

The Pond Dynamics/Aquaculture Collaborative Research Support Program (PD/A CRSP) represents an international community of researchers and institutions dedicated to strengthening health and nutrition in developing countries by improving the efficiency of pond aquaculture systems. It is one of several agricultural CRSPs supported by the U.S. Agency for International Development under the authority of Title XII of the International Development and Food Assistance Act of 1975.

The "Global Experiment" in Pond Dynamics/Aquaculture is the major CRSP research activity, covering the period from 1982 to 1987. The Global Experiment was designed to quantitatively describe the physical, chemical and biological principles of pond culture systems. The information gained from the Global Experiment will be used to improve production technologies and develop quantitative production functions to facilitate rigorous economic analyses of aquaculture systems.

Standardization is a key element of the Global Experiment. Standardization permits the comparison of data from diverse geographic locations. The experimental design involves monitoring specified environmental and fish production variables in accordance with standardized work plans in twelve or more ponds at each of seven geographical locations. The variables observed, frequency of observation, and materials and methods are uniform for all locations. The field data are filed in a centralized data base, called the CRSP Central Data Base. Statistical methods will be used to test hypotheses about correlations between variables and to evaluate the sources of variance within ponds, between ponds within locations, and between locations.

The CRSP Central Data Base will be used to develop predictive models of the processes occurring in pond culture systems. The models will be used to provide guidance for ongoing and future research, to predict the performance of existing and proposed pond systems subject to specific inputs and constraints, and to improve the operation and efficiency of pond culture systems.

The Global Experiment includes three cycles of experiments. Each cycle consists of two series of observations, one during the dry season and one during the wet season. The objective of the first cycle is to create a detailed baseline of chemical, physical, and biological data on all ponds treated with a standard level of inorganic fertilizer. In the second experimental cycle, ponds treated with inorganic fertilizer are compared to ponds treated with organic fertilizer. In the third cycle, the responses of ponds to different levels of organic fertilizer are compared.

The goal of the Pond Dynamics/Aquaculture Collaborative Research Data Reports (referred to as Data Reports) is to record the CRSP Central Data Base and to present interpretations of site specific results. The Pond Dynamics/Aquaculture CRSP has conducted the Global Experiment at seven project sites in six developing countries: Thailand, Indonesia, the Philippines, Panama, Honduras, and Rwanda. The first volume of these reports provides descriptive information for each CRSP site. It presents the physical characteristics of each site, including a geographical sketch, climatology, and water and soil analyses. Experimental cycles are described in CRSP Work Plans One to Three, which are summarized in the first volume.

Volume One will serve as the reference volume for the entire report series. Subsequent volumes will focus on each site separately. Each Data Report will include one cycle (wet and dry seasons) of the Pond Dynamics/Aquaculture CRSP Global Experiment. Therefore, with few exceptions, each project site will have three Data Reports devoted to it, representing the results of the three cycles of the Global Experiment. In addition to the hard copy of experimental data published as a part of each Data Report, data are also available from the PD/A CRSP in electronic form (on diskette) for computer analysis. Cycle II of the Global Experiment in Bogor, Indonesia is presented in this volume.

INTRODUCTION

This report presents CRSP Cycle II research conducted at the Babakan Fisheries Station of Institut Pertanian Bogor in West Java, Indonesia. Egna et al. (1987) describe features of the site, and McNabb et al. (1988) presented data on climate and pond fertility at the station. McNabb et al. also showed that low production of Nile tilapia, *Oreochromis niloticus*, at 1500 kg/ha/yr was related to low net primary productivity (0.8 g C/m^2/day) and low community metabolism in ponds. Results of their experiments indicated that algae in fertilized ponds, as well as other food web organisms, were limited by inadequate quantities of dissolved inorganic carbon.

The design of the experiment followed the CRSP Global Experiment protocol (PD/A CRSP, 1984). It called for comparison of pond productivity and fish yield with applications of organic and inorganic fertilizers. In addition, the experiment included treatments to assess the validity of the hypothesis that carbon was limiting in fertilized ponds at Babakan. Phosphorus, nitrogen, and carbon were studied in the nutrient limitation work. Design of this work was based on the observation that growing algae require P, N, and C in an atom ratio of 1:16:100, or a weight ratio of 1:7:40 (Round 1973, Vallentyne 1974, Wetzel 1983). The hypothesis was that in fish ponds where this ratio did not exist following fertilizer application, the element in shortest supply would limit growth and nutrient uptake by algae, and surplus quantities of the other required nutrients would be left in pond water unused. If pond productivity was limited by inadequate quantities of dissolved organic carbon, phosphorus and nitrogen from organic and inorganic fertilizers were expected to accumulate in ponds. The experiment was intended to establish a conceptual framework for efficient fertilizer management practice that would minimize economic losses associated with unused nutrients.

It is important to note that each cycle of the CRSP Global Experiment usually includes two trials of the same treatments, one during the dry season and one during the wet season. Because of shifts in project personnel, this cycle of CRSP research at Babakan had only one trial. McNabb et al. (1988) and others (Schmidt and Ferguson 1951, Fontanel and Chantefort 1978) point out that Babakan lies in a wet-tropical region that has no true dry season. All CRSP work done at Babakan, including that reported here, was conducted under climatic conditions that were similar to wet seasons at other CRSP research sites.

MATERIALS AND METHODS

A total of 11 ponds were used in this experiment. Data from each of these ponds is presented in the Appendix. Data from two of the ponds (C3 and C9) were excluded from our analyses and are not considered in the discussion that follows. Estimates of primary productivity and fish yield in pond C3 were grossly different from three other ponds in the same treatment. The reason for this is not entirely clear. However, a new laboratory building was constructed immediately adjacent to pond C3 just prior to this work. Its position on the site is shown by Egna et al. (1987). It appears that pond C3 received runoff from this building, and that runoff caused unusual pH characteristics relative to other replicates in the treatment of which C3 was a part. Pond C9 also differed from other ponds in its treatment. It had unusually high alkalinity. Alkalinity was a treatment in this experiment, and the alkalinity in pond C9 did not result from treatment. Rather, it was derived as noted earlier in the CRSP from a concrete bottom installed in the pond to retard seepage (McNabb et al. 1988).

Consideration is given in this text to three ponds in each of three treatments. All ponds had a surface area of 200 m^2. The lime requirement of each pond was determined using a modification of the procedure of Shoemaker et al. (1961) developed by the Soils Laboratory at Institut Pertanian Bogor. After liming, ponds in Treatment I were filled with water from an irrigation canal that ran along the periphery of the station. Chicken manure was added to ponds in Treatment I at the rate of 500 kg/ha/wk. The chicken manure used in this experiment had mean contents of total phosphorus and total nitrogen of 2.44% and 1.65%, respectively, on a dry weight basis.

Ponds in Treatment II were also filled with water from the irrigation canal. Triple superphosphate (TSP) and urea were added weekly at a rate that supplied the same amounts of total phosphorus and total nitrogen as chicken manure used in Treatment I. Application rates of triple superphosphate (TSP 46% P_2O_5 by weight) and urea [$CO(NH_2)_2$] were 61 kg/ha/wk and 18 kg/ha/wk respectively. Loading rates in Treatments I and II were 1.2 g P/m^2/wk and 0.83 g N/m^2/wk. Ponds in Treatment III were filled with effluent from a water conditioning system (WCS) that had been installed on the site. The WCS received water from the irrigation canal. Water was allowed to pass through beds of limestone in the WCS, and the effluent had high alkalinity and high dissolved inorganic carbon relative to irrigation canal water. Ponds in Treatment III were fertilized with chicken manure at the same rate used in Treatment I, namely, 500 kg/ha/wk.

Male *Oreochromis niloticus* fingerlings were hand-selected and stocked in ponds of all treatments at a density of one fish per square meter of surface. A grow-out period of 147 days was used in this experiment; from January 14 to June 10, 1985. During the experiment, ponds were maintained at a depth of about 0.9 m with additions of irrigation canal water or WCS effluent as required. Measurements of phosphorus, nitrogen, and other variables were made according to procedures prescribed in the CRSP Second Work Plan (PD/A CRSP, 1984), except for estimates of algal productivity. These were obtained from losses of dissolved inorganic carbon (DIC) that occurred in ponds between dawn (0430 hr) and dusk (1630 hr). Vollenweider (1974) discusses this procedure for estimating primary productivity. A Lotus 1-2-3 spread sheet, developed at Michigan State University's Limnological Research Laboratory and based on the work of Harvey (1955) and Park (1969), was used to calculate losses of DIC from measurements of alkalinity, temperature, and pH.

RESULTS

Treatments I and II were designed to compare the performance of organic and inorganic fertilizers; more specifically, chicken manure in Treatment I and triple superphosphate in Treatment II. Treatments I and III were designed to compare the performance of one level of organic fertilizer (chicken manure) at two levels of alkalinity. Algal productivity and fish yield are used here as measures of performance. Data for additional measures of pond productivity, such as chlorophyll *a* concentrations and rates of pond respiration, can be found in tables of the Appendix.

Equal quantities of the algal nutrients phosphorus and nitrogen were added weekly in fertilizers applied to ponds in Treatments I and II. These treatments differed in regard to alkalinity and amounts of dissolved inorganic carbon (DIC) in ponds. Mean alkalinity for ponds in Treatment I was 26.4 mg/L $CaCO_3$; in Treatment II mean alkalinity was 20.7 mg/L $CaCO_3$. Mean concentrations of DIC in ponds at dawn were 7.5 g C/m^2 and 4.8 g C/m^2 for Treatments I and II, respectively. Alkalinity derived from soluble inorganic constituents of chicken manure, as well as CO_2 from respiration of heterotrophs using organic matter added in Treatment I, are likely

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causes for these differences. Equal quantities of chicken manure, and phosphorus and nitrogen contained in it, were added weekly to ponds in Treatments I and III. Alkalinity and concentrations of DIC differed in ponds of these treatments. Values for these parameters for Treatment I are given immediately above. For Treatment III, mean alkalinity was 53.6 mg/L $CaCO_3$, and DIN at dawn was 11.2 g C/m^2.

Table 1 summarizes data on algal productivity measured in ponds of each treatment. The table also includes an analysis of phosphorus and nitrogen abundance in ponds relative to amounts of these nutrients normally required by algae to complement carbon fixed in net photosynthesis. The forms of phosphorus and nitrogen used in the table, namely dissolved reactive P (DRP) and dissolved inorganic N (DIN), are those preferred by algae over other chemical species of these nutrients present in pond water (Goldman and Horne 1983). The quantities of phosphorus and nitrogen required for growth are listed in Table 1, along with the average concentrations of DRP and DIN that were present in ponds during the experiment.

Comparing Treatments I and II, it can be seen that net algal productivity tended to be higher in Treatment I. Ponds in both treatments had surplus quantities of unused phosphorus and nitrogen. Some nutrient other than phosphorus or nitrogen limited algal production in ponds of these treatments. Comparing data for Treatments I and III shows that algal productivity was about 1.5 times higher in the presence of higher alkalinity and DIC in Treatment III. Clearly, ponds in Treatment I were carbon limited relative to ponds in Treatment III. There is strong inference in the data that carbon limitation occurred in ponds of Treatment II as well. Table 1 also shows that a surplus of phosphorus was present in Treatment III, while productivity in Treatment III was high enough to reduce nitrogen to levels below the demand levels of the algae.

Table 2 shows net fish yields obtained in treatments of this experiment. Yields were higher in ponds fertilized with chicken manure (Treatment I) than in ponds of Treatment II which were fertilized with equivalent amounts of phosphorus and nitrogen using triple superphosphate and urea. Comparing Treatments I and III in which alkalinity (DIC) was the test variable, ponds in Treatment III had fish yields that were approximately 1.5 times higher than those for Treatment I. Differences in fish yields between Treatments I and II, and between Treatments I and III, were in each instance positively correlated with treatment differences in algal productivity shown in Table 1.

DISCUSSION

Data from the experiment showed that low levels of dissolved inorganic carbon, present at alkalinities on the order of 20-25 mg/L $CaCO_3$, limited production of algae and fish in ponds fertilized with either chicken manure or TSP + urea. When carbon limitation was alleviated by increasing alkalinity to 55 mg/L $CaCO_3$, algal productivities and fish yields were increased approximately 1.5 times over those obtained with chicken manure at low alkalinity. It is clear from this work that inorganic carbon is a key to efficient conversion of fertilizers to fish in drainage basins with leached volcanic soils where surface and ground water have low carbonate-bicarbonate alkalinity. This has important implications for Java. Volcanic peaks and associated soils form the backbone of the island. Uplifted limestone reefs and associated soils exist on low elevation ridges scattered among the peaks. Water in these limestone regions have alkalinities on the order of 120-180 mg/L $CaCO_3$ (McNabb et al. in review). Hence, drainage basins with high and low alkalinity waters lie side-by-side. Results from this experiment predict that recommendations to use similar rates of fertilizer applied indiscriminately throughout Java will ensure inconsistent fish yields from site to site.

In experimental ponds where dissolved inorganic carbon limited productivity of algae, phosphorus and nitrogen from chicken manure or TSP + urea were present in surplus amounts. This result confirmed our hypothesis regarding carbon limitation in fertilized, low alkalinity ponds at Babakan Station. Surplus phosphorus and nitrogen represented ecologically inefficient and wasteful use of nutrients in fertilizer. Increasing alkalinity and dissolved inorganic carbon using the water conditioning system at Babakan caused an increase in algal productivity and a more efficient use of the inorganic nitrogen in ponds. Inorganic nitrogen concentrations in ponds of Treatment III averaged less than the daily requirements of photosynthesizing algae. Yusoff and McNabb (1989) used algal bioassays in conjunction with analyses of nutrient shortages like that given in Table 1. They showed that algal productivity was not limited in ponds in Malaysia when required amounts of phosphorus and nitrogen were greater than or approximately equal to amounts present, but was limited by these nutrients when their concentrations were four to six times less than estimated daily requirements. Table 1 shows that algal productivity in ponds of Treatment III approached rates at which algal uptake of nitrogen reduced concentrations to levels close to limitation. This indicates that the nitrogen in fertilizer used in this treatment was efficiently used. On the other hand, the same table shows that fertilizer applications in all treatments resulted in surplus quantities and inefficient and wasteful use of this nutrient. This work provides solid experimental evidence on which design of future CRSP research with fertilizers can be based. It provides the conceptual basis for the design of a fertilizer management protocol that will result in best yields at least cost for phosphorus, nitrogen, and carbon, the principal inorganic nutrients on which culture of Nile tilapia in fertilized ponds is based.

SUMMARY

An experiment was conducted at the Pond Dynamics/Aquaculture CRSP site in Indonesia to compare performances of organic and inorganic fertilizers, and to test the hypothesis that dissolved inorganic carbon (DIC) limited pond productivity and fish yield when organic fertilizer was applied to low alkalinity ponds typical of drainage basins in Java that have highly leached volcanic soils. Performance of organic and inorganic fertilizers was tested in two treatments in which chicken manure was applied to ponds at a rate of 500 kg/ha/wk, and triple superphosphate (TSP) + urea was applied at a rate that had equivalent quantities of total phosphorus and total nitrogen as the chicken manure. The hypothesis regarding DIC was tested in two treatments by making chicken manure applications in each treatment at the rate of 500 kg/ha/wk, and holding ponds in one treatment at mean alkalinity of 26 mg/L $CaCO_3$, typical for the site, and ponds in the other treatment at 54 mg/L $CaCO_3$. Net algal productivity (NAP) and yield of Nile tilapia (*Oreochromis niloticus*) were used as measure to test differences between treatments. Ponds fertilized with chicken manure had somewhat higher NAP and fish yield than those fertilized with TSP + urea. NAP in ponds in both treatments was limited by DIC. Alleviation of carbon limitation by increasing alkalinity resulted in NAP and fish yields that were about 1.5 times higher in chicken manured ponds with high alkalinity than in manured ponds with low alkalinity. This work established a scientifically sound conceptual framework for the design of ecologically and economically efficient fertilizer management practices for future CRSP endeavors.

LITERATURE CITED

Egna, H.S., N. Brown, and M. Leslie. 1987. Pond Dynamics/Aquaculture Collaborative Research Data Reports, Volume One: General reference. Site descriptions, materials and methods for the global experiment. Pond Dynamics/Aquaculture Collaborative Research Support Program, Office of International Research and Development, Oregon State University, Corvallis, Oregon. 84 pp.

Fontanel, S. and A. Chantefort. 1978. Bioclimate du monde Indonesia. Inst. Francais de Pondichery. Travaux de la Sect. Scient. et Tech., Vol. XVI. 105 pp.

Goldman, C.R. and A.J. Horne. 1983. Limnology. McGraw-Hill Book Co., New York. 464 pp.

Harvey, H.W. 1955. The chemistry and fertility of sea waters. Cambridge at the University Press, New York. 234 pp.

McNabb, C.D., T.R. Batterson, B.J. Premo, H.M. Eidman, and K. Sumatadinata. 1988. Pond Dynamics/Aquaculture Collaborative Research Data Reports Volume Three. Indonesia: Cycle I of the Global Experiment. Pond Dynamics/Aquaculture Collaborative Research Support Program, Office of International Research and Development, Oregon State University. Corvallis, Oregon.

McNabb, C.D., C. Soetjipta and J. Subagja. In review. Two underwater light environments in Java. Hydrobiologia.

Park, P.K. 1969. Oceanic CO_2 system: an evaluation of ten methods of investigation. Limnology and Oceanography 14:179-186.

PD/A CRSP (Pond Dynamics/Aquaculture Collaborative Research Support Program). 1984. CRSP Work Plan: Second Experimental Cycle. Pond Dynamics/ Aquaculture CRSP, Program Management Office. Oregon State University, Marine Science Center, Newport, Oregon.

Round, F.E. 1973. The biology of the algae, 2nd edition. St. Martin's Press, New York. 278 pp.

Schmidt, F.H. and J.H.A. Ferguson. 1951. Rainfall types based on wet and dry period regions for Indonesia and with western New Guinea. Verhand. No. 42. Kementerian Perhubungan Djawatan Meteorologi dan Geofisik, Jakarta.

Shoemaker, H.E., E.O. McLean and P.F. Pratt. 1961. Buffer methods for determining lime requirement of soils with appreciable amounts of extractable aluminum. Proceedings of the Soil Science Society of America 25:274-277.

Vallentyne, J.R. 1974. The algal bowl: Lakes and man. Misc. Special Publ. 22. Department of the Environment, Fisheries and Marine Science, Ottawa, Canada. 186 pp.

Vollenweider, R.A. 1974. A manual on methods for measuring primary production in aquatic environments. Blackwell Scientific Publications, London. 225 pp.

Wetzel, R.G. 1983. Limnology, 2nd edition. Saunders College Publishing, New York. 858 pp.

Yusoff, F. and C.D. McNabb. 1989. Effects of nutrient availability on primary productivity and fish production in fertilized tropical ponds. Aquaculture 78:303-319.

Table 1. Estimates of daily phosphorus and nitrogen requirements of algae relative to the abundance of selected forms of these nutrients in ponds at the Babakan Fisheries Station for Experiment 1 of Cycle II.

Treatment[1]	Pond	Net Primary Productivity (g C/m^2/day)	Dissolved Reactive P (g /m^2)		Total Inorganic N g /m^2)	
			Required[2]	Present[3]	Required[2]	Present[3]
I	C2	1.10	0.03	0.17	0.19	0.38
	C4	0.91	0.02	0.17	0.16	0.36
	C5	1.09	0.03	0.12	0.19	0.42
II	C6	0.42	0.01	0.17	0.07	0.55
	C7	0.70	0.02	0.21	0.12	0.49
	C8	0.99	0.02	0.08	0.17	0.49
III	D5	1.45	0.04	0.32	0.25	0.11
	D6	1.21	0.03	0.23	0.21	0.08
	D7	1.62	0.04	0.42	0.28	0.09

[1]Treatments:
   Treatment I: untreated water + chicken manure at 500 kg/ha/week;
   Treatment II: untreated water + TSP and urea;
   Treatment III: treated water + chicken manure at 500 kg/ha/week.

[2]Needed for growth with g C/m/day net productivity given in column 2 assuming 1:7:40 weight ratio of P:N:C required by algae (Round 1973, Vallentyne 1974, Wetzel 1983).

[3]Mean concentration in ponds.

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Table 2.   Net yield of *Oreochromis niloticus* from fertilized ponds at Babakan Fisheries Station using a grow-out period of 147 days (January - June 1985).

Treatment[1]	Description	Pond	Net Fish Yield (kg/pond)	Annual Net Yield (kg/ha/year)
I	Untreated water + chicken manure	C2	13.2	1640
		C4	14.7	1830
		C5	13.6	1690
II	Untreated water + TSP and urea	C6	9.0	1120
		C7	10.7	1330
		C8	10.1	1250
III	Conditioned water + chicken manure	D5	18.7	2320
		D6	28.8	3580
		D7	21.1	2620

[1]Untreated water taken from irrigation canal; mean alkalinity 24.6 mg/L $CaCO_3$. Irrigation canal water passed through a bed of limestone to obtain conditioned water, mean alkalinity 53.5 mg/L $CaCO_3$.

APPENDIX

Complete Set of Data from Cycle II of the Pond Dynamics/
Aquaculture CRSP in Bogor, Indonesia

Units of Measurement and Abbreviations Used in the Appendix Tables

Daily Weather Measurements:
        SOLAR1 (solar radiation) .... $E/m^2/d$
        SOLAR2 (solar radiation) .... $cal/cm^2/d$
        RAIN (rainfall) .... cm/d
        WIND (wind speed) .... km/hr
        ATEMPMAX (max air temperature) .... °C
        ATEMPMIN (min air temperature) .... °C
        EVAP (evaporation) .... mm/d

Daily Pond Measurements:
        DEPTH .... m
        INFLOW .... m^3/hr
        OVERFLOW .... Y/N
        "nil" .... *Oreochromis niloticus*

Weekly and Twice-Weekly Measurements:
        All DO (dissolved oxygen) .... mg/L
        All TEMP (temperature) .... °C
        ALKA (alkalinity) .... mg/L (as $CaCO_3$)
        HARD (total hardness) .... mg/L (as $CaCO_3$)
        All N (Kjeldahl, NO_2, NO_3, Total) .... mg/L
        All P (Total, Ortho-PO_4) .... mg/L
        SECCHI DISK .... cm
        CHLOROPHYLL *a*, *b*, or *c* .... mg/m^3

Diurnal Measurements:
        All DO (dissolved oxygen) .... mg/L
        All TEMP (temperature) .... °C

Fish/Shrimp Stocking, Sampling, and Harvesting:
        "STK" .... stocking
        "SAM" .... sampling
        "HAR" .... harvesting
        "nil" .... *Oreochromis niloticus*
        POP. WEIGHT .... kg
        SAMPLE LENGTH .... cm
        REPROD. WEIGHT .... kg

Plankton and Benthos:
        NET (PRIMARY) PRODUCTION .... $mg\ C/m^3/d$
        GROSS (PRIMARY) PRODUCTION .... $mg\ C/m^3/d$

Water Quality Characteristics:
        ALKALIN (alkalinity)..mg/L (as $CaCO_3$)
        HARDNESS ....mg/L (as $CaCO_3$)
        All N (NH_3, NO_2, NO_3, NO_2+NO_3) .... mg/L
        All P (Total, Ortho-P) ....mg/L
        Cl^-...mg/L
        SALT.. ppt
        SO_4 ....mg/L
        BORON ....mg/L
        CALCIUM...mg/L
        COPPER ....mg/L
        IRON..mg/L
        MAGNESIUM ....mg/L
        POTASSIUM..mg/L
        SODIUM...mg/L
        ZINC..mg/L

Pond Soil Characteristics:
        CLAY...%
        SILT ....%
        SAND..%
        ORGANIC MATTER...%
        SOIL-P...ppm
        SOIL Ca meq/100g
        SOIL Mg..meq/100g
        SOIL K...ppm
        SOIL Na meq/100g
        SOIL N..%
        SOIL NH_4..ppm
        SOIL NO_3 ....ppm
        SOIL CEC..meq/100g
        SOIL SALT ....mmhos/cm
        SOIL Al...ppm
        SOIL Fe..ppm
        SOIL Zn..ppm
        SOIL Mn...ppm
        SOIL Cu ....ppm
        SOIL SO_4..ppm

Analysis of Nutrients and Lime:
        All NUTRIENTS ....% (dry matter basis)

Nutrient and Lime Inputs:
        All QUANTITIES..kg/ha
        TSP.."triple superphosphate"
        "cac"...$CaCO_3$

Table 1. Daily Weather Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	SOLAR1	SOLAR2	RAIN	WIND	ATEMPMAX	ATEMPMIN	EVAP
15	1	1985			6.		35.2	20.6	1.
16	1	1985			4.4	1.	29.3	22.2	3.
17	1	1985			3.	1.	28.5	22.2	28.
18	1	1985			0.	2.	30.9	24.3	0.
19	1	1985			0.	2.	30.7	23.3	0.
20	1	1985			0.3	2.	29.3	23.3	3.
21	1	1985			0.3	2.	28.3	22.4	12.
22	1	1985			1.	2.	33.5	23.3	4.
23	1	1985			0.3	1.	30.6	22.2	3.
24	1	1985			0.3	2.	32.4	23.9	5.
25	1	1985			5.5	2.	30.9	22.9	9.
26	1	1985			0.4	1.	31.5	22.6	4.
27	1	1985			0.3	2.	33.7	24.1	3.
28	1	1985			1.9	2.	30.4	24.1	8.
29	1	1985			0.	1.	31.3	24.8	3.
30	1	1985			0.3	2.	31.8	24.3	0.
31	1	1985			1.4	2.	30.	24.8	12.
1	2	1985			0.	1.	28.5	23.7	4.
2	2	1985			1.3	2.	30.6	25.6	15.
3	2	1985			0.	1.	30.	22.8	1.
4	2	1985			1.8	1.	31.3	24.4	4.
5	2	1985			2.8	2.	32.8	24.4	15.
6	2	1985			10.3	2.	32.2	24.4	5.
7	2	1985			0.	1.	32.2	23.9	1.
8	2	1985			1.6	2.	33.1	24.4	8.
9	2	1985			0.5	2.	31.1	23.3	4.
10	2	1985			0.	2.	33.3	24.4	0.
11	2	1985			1.2	1.	32.2	24.4	7.
12	2	1985			1.7	1.	32.5	24.2	4.
13	2	1985			0.5	2.	32.2	24.4	5.
14	2	1985			0.	2.	28.9	22.8	4.
15	2	1985			0.	2.	32.2	24.4	0.
16	2	1985			0.	2.	32.2	23.6	1.
17	2	1985			0.	1.	33.3	23.3	7.
18	2	1985			1.3	2.	32.2	24.4	21.
19	2	1985			0.3	2.	32.2	24.4	5.
20	2	1985			0.3	3.	32.2	25.6	8.
21	2	1985			0.	1.	32.2	24.4	0.
22	2	1985			0.	3.	33.9	24.4	0.
23	2	1985			4.1	4.	32.2	24.4	8.
24	2	1985			0.	1.	33.3	23.9	0.
25	2	1985			1.4	4.	34.4	23.3	8.
26	2	1985			0.5	1.	34.4	23.9	5.
27	2	1985			4.7	1.	34.4	23.3	12.
28	2	1985			3.8	0.	35.	23.3	15.
1	3	1985			1.8	3.	31.7	22.2	6.

Table 1. Daily Weather Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	SOLAR1	SOLAR2	RAIN	WIND	ATEMPMAX	ATEMPMIN	EVAP
2	3	1985			1.7	1.	31.1	23.1	2.
3	3	1985			1.2	2.	28.9	24.4	6.
4	3	1985			0.4	2.	27.8	23.3	6.
5	3	1985			0.	2.	29.4	23.6	3.
6	3	1985			2.9	1.	30.3	22.2	5.
7	3	1985			0.	2.	30.	23.3	3.
8	3	1985			2.2	2.	31.1	22.2	8.
9	3	1985			0.5	2.	30.6	22.2	5.
10	3	1985			0.	3.	30.	22.2	0.
11	3	1985			0.3	1.	35.	24.2	15.
12	3	1985			1.4	2.	34.4	24.4	10.
13	3	1985			0.	0.	34.7	24.2	5.
14	3	1985			0.	3.	34.4	23.1	5.
15	3	1985			0.	2.	33.9	23.1	3.
16	3	1985			0.	4.	34.4	23.3	1.
17	3	1985			0.	0.	33.3	24.4	15.
18	3	1985			2.8	0.	32.2	22.2	6.
19	3	1985			0.	2.	33.9	22.8	5.
20	3	1985			0.	2.	35.6	24.4	7.
21	3	1985			3.5	1.	35.6	22.2	11.
22	3	1985			0.	0.	33.9	23.3	0.
23	3	1985			0.	0.	33.3	24.4	17.
24	3	1985			0.	4.	34.4	23.9	0.
25	3	1985			0.	2.	35.6	25.	7.
26	3	1985			0.	0.	34.4	22.2	0.
27	3	1985			0.7	2.	33.3	23.3	11.
28	3	1985			0.	0.	32.2	24.4	4.
29	3	1985			0.	2.	34.4	22.2	0.
30	3	1985			7.	4.	34.4	24.4	23.
31	3	1985			0.	1.	33.3	23.3	0.
1	4	1985			5.6	3.	32.2	24.4	9.
2	4	1985			2.5	2.	32.2	25.6	7.
3	4	1985			0.	1.	32.2	23.3	5.
4	4	1985			0.6	2.	32.2	24.4	6.
5	4	1985			0.4	1.	32.2	25.6	11.
6	4	1985			0.5	2.	32.2	24.4	0.
7	4	1985			0.	2.	32.2	24.4	4.
8	4	1985			0.5	1.	32.2	25.6	5.
9	4	1985			0.	2.	34.4	24.4	6.
10	4	1985			4.	2.	34.4	24.4	3.
11	4	1985			3.	1.	31.1	24.4	8.
12	4	1985			0.	1.	32.2	24.4	4.
13	4	1985			0.	2.	31.1	23.3	5.
14	4	1985			0.	2.	32.2	24.4	0.
15	4	1985			0.8	0.	33.3	23.3	11.
16	4	1985			0.6	1.	28.9	24.4	6.
17	4	1985			0.8	2.	28.9	26.7	4.

Table 1. Daily Weather Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	SOLAR1	SOLAR2	RAIN	WIND	ATEMPMAX	ATEMPMIN	EVAP
18	4	1985			0.	1.	33.3	23.3	0.
19	4	1985			0.	2.	32.2	23.3	18.
20	4	1985			0.	2.	32.8	22.2	2.
21	4	1985			0.	0.	32.2	23.3	4.
22	4	1985			0.	3.	32.2	22.2	4.
23	4	1985			3.1	2.	27.5	22.5	5.
24	4	1985			0.	2.	32.2	22.5	5.
25	4	1985			4.6	2.	32.2	22.2	9.
26	4	1985			8.4	1.	33.1	22.2	20.
27	4	1985			0.3	3.	33.3	22.8	3.
28	4	1985							
29	4	1985				1.	33.3	24.4	
30	4	1985				2.	33.3	23.3	
1	5	1985				1.	32.2	22.2	
2	5	1985				1.	33.3	23.3	
2	5	1985	33.36		0.	1.	34.4	22.2	3.
3	5	1985				3.	32.8	22.2	
4	5	1985				1.	33.3	22.8	
5	5	1985				1.	32.8	22.2	
6	5	1985				2.	35.	22.2	
7	5	1985				2.	33.3	23.3	
8	5	1985				1.	33.3	24.4	
9	5	1985				2.	32.2	24.4	
10	5	1985				0.	32.8	23.3	
11	5	1985				2.	34.4	23.3	
12	5	1985				2.	35.6	23.3	
13	5	1985			0.3	1.	35.6	23.3	
14	5	1985			0.7	1.	28.9	22.2	4.
15	5	1985	29.8		4.4	1.	32.2	23.3	7.
16	5	1985	24.27		1.	2.	34.4	22.2	6.
17	5	1985	26.35		0.	1.	32.8	23.3	4.
18	5	1985	31.05		0.7	1.	34.4	22.2	7.
19	5	1985	29.47		2.9	1.	34.4	22.2	14.
20	5	1985	28.61		0.	0.	34.4	22.2	5.
21	5	1985	28.57		0.	1.	33.3	21.7	2.
22	5	1985	29.55		0.	4.	33.3	22.2	8.
23	5	1985	30.67		0.	1.	35.	23.3	4.
24	5	1985	31.2		0.	1.	35.6	23.3	6.
25	5	1985	29.42		0.	1.	33.3	22.2	3.
26	5	1985	28.03		0.	2.	34.4	22.2	1.
27	5	1985	29.6		6.6	2.	32.2	24.4	12.
28	5	1985	26.82		0.	1.	32.2	23.3	7.
29	5	1985	28.56		6.1	1.	32.2	22.2	13.
30	5	1985	27.13		0.	1.	32.2	22.2	5.
31	5	1985	25.3		0.9	1.	32.2	23.3	6.
1	6	1985	30.19		0.	1.	33.3	23.3	10.
3	6	1985	27.82		0.	4.	33.9	23.3	0.

Table 1. Daily Weather Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	SOLAR1	SOLAR2	RAIN	WIND	ATEMPMAX	ATEMPMIN	EVAP
4	6	1985	32.15		0.	1.	34.4	22.2	3.
5	6	1985	26.7		0.	2.	34.4	22.2	5.
6	6	1985	30.22		0.4	1.	34.4	22.2	6.
7	6	1985	23.6		0.	1.	33.9	22.2	0.
8	6	1985	28.22		2.8	3.	34.4	22.2	9.
9	6	1985	26.15			1.	34.4	22.2	

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	DAY	MONTH	YEAR	POND#	DEPTH
15	1	1985	C2	0.86	19	1	1985	C4	0.86
15	1	1985	C3	0.86	19	1	1985	C5	0.86
15	1	1985	C4	0.9	19	1	1985	C6	0.87
15	1	1985	C5	0.9	19	1	1985	C7	0.87
15	1	1985	C6	0.9	19	1	1985	C8	0.82
15	1	1985	C7	0.9	19	1	1985	C9	0.83
15	1	1985	C8	0.9	19	1	1985	D5	0.88
15	1	1985	C9	0.84	19	1	1985	D6	0.66
15	1	1985	D5	0.9	19	1	1985	D7	0.82
15	1	1985	D6	0.72	20	1	1985	C2	0.82
15	1	1985	D7	0.83	20	1	1985	C3	0.8
16	1	1985	C2	0.86	20	1	1985	C4	0.87
16	1	1985	C3	0.82	20	1	1985	C5	0.87
16	1	1985	C4	0.9	20	1	1985	C6	0.88
16	1	1985	C5	0.9	20	1	1985	C7	0.88
16	1	1985	C6	0.9	20	1	1985	C8	0.83
16	1	1985	C7	0.9	20	1	1985	C9	0.84
16	1	1985	C8	0.86	20	1	1985	D5	0.88
16	1	1985	C9	0.9	20	1	1985	D6	0.65
16	1	1985	D5	0.9	20	1	1985	D7	0.82
16	1	1985	D6	0.68	21	1	1985	C2	0.88
16	1	1985	D7	0.84	21	1	1985	C3	0.85
17	1	1985	C2	0.84	21	1	1985	C4	0.9
17	1	1985	C3	0.81	21	1	1985	C5	0.9
17	1	1985	C4	0.9	21	1	1985	C6	0.89
17	1	1985	C5	0.9	21	1	1985	C7	0.9
17	1	1985	C6	0.9	21	1	1985	C8	0.87
17	1	1985	C7	0.9	21	1	1985	C9	0.9
17	1	1985	C8	0.85	21	1	1985	D5	0.9
17	1	1985	C9	0.86	21	1	1985	D6	0.52
17	1	1985	D5	0.9	21	1	1985	D7	0.64
17	1	1985	D6	0.67	22	1	1985	C2	0.8
17	1	1985	D7	0.84	22	1	1985	C3	0.7
18	1	1985	C2	0.83	22	1	1985	C4	0.9
18	1	1985	C3	0.8	22	1	1985	C5	0.9
18	1	1985	C4	0.88	22	1	1985	C6	0.9
18	1	1985	C5	0.88	22	1	1985	C7	0.87
18	1	1985	C6	0.89	22	1	1985	C8	0.73
18	1	1985	C7	0.89	22	1	1985	C9	0.9
18	1	1985	C8	0.84	22	1	1985	D5	0.9
18	1	1985	C9	0.85	22	1	1985	D6	0.57
18	1	1985	D5	0.89	22	1	1985	D7	0.65
18	1	1985	D6	0.66	23	1	1985	C2	0.74
18	1	1985	D7	0.83	23	1	1985	C3	0.56
19	1	1985	C2	0.8	23	1	1985	C4	0.86
19	1	1985	C3	0.79	23	1	1985	C5	0.9
					23	1	1985	C6	0.75

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	DAY	MONTH	YEAR	POND#	DEPTH
23	1	1985	C7	0.81	27	1	1985	D5	0.9
23	1	1985	C8	0.72	27	1	1985	D6	0.55
23	1	1985	C9	0.9	27	1	1985	D7	0.68
23	1	1985	D5	0.9	28	1	1985	C2	0.81
23	1	1985	D6	0.53	28	1	1985	C3	0.66
23	1	1985	D7	0.65	28	1	1985	C4	0.9
24	1	1985	C2	0.81	28	1	1985	C5	0.9
24	1	1985	C3	0.68	28	1	1985	C6	0.82
24	1	1985	C4	0.87	28	1	1985	C7	0.89
24	1	1985	C5	0.9	28	1	1985	C8	0.9
24	1	1985	C6	0.8	28	1	1985	C9	0.9
24	1	1985	C7	0.82	28	1	1985	D5	0.9
24	1	1985	C8	0.74	28	1	1985	D6	0.73
24	1	1985	C9	0.9	28	1	1985	D7	0.64
24	1	1985	D5	0.9	29	1	1985	C2	0.86
24	1	1985	D6	0.54	29	1	1985	C3	0.84
24	1	1985	D7	0.66	29	1	1985	C4	0.88
25	1	1985	C2	0.82	29	1	1985	C5	0.89
25	1	1985	C3	0.7	29	1	1985	C6	0.86
25	1	1985	C4	0.88	29	1	1985	C7	0.88
25	1	1985	C5	0.9	29	1	1985	C8	0.84
25	1	1985	C6	0.8	29	1	1985	C9	0.9
25	1	1985	C7	0.83	29	1	1985	D5	0.9
25	1	1985	C8	0.75	29	1	1985	D6	0.75
25	1	1985	C9	0.9	29	1	1985	D7	0.63
25	1	1985	D5	0.9	30	1	1985	C2	0.88
25	1	1985	D6	0.53	30	1	1985	C3	0.86
25	1	1985	D7	0.67	30	1	1985	C4	0.89
26	1	1985	C2	0.87	30	1	1985	C5	0.9
26	1	1985	C3	0.74	30	1	1985	C6	0.87
26	1	1985	C4	0.89	30	1	1985	C7	0.89
26	1	1985	C5	0.9	30	1	1985	C8	0.85
26	1	1985	C6	0.84	30	1	1985	C9	0.9
26	1	1985	C7	0.85	30	1	1985	D5	0.9
26	1	1985	C8	0.75	30	1	1985	D6	0.75
26	1	1985	C9	0.9	30	1	1985	D7	0.64
26	1	1985	D5	0.9	31	1	1985	C2	0.88
26	1	1985	D6	0.54	31	1	1985	C3	0.9
26	1	1985	D7	0.68	31	1	1985	C4	0.88
27	1	1985	C2	0.86	31	1	1985	C5	0.9
27	1	1985	C3	0.73	31	1	1985	C6	0.89
27	1	1985	C4	0.88	31	1	1985	C7	0.9
27	1	1985	C5	0.9	31	1	1985	C8	0.88
27	1	1985	C6	0.83	31	1	1985	C9	0.9
27	1	1985	C7	0.84	31	1	1985	D5	0.9
27	1	1985	C8	0.74	31	1	1985	D6	0.82
27	1	1985	C9	0.9	31	1	1985	D7	0.8

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	DAY	MONTH	YEAR	POND#	DEPTH
1	2	1985	C2	0.84	5	2	1985	C5	0.9
1	2	1985	C3	0.84	5	2	1985	C6	0.9
1	2	1985	C4	0.86	5	2	1985	C7	0.88
1	2	1985	C5	0.78	5	2	1985	C8	0.78
1	2	1985	C6	0.9	5	2	1985	C9	0.9
1	2	1985	C7	0.9	5	2	1985	D5	0.9
1	2	1985	C8	0.88	5	2	1985	D6	0.82
1	2	1985	C9	0.9	5	2	1985	D7	0.64
1	2	1985	D5	0.9	6	2	1985	C2	0.84
1	2	1985	D6	0.86	6	2	1985	C3	0.76
1	2	1985	D7	0.79	6	2	1985	C4	0.88
2	2	1985	C2	0.85	6	2	1985	C5	0.8
2	2	1985	C3	0.83	6	2	1985	C6	0.84
2	2	1985	C4	0.88	6	2	1985	C7	0.84
2	2	1985	C5	0.87	6	2	1985	C8	0.86
2	2	1985	C6	0.71	6	2	1985	C9	0.9
2	2	1985	C7	0.77	6	2	1985	D5	0.9
2	2	1985	C8	0.74	6	2	1985	D6	0.9
2	2	1985	C9	0.93	6	2	1985	D7	0.76
2	2	1985	D5	0.9	7	2	1985	C2	0.9
2	2	1985	D6	0.82	7	2	1985	C3	0.89
2	2	1985	D7	0.72	7	2	1985	C4	0.9
3	2	1985	C2	0.78	7	2	1985	C5	0.9
3	2	1985	C3	0.57	7	2	1985	C6	0.9
3	2	1985	C4	0.78	7	2	1985	C7	0.89
3	2	1985	C5	0.6	7	2	1985	C8	0.89
3	2	1985	C6	0.55	7	2	1985	C9	0.9
3	2	1985	C7	0.56	7	2	1985	D5	0.9
3	2	1985	C8	0.6	7	2	1985	D6	0.88
3	2	1985	C9	0.9	7	2	1985	D7	0.74
3	2	1985	D5	0.9	8	2	1985	C2	0.86
3	2	1985	D6	0.77	8	2	1985	C3	0.86
3	2	1985	D7	0.7	8	2	1985	C4	0.8
4	2	1985	C2	0.74	8	2	1985	C5	0.76
4	2	1985	C3	0.52	8	2	1985	C6	0.76
4	2	1985	C4	0.78	8	2	1985	C7	0.74
4	2	1985	C5	0.58	8	2	1985	C8	0.74
4	2	1985	C6	0.68	8	2	1985	C9	0.9
4	2	1985	C7	0.74	8	2	1985	D5	0.9
4	2	1985	C8	0.88	8	2	1985	D6	0.83
4	2	1985	C9	0.9	8	2	1985	D7	0.7
4	2	1985	D5	0.9	9	2	1985	C2	0.87
4	2	1985	D6	0.74	9	2	1985	C3	0.87
4	2	1985	D7	0.6	9	2	1985	C4	0.82
5	2	1985	C2	0.9	9	2	1985	C5	0.79
5	2	1985	C3	0.86	9	2	1985	C6	0.79
5	2	1985	C4	0.9	9	2	1985	C7	0.75

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH		DAY	MONTH	YEAR	POND#	DEPTH
9	2	1985	C8	0.75		13	2	1985	D6	0.74
9	2	1985	C9	0.9		13	2	1985	D7	0.8
9	2	1985	D5	0.9		14	2	1985	C2	0.86
9	2	1985	D6	0.84		14	2	1985	C3	0.9
9	2	1985	D7	0.71		14	2	1985	C4	0.86
10	2	1985	C2	0.9		14	2	1985	C5	0.9
10	2	1985	C3	0.89		14	2	1985	C6	0.9
10	2	1985	C4	0.9		14	2	1985	C7	0.88
10	2	1985	C5	0.9		14	2	1985	C8	0.9
10	2	1985	C6	0.9		14	2	1985	C9	0.9
10	2	1985	C7	0.89		14	2	1985	D5	0.9
10	2	1985	C8	0.89		14	2	1985	D6	0.75
10	2	1985	C9	0.9		14	2	1985	D7	0.79
10	2	1985	D5	0.9		15	2	1985	C2	0.87
10	2	1985	D6	0.86		15	2	1985	C3	0.9
10	2	1985	D7	0.71		15	2	1985	C4	0.88
11	2	1985	C2	0.82		15	2	1985	C5	0.9
11	2	1985	C3	0.74		15	2	1985	C6	0.9
11	2	1985	C4	0.8		15	2	1985	C7	0.89
11	2	1985	C5	0.9		15	2	1985	C8	0.9
11	2	1985	C6	0.74		15	2	1985	C9	0.9
11	2	1985	C7	0.74		15	2	1985	D5	0.9
11	2	1985	C8	0.8		15	2	1985	D6	0.78
11	2	1985	C9	0.9		15	2	1985	D7	0.79
11	2	1985	D5	0.9		16	2	1985	C2	0.88
11	2	1985	D6	0.68		16	2	1985	C3	0.9
11	2	1985	D7	0.66		16	2	1985	C4	0.87
12	2	1985	C2	0.82		16	2	1985	C5	0.9
12	2	1985	C3	0.66		16	2	1985	C6	0.9
12	2	1985	C4	0.77		16	2	1985	C7	0.88
12	2	1985	C5	0.67		16	2	1985	C8	0.9
12	2	1985	C6	0.88		16	2	1985	C9	0.9
12	2	1985	C7	0.7		16	2	1985	D5	0.9
12	2	1985	C8	0.9		16	2	1985	D6	0.9
12	2	1985	C9	0.9		16	2	1985	D7	0.88
12	2	1985	D5	0.9		17	2	1985	C2	0.87
12	2	1985	D6	0.7		17	2	1985	C3	0.87
12	2	1985	D7	0.67		17	2	1985	C4	0.88
13	2	1985	C2	0.83		17	2	1985	C5	0.87
13	2	1985	C3	0.86		17	2	1985	C6	0.88
13	2	1985	C4	0.86		17	2	1985	C7	0.89
13	2	1985	C5	0.9		17	2	1985	C8	0.9
13	2	1985	C6	0.88		17	2	1985	C9	0.9
13	2	1985	C7	0.86		17	2	1985	D5	0.9
13	2	1985	C8	0.9		17	2	1985	D6	0.89
13	2	1985	C9	0.9		17	2	1985	D7	0.89
13	2	1985	D5	0.9		18	2	1985	C2	0.88

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH
18	2	1985	C3	0.7
18	2	1985	C4	0.87
18	2	1985	C5	0.9
18	2	1985	C6	0.88
18	2	1985	C7	0.8
18	2	1985	C8	0.88
18	2	1985	C9	0.9
18	2	1985	D5	0.89
18	2	1985	D6	0.9
18	2	1985	D7	0.89
19	2	1985	C2	0.82
19	2	1985	C3	0.8
19	2	1985	C4	0.8
19	2	1985	C5	0.86
19	2	1985	C6	0.8
19	2	1985	C7	0.77
19	2	1985	C8	0.75
19	2	1985	C9	0.9
19	2	1985	D5	0.89
19	2	1985	D6	0.88
19	2	1985	D7	0.88
20	2	1985	C2	0.81
20	2	1985	C3	0.66
20	2	1985	C4	0.81
20	2	1985	C5	0.86
20	2	1985	C6	0.87
20	2	1985	C7	0.8
20	2	1985	C8	0.79
20	2	1985	C9	0.9
20	2	1985	D5	0.88
20	2	1985	D6	0.81
20	2	1985	D7	0.84
21	2	1985	C2	0.7
21	2	1985	C3	0.75
21	2	1985	C4	0.8
21	2	1985	C5	0.85
21	2	1985	C6	0.86
21	2	1985	C7	0.87
21	2	1985	C8	0.8
21	2	1985	C9	0.9
21	2	1985	D5	0.89
21	2	1985	D6	0.82
21	2	1985	D7	0.89
22	2	1985	C2	0.89
22	2	1985	C3	0.87
22	2	1985	C4	0.86
22	2	1985	C5	0.9
22	2	1985	C6	0.89
22	2	1985	C7	0.88
22	2	1985	C8	0.88
22	2	1985	C9	0.9
22	2	1985	D5	0.89
22	2	1985	D6	0.83
22	2	1985	D7	0.89
23	2	1985	C2	0.88
23	2	1985	C3	0.86
23	2	1985	C4	0.85
23	2	1985	C5	0.89
23	2	1985	C6	0.88
23	2	1985	C7	0.87
23	2	1985	C8	0.87
23	2	1985	C9	0.9
23	2	1985	D5	0.87
23	2	1985	D6	0.84
23	2	1985	D7	0.89
24	2	1985	C2	0.87
24	2	1985	C3	0.87
24	2	1985	C4	0.86
24	2	1985	C5	0.9
24	2	1985	C6	0.88
24	2	1985	C7	0.86
24	2	1985	C8	0.87
24	2	1985	C9	0.9
24	2	1985	D5	0.87
24	2	1985	D6	0.85
24	2	1985	D7	0.88
25	2	1985	C2	0.8
25	2	1985	C3	0.7
25	2	1985	C4	0.82
25	2	1985	C5	0.86
25	2	1985	C6	0.88
25	2	1985	C7	0.86
25	2	1985	C8	0.78
25	2	1985	C9	0.9
25	2	1985	D5	0.9
25	2	1985	D6	0.9
25	2	1985	D7	0.82
26	2	1985	C2	0.87
26	2	1985	C3	0.88
26	2	1985	C4	0.85
26	2	1985	C5	0.88
26	2	1985	C6	0.89
26	2	1985	C7	0.88
26	2	1985	C8	0.86

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH		DAY	MONTH	YEAR	POND#	DEPTH
26	2	1985	C9	0.9		2	3	1985	D7	0.88
26	2	1985	D5	0.9		3	3	1985	C2	0.86
26	2	1985	D6	0.9		3	3	1985	C3	0.88
26	2	1985	D7	0.87		3	3	1985	C4	0.86
27	2	1985	C2	0.82		3	3	1985	C5	0.9
27	2	1985	C3	0.84		3	3	1985	C6	0.89
27	2	1985	C4	0.82		3	3	1985	C7	0.89
27	2	1985	C5	0.9		3	3	1985	C8	0.87
27	2	1985	C6	0.84		3	3	1985	C9	0.9
27	2	1985	C7	0.86		3	3	1985	D5	0.9
27	2	1985	C8	0.84		3	3	1985	D6	0.9
27	2	1985	C9	0.9		3	3	1985	D7	0.87
27	2	1985	D5	0.9		4	3	1985	C2	0.88
27	2	1985	D6	0.9		4	3	1985	C3	0.9
27	2	1985	D7	0.86		4	3	1985	C4	0.82
28	2	1985	C2	0.88		4	3	1985	C5	0.9
28	2	1985	C3	0.89		4	3	1985	C6	0.88
28	2	1985	C4	0.84		4	3	1985	C7	0.88
28	2	1985	C5	0.9		4	3	1985	C8	0.86
28	2	1985	C6	0.86		4	3	1985	C9	0.9
28	2	1985	C7	0.89		4	3	1985	D5	0.9
28	2	1985	C8	0.85		4	3	1985	D6	0.88
28	2	1985	C9	0.9		4	3	1985	D7	0.86
28	2	1985	D5	0.9		5	3	1985	C2	0.8
28	2	1985	D6	0.9		5	3	1985	C3	0.8
28	2	1985	D7	0.87		5	3	1985	C4	0.84
1	3	1985	C2	0.87		5	3	1985	C5	0.84
1	3	1985	C3	0.88		5	3	1985	C6	0.78
1	3	1985	C4	0.86		5	3	1985	C7	0.7
1	3	1985	C5	0.9		5	3	1985	C8	0.72
1	3	1985	C6	0.89		5	3	1985	C9	0.9
1	3	1985	C7	0.89		5	3	1985	D5	0.9
1	3	1985	C8	0.87		5	3	1985	D6	0.84
1	3	1985	C9	0.9		5	3	1985	D7	0.84
1	3	1985	D5	0.9		6	3	1985	C2	0.84
1	3	1985	D6	0.9		6	3	1985	C3	0.78
1	3	1985	D7	0.88		6	3	1985	C4	0.86
2	3	1985	C2	0.84		6	3	1985	C5	0.9
2	3	1985	C3	0.82		6	3	1985	C6	0.88
2	3	1985	C4	0.86		6	3	1985	C7	0.9
2	3	1985	C5	0.9		6	3	1985	C8	0.84
2	3	1985	C6	0.9		6	3	1985	C9	0.9
2	3	1985	C7	0.84		6	3	1985	D5	0.9
2	3	1985	C8	0.88		6	3	1985	D6	0.84
2	3	1985	C9	0.9		6	3	1985	D7	0.88
2	3	1985	D5	0.9		7	3	1985	C2	0.8
2	3	1985	D6	0.9		7	3	1985	C3	0.82

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Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	DAY	MONTH	YEAR	POND#	DEPTH
7	3	1985	C4	0.84	11	3	1985	C7	0.84
7	3	1985	C5	0.77	11	3	1985	C8	0.78
7	3	1985	C6	0.84	11	3	1985	C9	0.9
7	3	1985	C7	0.88	11	3	1985	D5	0.9
7	3	1985	C8	0.74	11	3	1985	D6	0.74
7	3	1985	C9	0.9	11	3	1985	D7	0.8
7	3	1985	D5	0.9	12	3	1985	C2	0.84
7	3	1985	D6	0.8	12	3	1985	C3	0.84
7	3	1985	D7	0.86	12	3	1985	C4	0.88
8	3	1985	C2	0.88	12	3	1985	C5	0.9
8	3	1985	C3	0.8	12	3	1985	C6	0.89
8	3	1985	C4	0.8	12	3	1985	C7	0.84
8	3	1985	C5	0.9	12	3	1985	C8	0.88
8	3	1985	C6	0.88	12	3	1985	C9	0.9
8	3	1985	C7	0.88	12	3	1985	D5	0.9
8	3	1985	C8	0.86	12	3	1985	D6	0.9
8	3	1985	C9	0.9	12	3	1985	D7	0.82
8	3	1985	D5	0.9	13	3	1985	C2	0.78
8	3	1985	D6	0.78	13	3	1985	C3	0.62
8	3	1985	D7	0.84	13	3	1985	C4	0.8
9	3	1985	C2	0.88	13	3	1985	C5	0.8
9	3	1985	C3	0.9	13	3	1985	C6	0.78
9	3	1985	C4	0.86	13	3	1985	C7	0.82
9	3	1985	C5	0.9	13	3	1985	C8	0.84
9	3	1985	C6	0.88	13	3	1985	C9	0.9
9	3	1985	C7	0.88	13	3	1985	D5	0.9
9	3	1985	C8	0.86	13	3	1985	D6	0.88
9	3	1985	C9	0.9	13	3	1985	D7	0.84
9	3	1985	D5	0.9	14	3	1985	C2	0.82
9	3	1985	D6	0.78	14	3	1985	C3	0.8
9	3	1985	D7	0.86	14	3	1985	C4	0.86
10	3	1985	C2	0.87	14	3	1985	C5	0.89
10	3	1985	C3	0.9	14	3	1985	C6	0.9
10	3	1985	C4	0.86	14	3	1985	C7	0.9
10	3	1985	C5	0.89	14	3	1985	C8	0.8
10	3	1985	C6	0.87	14	3	1985	C9	0.9
10	3	1985	C7	0.87	14	3	1985	D5	0.9
10	3	1985	C8	0.84	14	3	1985	D6	0.9
10	3	1985	C9	0.9	14	3	1985	D7	0.82
10	3	1985	D5	0.9	15	3	1985	C2	0.82
10	3	1985	D6	0.77	15	3	1985	C3	0.8
10	3	1985	D7	0.85	15	3	1985	C4	0.82
11	3	1985	C2	0.8	15	3	1985	C5	0.82
11	3	1985	C3	0.74	15	3	1985	C6	0.88
11	3	1985	C4	0.74	15	3	1985	C7	0.58
11	3	1985	C5	0.86	15	3	1985	C8	0.74
11	3	1985	C6	0.82	15	3	1985	C9	0.9

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH		DAY	MONTH	YEAR	POND#	DEPTH
15	3	1985	D5	0.9		20	3	1985	C2	0.86
15	3	1985	D6	0.9		20	3	1985	C3	0.82
15	3	1985	D7	0.81		20	3	1985	C4	0.9
16	3	1985	C2	0.81		20	3	1985	C5	0.9
16	3	1985	C3	0.82		20	3	1985	C6	0.84
16	3	1985	C4	0.81		20	3	1985	C7	0.9
16	3	1985	C5	0.8		20	3	1985	C8	0.8
16	3	1985	C6	0.88		20	3	1985	C9	0.9
16	3	1985	C7	0.65		20	3	1985	D5	0.9
16	3	1985	C8	0.79		20	3	1985	D6	0.88
16	3	1985	C9	0.9		20	3	1985	D7	0.88
16	3	1985	D5	0.89		21	3	1985	C2	0.86
16	3	1985	D6	0.9		21	3	1985	C3	0.88
16	3	1985	D7	0.81		21	3	1985	C4	0.88
17	3	1985	C2	0.8		21	3	1985	C5	0.9
17	3	1985	C3	0.8		21	3	1985	C6	0.9
17	3	1985	C4	0.82		21	3	1985	C7	0.88
17	3	1985	C5	0.9		21	3	1985	C8	0.88
17	3	1985	C6	0.84		21	3	1985	C9	0.9
17	3	1985	C7	0.88		21	3	1985	D5	0.9
17	3	1985	C8	0.84		21	3	1985	D6	0.88
17	3	1985	C9	0.9		21	3	1985	D7	0.86
17	3	1985	D5	0.9		22	3	1985	C2	0.86
17	3	1985	D6	0.9		22	3	1985	C3	0.87
17	3	1985	D7	0.8		22	3	1985	C4	0.92
18	3	1985	C2	0.86		22	3	1985	C5	0.9
18	3	1985	C3	0.87		22	3	1985	C6	0.85
18	3	1985	C4	0.9		22	3	1985	C7	0.9
18	3	1985	C5	0.9		22	3	1985	C8	0.8
18	3	1985	C6	0.88		22	3	1985	C9	0.9
18	3	1985	C7	0.9		22	3	1985	D5	0.9
18	3	1985	C8	0.88		22	3	1985	D6	0.88
18	3	1985	C9	0.9		22	3	1985	D7	0.87
18	3	1985	D5	0.9		23	3	1985	C2	0.8
18	3	1985	D6	0.9		23	3	1985	C3	0.82
18	3	1985	D7	0.87		23	3	1985	C4	0.84
19	3	1985	C2	0.8		23	3	1985	C5	0.9
19	3	1985	C3	0.64		23	3	1985	C6	0.88
19	3	1985	C4	0.84		23	3	1985	C7	0.9
19	3	1985	C5	0.9		23	3	1985	C8	0.82
19	3	1985	C6	0.8		23	3	1985	C9	0.9
19	3	1985	C7	0.9		23	3	1985	D5	0.9
19	3	1985	C8	0.82		23	3	1985	D6	0.87
19	3	1985	C9	0.9		23	3	1985	D7	0.86
19	3	1985	D5	0.9		24	3	1985	C2	0.78
19	3	1985	D6	0.9		24	3	1985	C3	0.62
19	3	1985	D7	0.88		24	3	1985	C4	0.74

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	DAY	MONTH	YEAR	POND#	DEPTH
24	3	1985	C5	0.9	28	3	1985	C8	0.86
24	3	1985	C6	0.8	28	3	1985	C9	0.9
24	3	1985	C7	0.84	28	3	1985	D5	0.88
24	3	1985	C8	0.74	28	3	1985	D6	0.9
24	3	1985	C9	0.9	28	3	1985	D7	0.88
24	3	1985	D5	0.9	29	3	1985	C2	0.82
24	3	1985	D6	0.8	29	3	1985	C3	0.85
24	3	1985	D7	0.8	29	3	1985	C4	0.9
25	3	1985	C2	0.74	29	3	1985	C5	0.9
25	3	1985	C3	0.67	29	3	1985	C6	0.84
25	3	1985	C4	0.7	29	3	1985	C7	0.86
25	3	1985	C5	0.88	29	3	1985	C8	0.86
25	3	1985	C6	0.74	29	3	1985	C9	0.9
25	3	1985	C7	0.82	29	3	1985	D5	0.88
25	3	1985	C8	0.7	29	3	1985	D6	0.86
25	3	1985	C9	0.86	29	3	1985	D7	0.88
25	3	1985	D5	0.88	30	3	1985	C2	0.86
25	3	1985	D6	0.78	30	3	1985	C3	0.9
25	3	1985	D7	0.78	30	3	1985	C4	0.9
26	3	1985	C2	0.81	30	3	1985	C5	0.9
26	3	1985	C3	0.75	30	3	1985	C6	0.9
26	3	1985	C4	0.81	30	3	1985	C7	0.86
26	3	1985	C5	0.88	30	3	1985	C8	0.9
26	3	1985	C6	0.84	30	3	1985	C9	0.9
26	3	1985	C7	0.85	30	3	1985	D5	0.86
26	3	1985	C8	0.79	30	3	1985	D6	0.9
26	3	1985	C9	0.87	30	3	1985	D7	0.87
26	3	1985	D5	0.88	31	3	1985	C2	0.84
26	3	1985	D6	0.77	31	3	1985	C3	0.85
26	3	1985	D7	0.78	31	3	1985	C4	0.9
27	3	1985	C2	0.82	31	3	1985	C5	0.9
27	3	1985	C3	0.76	31	3	1985	C6	0.84
27	3	1985	C4	0.86	31	3	1985	C7	0.85
27	3	1985	C5	0.9	31	3	1985	C8	0.85
27	3	1985	C6	0.84	31	3	1985	C9	0.9
27	3	1985	C7	0.86	31	3	1985	D5	0.88
27	3	1985	C8	0.86	31	3	1985	D6	0.9
27	3	1985	C9	0.9	31	3	1985	D7	0.88
27	3	1985	D5	0.88	1	4	1985	C2	0.82
27	3	1985	D6	0.76	1	4	1985	C3	0.74
27	3	1985	D7	0.76	1	4	1985	C4	0.82
28	3	1985	C2	0.8	1	4	1985	C5	0.9
28	3	1985	C3	0.84	1	4	1985	C6	0.84
28	3	1985	C4	0.9	1	4	1985	C7	0.86
28	3	1985	C5	0.9	1	4	1985	C8	0.84
28	3	1985	C6	0.86	1	4	1985	C9	0.9
28	3	1985	C7	0.88	1	4	1985	D5	0.9

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH		DAY	MONTH	YEAR	POND#	DEPTH
1	4	1985	D6	0.9		6	4	1985	C3	0.87
1	4	1985	D7	0.88		6	4	1985	C4	0.9
2	4	1985	C2	0.8		6	4	1985	C5	0.9
2	4	1985	C3	0.74		6	4	1985	C6	0.86
2	4	1985	C4	0.9		6	4	1985	C7	0.86
2	4	1985	C5	0.9		6	4	1985	C8	0.84
2	4	1985	C6	0.88		6	4	1985	C9	0.9
2	4	1985	C7	0.9		6	4	1985	D5	0.9
2	4	1985	C8	0.8		6	4	1985	D6	0.9
2	4	1985	C9	0.9		6	4	1985	D7	0.88
2	4	1985	D5	0.9		7	4	1985	C2	0.83
2	4	1985	D6	0.9		7	4	1985	C3	0.86
2	4	1985	D7	0.86		7	4	1985	C4	0.82
3	4	1985	C2	0.83		7	4	1985	C5	0.9
3	4	1985	C3	0.87		7	4	1985	C6	0.88
3	4	1985	C4	0.82		7	4	1985	C7	0.88
3	4	1985	C5	0.9		7	4	1985	C8	0.9
3	4	1985	C6	0.9		7	4	1985	C9	0.9
3	4	1985	C7	0.9		7	4	1985	D5	0.9
3	4	1985	C8	0.86		7	4	1985	D6	0.86
3	4	1985	C9	0.9		7	4	1985	D7	0.88
3	4	1985	D5	0.9		8	4	1985	C2	0.86
3	4	1985	D6	0.9		8	4	1985	C3	0.88
3	4	1985	D7	0.86		8	4	1985	C4	0.88
4	4	1985	C2	0.82		8	4	1985	C5	0.9
4	4	1985	C3	0.86		8	4	1985	C6	0.9
4	4	1985	C4	0.84		8	4	1985	C7	0.9
4	4	1985	C5	0.9		8	4	1985	C8	0.9
4	4	1985	C6	0.86		8	4	1985	C9	0.9
4	4	1985	C7	0.9		8	4	1985	D5	0.9
4	4	1985	C8	0.84		8	4	1985	D6	0.9
4	4	1985	C9	0.9		8	4	1985	D7	0.88
4	4	1985	D5	0.9		9	4	1985	C2	0.8
4	4	1985	D6	0.9		9	4	1985	C3	0.82
4	4	1985	D7	0.88		9	4	1985	C4	0.84
5	4	1985	C2	0.8		9	4	1985	C5	0.9
5	4	1985	C3	0.87		9	4	1985	C6	0.9
5	4	1985	C4	0.9		9	4	1985	C7	0.9
5	4	1985	C5	0.9		9	4	1985	C8	0.88
5	4	1985	C6	0.88		9	4	1985	C9	0.9
5	4	1985	C7	0.9		9	4	1985	D5	0.9
5	4	1985	C8	0.84		9	4	1985	D6	0.9
5	4	1985	C9	0.9		9	4	1985	D7	0.86
5	4	1985	D5	0.9		10	4	1985	C2	0.82
5	4	1985	D6	0.9		10	4	1985	C3	0.8
5	4	1985	D7	0.88		10	4	1985	C4	0.88
6	4	1985	C2	0.82		10	4	1985	C5	0.9

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH
10	4	1985	C6	0.9
10	4	1985	C7	0.9
10	4	1985	C8	0.88
10	4	1985	C9	0.9
10	4	1985	D5	0.9
10	4	1985	D6	0.9
10	4	1985	D7	0.88
11	4	1985	C2	0.86
11	4	1985	C3	0.88
11	4	1985	C4	0.88
11	4	1985	C5	0.9
11	4	1985	C6	0.9
11	4	1985	C7	0.9
11	4	1985	C8	0.88
11	4	1985	C9	0.9
11	4	1985	D5	0.9
11	4	1985	D6	0.9
11	4	1985	D7	0.88
12	4	1985	C2	0.84
12	4	1985	C3	0.82
12	4	1985	C4	0.9
12	4	1985	C5	0.9
12	4	1985	C6	0.9
12	4	1985	C7	0.9
12	4	1985	C8	0.88
12	4	1985	C9	0.9
12	4	1985	D5	0.9
12	4	1985	D6	0.9
12	4	1985	D7	0.86
13	4	1985	C2	0.86
13	4	1985	C3	0.84
13	4	1985	C4	0.9
13	4	1985	C5	0.9
13	4	1985	C6	0.89
13	4	1985	C7	0.88
13	4	1985	C8	0.9
13	4	1985	C9	0.9
13	4	1985	D5	0.9
13	4	1985	D6	0.9
13	4	1985	D7	0.86
14	4	1985	C2	0.84
14	4	1985	C3	0.82
14	4	1985	C4	0.9
14	4	1985	C5	0.9
14	4	1985	C6	0.9
14	4	1985	C7	0.9
14	4	1985	C8	0.88
14	4	1985	C9	0.9
14	4	1985	D5	0.9
14	4	1985	D6	0.9
14	4	1985	D7	0.86
15	4	1985	C2	0.8
15	4	1985	C3	0.78
15	4	1985	C4	0.8
15	4	1985	C5	0.9
15	4	1985	C6	0.86
15	4	1985	C7	0.88
15	4	1985	C8	0.9
15	4	1985	C9	0.9
15	4	1985	D5	0.9
15	4	1985	D6	0.9
15	4	1985	D7	0.86
16	4	1985	C2	0.86
16	4	1985	C3	0.87
16	4	1985	C4	0.9
16	4	1985	C5	0.9
16	4	1985	C6	0.89
16	4	1985	C7	0.8
16	4	1985	C8	0.9
16	4	1985	C9	0.9
16	4	1985	D5	0.9
16	4	1985	D6	0.9
16	4	1985	D7	0.86
17	4	1985	C2	0.82
17	4	1985	C3	0.76
17	4	1985	C4	0.84
17	4	1985	C5	0.9
17	4	1985	C6	0.9
17	4	1985	C7	0.9
17	4	1985	C8	0.9
17	4	1985	C9	0.9
17	4	1985	D5	0.9
17	4	1985	D6	0.9
17	4	1985	D7	0.86
18	4	1985	C2	0.86
18	4	1985	C3	0.87
18	4	1985	C4	0.9
18	4	1985	C5	0.9
18	4	1985	C6	0.9
18	4	1985	C7	0.9
18	4	1985	C8	0.9
18	4	1985	C9	0.9
18	4	1985	D5	0.9
18	4	1985	D6	0.9

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	DAY	MONTH	YEAR	POND#	DEPTH
18	4	1985	D7	0.85	23	4	1985	C4	0.9
19	4	1985	C2	0.84	23	4	1985	C5	0.8
19	4	1985	C3	0.88	23	4	1985	C6	0.8
19	4	1985	C4	0.9	23	4	1985	C7	0.9
19	4	1985	C5	0.9	23	4	1985	C8	0.8
19	4	1985	C6	0.9	23	4	1985	C9	0.9
19	4	1985	C7	0.9	23	4	1985	D5	0.9
19	4	1985	C8	0.9	23	4	1985	D6	0.82
19	4	1985	C9	0.9	23	4	1985	D7	0.82
19	4	1985	D5	0.9	24	4	1985	C2	0.8
19	4	1985	D6	0.9	24	4	1985	C3	0.72
19	4	1985	D7	0.84	24	4	1985	C4	0.9
20	4	1985	C2	0.82	24	4	1985	C5	0.9
20	4	1985	C3	0.8	24	4	1985	C6	0.84
20	4	1985	C4	0.9	24	4	1985	C7	0.88
20	4	1985	C5	0.9	24	4	1985	C8	0.72
20	4	1985	C6	0.9	24	4	1985	C9	0.9
20	4	1985	C7	0.9	24	4	1985	D5	0.9
20	4	1985	C8	0.9	24	4	1985	D6	0.8
20	4	1985	C9	0.9	24	4	1985	D7	0.8
20	4	1985	D5	0.9	25	4	1985	C2	0.78
20	4	1985	D6	0.9	25	4	1985	C3	0.86
20	4	1985	D7	0.83	25	4	1985	C4	0.9
21	4	1985	C2	0.8	25	4	1985	C5	0.9
21	4	1985	C3	0.82	25	4	1985	C6	0.84
21	4	1985	C4	0.9	25	4	1985	C7	0.9
21	4	1985	C5	0.9	25	4	1985	C8	0.8
21	4	1985	C6	0.9	25	4	1985	C9	0.9
21	4	1985	C7	0.9	25	4	1985	D5	0.9
21	4	1985	C8	0.9	25	4	1985	D6	0.8
21	4	1985	C9	0.9	25	4	1985	D7	0.82
21	4	1985	D5	0.9	26	4	1985	C2	0.86
21	4	1985	D6	0.9	26	4	1985	C3	0.86
21	4	1985	D7	0.8	26	4	1985	C4	0.9
22	4	1985	C2	0.8	26	4	1985	C5	0.9
22	4	1985	C3	0.8	26	4	1985	C6	0.84
22	4	1985	C4	0.78	26	4	1985	C7	0.9
22	4	1985	C5	0.9	26	4	1985	C8	0.82
22	4	1985	C6	0.78	26	4	1985	C9	0.9
22	4	1985	C7	0.86	26	4	1985	D5	0.9
22	4	1985	C8	0.8	26	4	1985	D6	0.84
22	4	1985	C9	0.9	26	4	1985	D7	0.83
22	4	1985	D5	0.9	27	4	1985	C2	0.86
22	4	1985	D6	0.82	27	4	1985	C3	0.86
22	4	1985	D7	0.78	27	4	1985	C4	0.9
23	4	1985	C2	0.8	27	4	1985	C5	0.9
23	4	1985	C3	0.8	27	4	1985	C6	0.85

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH
27	4	1985	C7	0.9
27	4	1985	C8	0.84
27	4	1985	C9	0.9
27	4	1985	D5	0.9
27	4	1985	D6	0.85
27	4	1985	D7	0.86
13	5	1985	C2	0.86
13	5	1985	C3	0.88
13	5	1985	C4	0.86
13	5	1985	C5	0.9
13	5	1985	C6	0.86
13	5	1985	C7	0.9
13	5	1985	C8	0.78
13	5	1985	C9	0.9
13	5	1985	D5	0.9
13	5	1985	D6	0.9
13	5	1985	D7	0.86
14	5	1985	C2	0.82
14	5	1985	C3	0.8
14	5	1985	C4	0.82
14	5	1985	C5	0.9
14	5	1985	C6	0.8
14	5	1985	C7	0.86
14	5	1985	C8	0.7
14	5	1985	C9	0.9
14	5	1985	D5	0.9
14	5	1985	D6	0.9
14	5	1985	D7	0.82
15	5	1985	C2	0.82
15	5	1985	C3	0.82
15	5	1985	C4	0.88
15	5	1985	C5	0.9
15	5	1985	C6	0.9
15	5	1985	C7	0.9
15	5	1985	C8	0.9
15	5	1985	C9	0.9
15	5	1985	D5	0.9
15	5	1985	D6	0.9
15	5	1985	D7	0.84
16	5	1985	C2	0.86
16	5	1985	C3	0.86
16	5	1985	C4	0.82
16	5	1985	C5	0.9
16	5	1985	C6	0.9
16	5	1985	C7	0.9
16	5	1985	C8	0.9
16	5	1985	C9	0.9
16	5	1985	D5	0.9
16	5	1985	D6	0.9
16	5	1985	D7	0.86
17	5	1985	C2	0.82
17	5	1985	C3	0.84
17	5	1985	C4	0.82
17	5	1985	C5	0.9
17	5	1985	C6	0.86
17	5	1985	C7	0.9
17	5	1985	C8	0.9
17	5	1985	C9	0.9
17	5	1985	D5	0.9
17	5	1985	D6	0.9
17	5	1985	D7	0.86
18	5	1985	C2	0.83
18	5	1985	C3	0.86
18	5	1985	C4	0.88
18	5	1985	C5	0.9
18	5	1985	C6	0.9
18	5	1985	C7	0.9
18	5	1985	C8	0.9
18	5	1985	C9	0.9
18	5	1985	D5	0.9
18	5	1985	D6	0.9
18	5	1985	D7	0.82
19	5	1985	C2	0.86
19	5	1985	C3	0.88
19	5	1985	C4	0.87
19	5	1985	C5	0.9
19	5	1985	C6	0.9
19	5	1985	C7	0.9
19	5	1985	C8	0.9
19	5	1985	C9	0.9
19	5	1985	D5	0.9
19	5	1985	D6	0.9
19	5	1985	D7	0.86
20	5	1985	C2	0.86
20	5	1985	C3	0.88
20	5	1985	C4	0.9
20	5	1985	C5	0.9
20	5	1985	C6	0.9
20	5	1985	C7	0.9
20	5	1985	C8	0.9
20	5	1985	C9	0.9
20	5	1985	D5	0.9
20	5	1985	D6	0.9
20	5	1985	D7	0.88

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	DAY	MONTH	YEAR	POND#	DEPTH
21	5	1985	C2	0.85	25	5	1985	C5	0.9
21	5	1985	C3	0.86	25	5	1985	C6	0.9
21	5	1985	C4	0.9	25	5	1985	C7	0.9
21	5	1985	C5	0.9	25	5	1985	C8	0.9
21	5	1985	C6	0.9	25	5	1985	C9	0.9
21	5	1985	C7	0.9	25	5	1985	D5	0.9
21	5	1985	C8	0.9	25	5	1985	D6	0.9
21	5	1985	C9	0.9	25	5	1985	D7	0.86
21	5	1985	D5	0.9	26	5	1985	C2	0.82
21	5	1985	D6	0.9	26	5	1985	C3	0.8
21	5	1985	D7	0.86	26	5	1985	C4	0.88
22	5	1985	C2	0.84	26	5	1985	C5	0.9
22	5	1985	C3	0.74	26	5	1985	C6	0.9
22	5	1985	C4	0.9	26	5	1985	C7	0.9
22	5	1985	C5	0.9	26	5	1985	C8	0.9
22	5	1985	C6	0.9	26	5	1985	C9	0.9
22	5	1985	C7	0.9	26	5	1985	D5	0.9
22	5	1985	C8	0.86	26	5	1985	D6	0.9
22	5	1985	C9	0.9	26	5	1985	D7	0.84
22	5	1985	D5	0.9	27	5	1985	C2	0.84
22	5	1985	D6	0.9	27	5	1985	C3	0.86
22	5	1985	D7	0.88	27	5	1985	C4	0.9
23	5	1985	C2	0.8	27	5	1985	C5	0.9
23	5	1985	C3	0.68	27	5	1985	C6	0.9
23	5	1985	C4	0.9	27	5	1985	C7	0.9
23	5	1985	C5	0.9	27	5	1985	C8	0.9
23	5	1985	C6	0.8	27	5	1985	C9	0.9
23	5	1985	C7	0.84	27	5	1985	D5	0.9
23	5	1985	C8	0.8	27	5	1985	D6	0.9
23	5	1985	C9	0.9	27	5	1985	D7	0.88
23	5	1985	D5	0.9	28	5	1985	C2	0.88
23	5	1985	D6	0.9	28	5	1985	C3	0.82
23	5	1985	D7	0.84	28	5	1985	C4	0.86
24	5	1985	C2	0.82	28	5	1985	C5	0.9
24	5	1985	C3	0.86	28	5	1985	C6	0.88
24	5	1985	C4	0.8	28	5	1985	C7	0.88
24	5	1985	C5	0.9	28	5	1985	C8	0.86
24	5	1985	C6	0.9	28	5	1985	C9	0.9
24	5	1985	C7	0.82	28	5	1985	D5	0.9
24	5	1985	C8	0.84	28	5	1985	D6	0.9
24	5	1985	C9	0.9	28	5	1985	D7	0.88
24	5	1985	D5	0.9	29	5	1985	C2	0.88
24	5	1985	D6	0.88	29	5	1985	C3	0.84
24	5	1985	D7	0.83	29	5	1985	C4	0.87
25	5	1985	C2	0.84	29	5	1985	C5	0.9
25	5	1985	C3	0.88	29	5	1985	C6	0.9
25	5	1985	C4	0.9	29	5	1985	C7	0.9

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH		DAY	MONTH	YEAR	POND#	DEPTH
29	5	1985	C8	0.9		2	6	1985	D6	0.9
29	5	1985	C9	0.9		2	6	1985	D7	0.88
29	5	1985	D5	0.9		3	6	1985	C2	0.85
29	5	1985	D6	0.9		3	6	1985	C3	0.87
29	5	1985	D7	0.88		3	6	1985	C4	0.9
30	5	1985	C2	0.86		3	6	1985	C5	0.9
30	5	1985	C3	0.9		3	6	1985	C6	0.86
30	5	1985	C4	0.9		3	6	1985	C7	0.9
30	5	1985	C5	0.9		3	6	1985	C8	0.9
30	5	1985	C6	0.8		3	6	1985	C9	0.9
30	5	1985	C7	0.84		3	6	1985	D5	0.9
30	5	1985	C8	0.85		3	6	1985	D6	0.9
30	5	1985	C9	0.9		3	6	1985	D7	0.88
30	5	1985	D5	0.9		4	6	1985	C2	0.8
30	5	1985	D6	0.9		4	6	1985	C3	0.82
30	5	1985	D7	0.88		4	6	1985	C4	0.88
31	5	1985	C2	0.86		4	6	1985	C5	0.9
31	5	1985	C3	0.88		4	6	1985	C6	0.86
31	5	1985	C4	0.9		4	6	1985	C7	0.9
31	5	1985	C5	0.9		4	6	1985	C8	0.82
31	5	1985	C6	0.84		4	6	1985	C9	0.9
31	5	1985	C7	0.86		4	6	1985	D5	0.9
31	5	1985	C8	0.9		4	6	1985	D6	0.9
31	5	1985	C9	0.9		4	6	1985	D7	0.84
31	5	1985	D5	0.9		5	6	1985	C2	0.78
31	5	1985	D6	0.9		5	6	1985	C3	0.82
31	5	1985	D7	0.88		5	6	1985	C4	0.9
1	6	1985	C2	0.84		5	6	1985	C5	0.9
1	6	1985	C3	0.84		5	6	1985	C6	0.8
1	6	1985	C4	0.86		5	6	1985	C7	0.78
1	6	1985	C5	0.9		5	6	1985	C8	0.9
1	6	1985	C6	0.88		5	6	1985	C9	0.9
1	6	1985	C7	0.86		5	6	1985	D5	0.9
1	6	1985	C8	0.9		5	6	1985	D6	0.9
1	6	1985	C9	0.9		5	6	1985	D7	0.82
1	6	1985	D5	0.9		6	6	1985	C2	0.78
1	6	1985	D6	0.9		6	6	1985	C3	0.82
1	6	1985	D7	0.88		6	6	1985	C4	0.78
2	6	1985	C2	0.86		6	6	1985	C5	0.9
2	6	1985	C3	0.88		6	6	1985	C6	0.74
2	6	1985	C4	0.9		6	6	1985	C7	0.78
2	6	1985	C5	0.9		6	6	1985	C8	0.8
2	6	1985	C6	0.86		6	6	1985	C9	0.9
2	6	1985	C7	0.88		6	6	1985	D5	0.9
2	6	1985	C8	0.9		6	6	1985	D6	0.9
2	6	1985	C9	0.9		6	6	1985	D7	0.88
2	6	1985	D5	0.9		7	6	1985	C2	0.8

Table 2. Daily Pond Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH
7	6	1985	C3	0.82
7	6	1985	C4	0.9
7	6	1985	C5	0.9
7	6	1985	C6	0.8
7	6	1985	C7	0.9
7	6	1985	C8	0.9
7	6	1985	C9	0.9
7	6	1985	D5	0.9
7	6	1985	D6	0.9
7	6	1985	D7	0.86
8	6	1985	C2	0.85
8	6	1985	C3	0.88
8	6	1985	C4	0.9
8	6	1985	C5	0.9
8	6	1985	C6	0.86
8	6	1985	C7	0.9
8	6	1985	C8	0.9
8	6	1985	C9	0.9
8	6	1985	D5	0.9
8	6	1985	D6	0.9
8	6	1985	D7	0.88
9	6	1985	C2	0.82
9	6	1985	C3	0.84
9	6	1985	C4	0.82
9	6	1985	C5	0.9
9	6	1985	C6	0.8
9	6	1985	C7	0.78
9	6	1985	C8	0.64
9	6	1985	C9	0.9
9	6	1985	D5	0.9
9	6	1985	D6	0.9
9	6	1985	D7	0.88

Table 3. Weekly and Twice Weekly Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECCHI DISK A	SECCHI DISK B	CHLOROPHYLL A
16	1	1985		C2	800	7.6	5.	5.1	26.6	26.1	26.							7.8	0.42									35.
16	1	1985		C3	800	4.	4.	4.2	26.7	26.3	26.							7.6	0.86									21.
16	1	1985		C4	800	4.7	4.6	4.6	26.1	25.8	25.5	33.						7.5	0.38									32.
16	1	1985		C5	800	5.1	3.9	5.3	27.1	26.5	26.		34.	24.	25.			7.6	0.7									27.
16	1	1985		C6	800	4.	4.5	4.	26.2	25.4	25.2							7.5	0.86									27.
16	1	1985		C7	800	4.2	4.6	4.5	26.3	25.5	25.2							7.4	0.6									3.
16	1	1985		C8	800	4.5	3.9	4.9	25.4	24.5	24.4							7.4	0.44									0.
16	1	1985		C9	800	4.	3.6	3.8	26.5	25.6	25.3							7.2	0.44									5.
16	1	1985		D5	800	5.6	5.4	3.4	27.4	26.9	26.8							7.6	0.08									19.
16	1	1985		D6	800	4.	3.8	5.3	27.2	27.1								7.7	0.2									5.
16	1	1985		D7	800	8.8	8.8	8.9	27.2	27.	26.9							8.	0.68									19.
21	1	1985		C2	800	10.	9.9	9.6	27.	26.9	26.9						25.	8.4	0.34							32.	30.	5.
21	1	1985		C3	800	6.3	6.4	8.4	26.9	26.9	26.8						24.	7.4	0.04							25.	28.	11.
21	1	1985		C4	800	9.2	8.5	8.7	26.8	27.2	27.2	33.	29.	21.	26.		28.	8.2	0.66							35.	32.	43.
21	1	1985		C5	800	9.	8.8	6.1	27.3	26.5	26.5						31.	8.7	0.48							33.	35.	45.
21	1	1985		C6	800	6.3	6.1	7.7	26.7	27.1	27.						30.	6.9	0.56							23.	20.	5.
21	1	1985		C7	800	8.1	8.	7.1	27.3	27.2	26.4						15.	7.3	0.05							28.	30.	27.
21	1	1985		C8	800	7.8	7.4	9.9	26.8	27.1	27.1						21.	7.4	0.47							25.	33.	19.
21	1	1985		C9	800	10.	10.	10.	27.3	27.6	27.2						24.	8.3	0.47							35.	40.	27.
21	1	1985		D5	800	7.3	7.	7.	27.6	27.3	27.6						51.	8.1	0.36							38.	25.	35.
21	1	1985		D6	800	7.6	7.5	7.5	27.3	27.3	27.3						24.	8.1	0.02							25.	43.	19.
21	1	1985		D7	800	14.7	14.5	6.9	27.5	27.4	27.4						48.	9.5	0.96							42.	45.	56.
23	1	1985		C2																						40.	45.	26.7
23	1	1985		C3																						43.	45.	10.7
23	1	1985		C4																						48.	38.	34.7
23	1	1985		C5																						35.	35.	77.4
23	1	1985		C6																						38.	30.	10.7
23	1	1985		C7																						28.	48.	8.
23	1	1985		C8																						50.	43.	34.7
23	1	1985		C9																						45.	35.	21.4
23	1	1985		D5																						35.	40.	26.7
23	1	1985		D6																						42.	42.	29.4
23	1	1985		D7																						35.	40.	32.
28	1	1985		C2	800	8.1	7.8	6.8	29.	29.	28.8	33.	30.	27.	27.			7.9	0.66	0.35			0.	1.58	0.14	42.	42.	21.
28	1	1985		C3	800	6.	5.6	5.4	28.5	28.5	27.9	32.	31.	22.	20.			7.	0.49	0.6			0.31	0.22	0.19	35.	28.	5.
28	1	1985		C4	800	8.7	7.6	6.9	28.8	28.6	28.4	31.	31.	23.	23.			7.7	0.62	0.34			0.	0.23	0.16	40.	42.	11.
28	1	1985		C5	800	7.1	6.7	6.4	28.5	28.3	28.2							7.8	0.51	0.44			0.13	1.23	0.18	28.	30.	3.
28	1	1985		C6	800	6.1	5.8	5.7	28.8	28.4	28.2							6.9	0.16	0.66			0.34	0.2	0.15	18.	35.	0.
28	1	1985		C7	800	8.3	8.2	7.8	29.2	29.1	29.							8.3	0.51	0.55			0.03	0.86	0.46	28.	33.	0.
28	1	1985		C8	800	6.1	6.	5.6	29.3	29.4	27.2							7.1	0.43	0.64			0.25	0.12	0.09	28.	28.	11.
28	1	1985		C9	800	7.	6.6	6.3	30.3	29.	28.7							8.1	0.65	0.34			0.	0.88	0.23	40.	42.	64.
28	1	1985		D5	800	6.9	6.8	6.7	30.	30.								8.1	0.55	0.24			0.	0.34	0.27	40.	58.	11.
28	1	1985		D6	800	7.	7.	6.7	29.8	29.7	29.6							8.2	0.44	0.17			0.	0.29	0.23	45.	48.	29.
28	1	1985		D7	800	4.8	4.7	4.7	29.9	30.	30.							7.9	0.5	0.21			0.03	0.3	0.77	35.	35.	21.

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Table 3. Weekly and Twice Weekly Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOROPHYLL A
30	1	1985		C2																						33.	35.	3.
30	1	1985		C3																						32.	28.	11.
30	1	1985		C4																						35.	38.	38.
30	1	1985		C5																						25.	25.	24.
30	1	1985		C6																						23.	23.	16.
30	1	1985		C7																						32.	32.	37.
30	1	1985		C8																						20.	20.	11.
30	1	1985		C9																						32.	38.	27.
30	1	1985		D5																						40.	38.	0.
30	1	1985		D6																						50.	50.	43.
30	1	1985		D7																						65.	50.	27.
4	2	1985		C2	800	6.8	6.7	6.4	27.9	27.9	27.9					26.	23.4	8.1	0.2							32.	35.	32.
4	2	1985		C3	800	4.3	4.2	4.2	27.8	27.7	27.6					24.	24.4	7.3	0.07							33.	35.	11.
4	2	1985		C4	800	7.2	7.2	7.1	28.1	28.	28.	34.	31.	28.	28.	28.	24.8	8.5	0.26							35.	38.	29.
4	2	1985		C5	800	5.5	5.4	5.4	27.4	27.5	27.4	33.	31.	28.	25.	26.	27.	8.2	0.49							20.	25.	53.
4	2	1985		C6	800	5.1	5.	4.8	27.7	27.5	27.5	34.	30.	27.	25.	23.	23.6	7.3	0.62							25.	25.	5.
4	2	1985		C7	800	5.3	5.2	5.1	27.7	27.7	27.5					23.	36.4	7.2	0.41							28.	30.	5.
4	2	1985		C8	800	6.1	5.8	5.8	27.9	27.5	27.5					22.	23.	7.3	0.44							30.	30.	3.
4	2	1985		C9	800	10.9	9.9	9.7	28.6	28.5	28.4					28.	29.	9.2	0.4							45.	50.	53.
4	2	1985		D5	800	6.5	6.2	6.2	28.7	28.6	28.6					51.	54.2	8.7	1.21							42.	40.	21.
4	2	1985		D6	800	4.6	4.5	4.5	28.8	28.7	28.7					62.	60.8	8.2	0.17							52.	45.	0.
4	2	1985		D7	800	5.6	5.5	5.6	28.6		28.7					57.	57.6	8.4	0.55							45.	45.	5.
6	2	1985		C2																						18.	18.	11.
6	2	1985		C3																						20.	20.	0.
6	2	1985		C4																						32.	35.	32.
6	2	1985		C5																						22.	22.	16.
6	2	1985		C6																						20.	20.	0.
6	2	1985		C7																						22.	20.	24.
6	2	1985		C8																						25.	30.	29.
6	2	1985		C9																						43.	45.	45.
6	2	1985		D5																						30.	30.	32.
6	2	1985		D6																						50.	55.	11.
6	2	1985		D7																						50.	45.	27.
11	2	1985		C2	800	5.7	5.6	5.5	28.1	28.2	28.2					28.		7.1	0.68							25.	28.	56.
11	2	1985		C3	800	5.8	5.8	5.7	27.6	27.5	27.5					20.		7.1	0.05							23.	22.	5.
11	2	1985		C4	800	6.	5.8	5.8	28.6	28.6	28.5	34.		33.	28.	23.		7.3	0.34							42.	35.	40.
11	2	1985		C5	800	5.6	5.8	5.8	27.4	27.2	27.1				28.	29.		7.2	0.4							18.	189.	11.
11	2	1985		C6	800	6.2	6.2	6.1	27.8	27.8	27.8	34.		30.	26.	20.		7.2	0.47							28.	25.	11.
11	2	1985		C7	800	6.5	6.3	6.	27.4	27.4	27.3					22.		7.1	1.35							28.	25.	8.
11	2	1985		C8	800	6.8	6.6	6.5	27.8	27.8	27.8					17.		7.2	0.99							20.	22.	11.
11	2	1985		C9	800	10.7	10.4	9.1	28.2	28.1	28.1					24.		8.9	0.93							35.	35.	158.
11	2	1985		D5	800	6.4	6.2	6.2	28.9	28.9	28.8					48.		8.4	1.01							40.	50.	32.
11	2	1985		D6	800	4.8	4.6	4.4	28.8	28.9	28.9					61.		7.8	0.68							38.	50.	43.
11	2	1985		D7	800	5.	5.1	5.	28.8	28.8	28.8					59.		8.3	0.89							30.	32.	29.
13	2	1985		C2																								

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Table 3. Weekly and Twice Weekly Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY NO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
13	2 1985		C3																							28.	28.	37.
13	2 1985		C4																							32.	32.	24.
13	2 1985		C5																							28.	30.	27.
13	2 1985		C6																							30.	28.	0.
13	2 1985		C7																							28.	25.	19.
13	2 1985		C8																							23.	22.	13.
13	2 1985		C9																							38.	32.	179.
13	2 1985		D5																							50.	35.	43.
13	2 1985		D6																							52.	20.	29.
13	2 1985		D7																							32.	30.	21.
18	2 1985		C2	800	6.3	5.9	5.4	28.5	28.3	28.2	36.	32.	28.	28.	25.		7.9	0.8	0.25			0.09	0.42	0.26	32.	38.	8.
18	2 1985		C3	800	6.1	5.7	5.6	27.9	27.7	27.7	35.	29.	28.	27.	27.		7.4	0.61	0.28			0.22	0.29	0.17	30.	32.	29.
18	2 1985		C4	800	6.9	6.5	6.2	28.7	28.6	28.5	33.		27.		30.		8.5	0.97	0.27			0.13	0.4	0.22	23.	20.	48.
18	2 1985		C5	800	7.	6.7	6.3	27.2	26.8	26.7					29.		7.7	1.03	0.29			0.31	0.4	0.07	22.	25.	3.
18	2 1985		C6	800	8.3	8.	7.8	27.8	27.8	27.7					21.		8.1	0.6	0.39			0.28	0.25	0.14	25.	30.	8.
18	2 1985		C7	800	7.4	6.8	6.7	27.8	27.5	27.4					21.		7.3	0.57	0.27			0.19	0.31	0.05	42.	38.	11.
18	2 1985		C8	800	8.8	8.4	7.8	28.2	28.2	28.1					22.		8.3	0.57	0.25			0.07	0.21	0.11	30.	48.	16.
18	2 1985		C9	800	9.	9.	8.8	28.5	28.3	28.1					27.		9.1	1.18	0.31			0.	0.68	0.53	38.	28.	93.
18	2 1985		D5	800	7.1	6.5	6.1	28.8	28.5	28.5					55.		8.8	1.26	0.24			0.	0.53	0.33	62.	60.	16.
18	2 1985		D6	800	4.8	4.4	4.3	29.3	29.1	29.1					68.		7.6	0.71	0.16			0.	0.31	0.22	60.	50.	3.
18	2 1985		D7	800	6.7	6.6	6.4	29.3	29.2	29.2					62.		8.8	0.88	0.14			0.	0.36	0.23	30.	35.	29.
20	2 1985		C2																						33.	35.	21.
20	2 1985		C3																						30.	28.	5.
20	2 1985		C4																						28.	28.	43.
20	2 1985		C5																						30.	30.	27.
20	2 1985		C6																						32.	32.	43.
20	2 1985		C7																						35.	35.	21.
20	2 1985		C8																						48.	48.	43.
20	2 1985		C9																						28.	24.	40.
20	2 1985		D5																						40.	60.	51.
20	2 1985		D6																						58.	50.	5.
20	2 1985		D7																						25.	24.	53.
25	2 1985		C2	800	5.5	4.7	4.4	28.5	28.3	28.1	34.	31.	27.	27.	26.		7.5	1.							25.	28.	19.
25	2 1985		C3	800	6.3	5.6	5.4	28.3	28.	27.8	33.	30.	22.	27.	24.		7.5	0.56							24.	25.	5.
25	2 1985		C4	800	7.9	6.4	6.	28.8	28.3	28.1	33.		27.		26.		8.5	1.05							30.	30.	75.
25	2 1985		C5	800	5.5	5.6	5.5	27.3	27.	27.					24.		7.6	0.54							28.	30.	51.
25	2 1985		C6	800	6.3	6.1	6.	28.8	28.7	28.5					17.		7.2	0.56							28.	32.	11.
25	2 1985		C7	800	5.	4.7	4.8	28.2	27.5	27.3					23.		6.8	0.46							38.	35.	0.
25	2 1985		C8	800	6.	5.5	5.4	28.7	28.4	28.					18.		6.9	0.44							30.	48.	32.
25	2 1985		C9	890	10.2	9.7	8.9	29.4	29.1	29.					28.		8.7	0.92							60.	24.	32.
25	2 1985		D5	800	8.7	6.6	6.3	29.3	29.2	28.8					57.		9.	1.35							45.	60.	37.
25	2 1985		D6	800	6.9	6.8	6.2	30.	29.8	29.7					41.		8.3	0.62							23.	50.	13.
25	2 1985		D7	800	9.8	9.1	8.1	29.8	29.6	29.4					48.		8.9	0.86							25.	40.	53.
27	2 1985		C2																						23.	22.	29.
27	2 1985		C3																						25.	25.	51.

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Table 3. Weekly and Twice Weekly Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
27	2	1985		C4																						25.	28.	60.
27	2	1985		C5																						20.	25.	29.
27	2	1985		C6																						28.	30.	35.
27	2	1985		C7																						25.	25.	5.
27	2	1985		C8																						35.	35.	45.
27	2	1985		C9																						40.	35.	61.
27	2	1985		D5																						35.	30.	59.
27	2	1985		D6																						55.	65.	43.
27	2	1985		D7																						40.	45.	45.
4	3	1985		C2	800	5.5	5.1	5.	26.4	26.4	26.					25.	23.4	7.3	0.99							27.	22.	37.
4	3	1985		C3	800	4.6	4.4	4.5	26.4	26.4	26.3					22.	23.6	7.	0.52							32.	32.	13.
4	3	1985		C4	800	5.9	5.4	5.2	26.5	26.5	26.5	33.	31.	27.	27.	31.	26.6	7.5	0.65							28.	28.	67.
4	3	1985		C5	800	6.5	6.	5.9	25.7	25.5	25.4	38.		22.		25.	26.	8.	0.67							25.	30.	61.
4	3	1985		C6	800	6.1	5.9	5.3	26.6	26.6	26.5	33.	31.	27.	27.	21.	21.8	6.6	0.51							40.	40.	0.
4	3	1985		C7	800	5.5	5.3	5.	26.2	26.1	26.					26.	22.8	6.5	0.39							32.	33.	11.
4	3	1985		C8	800	5.3	5.2		26.2	26.2	26.1					22.	21.6	6.5	0.31							30.	32.	8.
4	3	1985		C9	800	9.5	9.1	8.9	27.4	27.4	27.4					24.	24.8	8.6	1.15							35.	32.	91.
4	3	1985		D5	800	7.	6.3	5.4	27.2	27.2	27.1					50.	52.6	8.7	1.62							30.	30.	53.
4	3	1985		D6	800	6.2	6.1	6.	27.6	27.2	27.2					58.	55.6	8.2	0.6							55.	55.	19.
4	3	1985		D7	800	5.2	5.1	5.	27.5	27.6	27.6					50.	50.	8.6	0.68							50.	52.	43.
6	3	1985		C2																						25.	23.	64.
6	3	1985		C3																						20.	20.	11.
6	3	1985		C4																						28.	30.	37.
6	3	1985		C5																						23.	23.	0.
6	3	1985		C6																						25.	25.	24.
6	3	1985		C7																						20.	20.	8.
6	3	1985		C8																						33.	35.	13.
6	3	1985		C9																						35.	35.	72.
6	3	1985		D5																						25.	22.	112.
6	3	1985		D6																						50.	45.	48.
6	3	1985		D7																						60.	48.	32.
11	3	1985		C2	800	5.7	5.3	4.8	28.6	28.6	28.6					34.		8.5	1.12							32.	30.	45.
11	3	1985		C3	800	5.	4.1	4.1	28.1	28.1	28.					24.		7.7	0.53							35.	32.	40.
11	3	1985		C4	800	6.5	5.6	4.8	28.5	28.5	28.5	36.	31.	27.	27.	16.		8.5	0.77							30.	30.	35.
11	3	1985		C5	800	6.4	5.6	4.9	27.4	27.2	27.1	41.		21.		12.		7.6	0.73							35.	40.	16.
11	3	1985		C6	800	6.8	6.7	6.7	27.7	27.7	27.7	32.	31.	27.	27.	20.		7.5	1.05							28.	30.	29.
11	3	1985		C7	800	6.2	5.9	5.7	27.2	27.1	27.					20.		7.2	0.65							45.	45.	13.
11	3	1985		C8	800	6.3	6.2	5.7	28.1	28.	27.5					23.		7.5	0.7							40.	38.	5.
11	3	1985		C9	800	5.6	4.9	4.6	28.6	28.5	28.3					25.		8.3	0.45							45.	42.	59.
11	3	1985		D5	800	3.3	2.5	2.3	29.5	29.5	29.5					64.		8.2	0.99							40.	45.	37.
11	3	1985		D6	800	7.9	7.8	7.6	29.5	29.5	29.5					56.		9.	0.84							42.	52.	16.
11	3	1985		D7	800	7.3	7.	6.7	29.7	29.8	29.8					56.		8.95	0.56							50.	32.	32.
13	3	1985		C2																						20.	32.	27.
13	3	1985		C3																						28.	28.	16.
13	3	1985		C4																						25.	22.	48.

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Table 3. Weekly and Twice Weekly Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY NO.	YEAR	MO.	PONDS	DO TIME	DO @ TOP	DO @ MID BOTTOM	DO @ BOTTOM	WTEMP @ TOP	WTEMP @ MID BOTTOM	WTEMP @ BOTTOM	WTEMP TOP-MAX	WTEMP BOT-MAX	WTEMP TOP-MIN	WTEMP BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECCHI DISK A	SECCHI DISK B	CHLOROPHYLL A
13	1985	3	C5																						22	23	24.
13	1985	3	C6																						23	23	24.
13	1985	3	C7																						20	22	16.
13	1985	3	C8																						25	28	27.
13	1985	3	C9																						30	30	13.
13	1985	3	D5																						32	32	35.
13	1985	3	D6																						42	48	21.
13	1985	3	D7																						48	42	13.
18	1985	3	C2	800	7.8	5.6	5.2	30.2	29.3	28.7						24.	7.5	1.23	0.43			0.44	0.18	0.13	22	22	11.
18	1985	3	C3	800	6.3	4.6	4.1	29.7	28.6	28.4	37.		27.	26.		21.	6.3	0.71	0.43			0.48	0.15	0.08	22	28	5.
18	1985	3	C4	800	13.7	9.7	8.1	30.	29.1	28.5	40.	32.	23.			24.	9.	1.59	0.32			0.26	0.33	0.21	20	25	29.
18	1985	3	C5	800	8.4	6.6	5.3	31.2	30.1	29.7	34.	30.	28.	28.		26.	7.1	0.72	0.37			0.08	0.12	0.1	32	32	13.
18	1985	3	C6	800	9.2	8.	7.7	30.8	29.6	29.3						21.	8.1	0.79	0.34			0.08	0.31	0.22	25	23	27.
18	1985	3	C7	800	11.8	7.4	7.3	30.9	29.3	28.8						22.	7.6	0.54	0.34			0.11	0.1	0.06	30	28	21.
18	1985	3	C8	800	6.4	5.2	4.9	30.4	28.7	28.5						22.	7.2	0.61	0.41			0.15	0.15	0.09	38	36	27.
18	1985	3	C9	800	11.6	9.8	9.	30.8	29.9	29.6						28.	9.2	1.09	0.27			0.07	0.65	0.5	25	24	29.
18	1985	3	D5	800	8.4	5.9	5.9	32.	30.7	30.5						65.	8.6	2.68	0.			0.	0.78	0.44	48	46	59.
18	1985	3	D6	800	9.9	9.4	8.8	32.1	31.4	31.1						58.	8.4	0.83	0.			0.	0.33	0.29	50	52	78.
18	1985	3	D7	800	10.4	10.3	10.	32.1	31.2	31.2						54.	8.6	1.18	0.02			0.	0.78	0.49	30	25	13.
20	1985	3	C2																						22	25	21.
20	1985	3	C3																						25	23	16.
20	1985	3	C4																						38	40	91.
20	1985	3	C5																						35	33	19.
20	1985	3	C6																						32	32	40.
20	1985	3	C7																						40	40	19.
20	1985	3	C8																						40	40	11.
20	1985	3	C9																						42	26	43.
20	1985	3	D5																						50	43	69.
20	1985	3	D6																						28	50	37.
20	1985	3	D7																						25	32	27.
25	1985	3	C2	800	5.9	5.4	4.	31.1	30.2	29.6						26.	6.7	0.4							28	28	43.
25	1985	3	C3	800	5.8	5.1	4.5	31.5	29.6	29.1	37.					26.	6.6	0.26							25	28	29.
25	1985	3	C4	800	11.	6.3	5.4	30.	28.7	28.4	36.	32.	28.	27.		26.	8.2	0.64							20	22	88.
25	1985	3	C5	800	7.	5.2	3.6	31.4	30.2	29.7	36.	30.	29.	30.		25.	6.9	0.6							35	35	19.
25	1985	3	C6	800	11.	9.8	8.4	30.6	29.8	29.4						22.	7.9	0.41							40	35	45.
25	1985	3	C7	800	4.4	3.9	3.3	30.7	29.5	29.1						24.	6.4	0.75							30	28	21.
25	1985	3	C8	800	6.1	4.7	4.1	30.2	28.7	28.3						21.	6.4	0.2							32	35	27.
25	1985	3	C9	800	11.7	10.8	8.6	31.4	30.	29.4						39.	8.6	0.87							32	30	123.
25	1985	3	D5	800	8.3	6.3	6.1	31.9	30.7	30.5						58.	7.9	2.21							38	40	48.
25	1985	3	D6	800	10.1	10.1	10.	31.8	31.	30.8						56.	8.2	0.66							42	45	88.
25	1985	3	D7	800	10.6	11.2	11.3	31.9	31.4	31.						28.	8.6	1.05							28	28	37.
27	1985	3	C2																						28	30	24.
27	1985	3	C3																						30	20	16.
27	1985	3	C4																						20	35	126.
27	1985	3	C5																						35	35	13.

Table 3. Weekly and Twice Weekly Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY NO.	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHI DISK A	SECHI DISK B	CHLOROPHYLL A
27	3	1985		C6																						32.	38.	0.
27	3	1985		C7																						28.	23.	16.
27	3	1985		C8																						25.	25.	27.
27	3	1985		C9																						38.	30.	107.
27	3	1985		D5																						35.	32.	72.
27	3	1985		D6																						40.	42.	40.
27	3	1985		D7																						42.	45.	11.
1	4	1985		C2																						25.	28.	48.1
1	4	1985		C3																						28.	25.	18.7
1	4	1985		C4																						20.	20.	0.
1	4	1985		C5																						32.	38.	13.4
1	4	1985		C6																						40.	38.	26.7
1	4	1985		C7																						32.	32.	24.
1	4	1985		C8																						38.	35.	10.7
1	4	1985		C9																						35.	38.	178.9
1	4	1985		D5																						38.	42.	112.2
1	4	1985		D6																						45.	48.	48.1
1	4	1985		D7																						45.	48.	13.4
2	4	1985		C2	800	4.7	4.2	3.7	27.7	27.7	27.7					24.	23.	7.	1.04									
2	4	1985		C3	800	3.7	3.5	3.3	27.8	27.9	27.8					22.	20.6	7.	0.64									
2	4	1985		C4	800	5.8	5.	4.3	27.6	27.5	27.5					24.	23.	8.4	1.12									
2	4	1985		C5	800	3.7	3.2	2.8	28.3	28.3	28.2					29.	26.	7.9	0.64									
2	4	1985		C6	800	5.6	5.3	5.1	28.	28.	27.9	38.	32.	28.	27.	17.	17.4	7.9	0.48									
2	4	1985		C7	800	4.	3.9	3.8	28.1	28.1	28.	36.		28.		18.	18.6	7.6	0.78									
2	4	1985		C8	800	4.6	4.3	4.2	27.3	27.3	27.2	37.	29.	28.	28.	18.	21.2	7.5	0.6									
2	4	1985		C9	800	8.3	7.4	6.9	27.9	27.9	27.8					22.	20.8	9.3	1.26									
2	4	1985		D5	800	3.2	2.3	2.1	28.6	28.6	28.5					70.	61.8	8.6	1.86									
2	4	1985		D6	800	6.1	5.9	5.3	28.6	28.6	28.5					54.	49.2	9.	0.56									
2	4	1985		D7	800	6.8	6.4	6.	28.8	28.8	28.7					48.	46.4	9.3	0.98									
3	4	1985		C2																						23.	25.	35.
3	4	1985		C3																						30.	30.	8.
3	4	1985		C4																						25.	23.	19.
3	4	1985		C5																						30.	34.	0.
3	4	1985		C6																						40.	40.	16.
3	4	1985		C7																						35.	33.	5.
3	4	1985		C8																						35.	38.	3.
3	4	1985		C9																						35.	36.	110.
3	4	1985		D5																						40.	40.	48.
3	4	1985		D6																						45.	45.	16.
3	4	1985		D7																						25.	25.	0.
8	4	1985		C2	800	6.5	3.7	3.5	31.5	31.3	31.1					20.		7.8	1.12							22.	25.	67.
8	4	1985		C3	800	5.2	4.3	4.6	31.3	30.8	30.7					25.		5.4	0.73							23.	25.	32.
8	4	1985		C4	800	6.5	4.4	4.	31.	30.5	30.3	37.	32.	28.	27.	23.		5.9	1.1							32.	35.	64.
8	4	1985		C5	800	6.3	4.6	3.9	31.4	31.2	30.9	32.	38.	31.		25.		5.9	0.78							35.	32.	32.
8	4	1985		C6	800	7.7	7.1	6.6	31.5	31.1	30.8	33.		29.	22.	24.		6.6	0.7									24.

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Table 3. Weekly and Twice Weekly Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOROPHYLL A
8	4	1985		C7	800	6.3	5.3	5.5	31.5	31.3	30.7					27.		6.2	0.67							32.	32.	27.
8	4	1985		C8	800	5.7	4.9	4.6	30.2	29.6	29.3					19.		5.2	0.53							38.	42.	19.
8	4	1985		C9	800	6.6	5.7	5.2	31.2	31.2	30.9					17.		7.1	1.							48.	48.	72.
8	4	1985		D5	800	6.1	4.3	3.9	34.1	33.8	33.4					65.		8.3	1.77							38.	38.	96.
8	4	1985		D6	800	6.6	6.	4.9	31.8	31.4	31.2					39.		7.2	0.8							55.	48.	40.
8	4	1985		D7	800	7.9	7.3	6.8	32.	31.7	31.6					52.		7.2	0.92							52.	55.	35.
10	4	1985		C2																						25.	25.	53.
10	4	1985		C3																						22.	32.	24.
10	4	1985		C4																						25.	22.	56.
10	4	1985		C5																						28.	30.	32.
10	4	1985		C6																						38.	35.	35.
10	4	1985		C7																						35.	35.	16.
10	4	1985		C8																						25.	28.	16.
10	4	1985		C9																						38.	40.	43.
10	4	1985		D5																						38.	42.	16.
10	4	1985		D6																						52.	48.	19.
10	4	1985		D7																						50.	55.	19.
15	4	1985		C2	800	5.7	4.6	4.4	27.3	27.1	27.	37.	32.	28.	27.	28.		7.4	1.44	0.21			0.07	0.67	0.38	25.	25.	0.
15	4	1985		C3	800	4.6	4.5	3.9	27.	26.9	26.8	30.	29.	29.	28.	25.		7.	0.99	0.22			0.3	0.43	0.26	30.	35.	24.
15	4	1985		C4	800	6.3	5.1	4.7	27.2	26.9	26.9	34.		28.		32.		7.6	1.15	0.24			0.12	0.46	0.25	30.	35.	27.
15	4	1985		C5	800	7.6	6.	5.4	27.4	27.2	27.1					28.		8.	0.9	0.19			0.11	0.37	0.24	40.	42.	3.
15	4	1985		C6	800	7.1	7.	6.7	27.7	27.3	27.2					23.		7.8	0.89	0.17			0.3	0.51	0.37	35.	35.	29.
15	4	1985		C7	800	6.2	5.8	5.6	26.8	27.5	27.3					12.		7.5	0.99	0.3			0.47	0.64	0.53	30.	32.	21.
15	4	1985		C8	800	6.1	6.	5.8	27.7	26.5	26.4					23.		7.5	0.62	0.22			0.33	0.2	0.12	45.	48.	3.
15	4	1985		C9	800	9.3	8.4	7.7	27.9	27.6	27.5					31.		8.6	1.11	0.16			0.09	0.95	0.81	45.	48.	59.
15	4	1985		D5	800	5.8	5.	4.6	28.1	27.9	27.9					71.		7.9	2.15	0.			0.	0.73	0.5	50.	45.	21.
15	4	1985		D6	800	6.7	6.4	6.1	28.1	28.1	27.9					59.		8.4	1.	0.04			0.01	0.51	0.37	48.	52.	8.
15	4	1985		D7	800	7.9	7.4	6.8	28.1	28.	27.9					48.		8.9	0.38	0.01			0.01	0.77	0.58	30.	28.	45.
17	4	1985		C2								37.	32.	29.	27.											32.	35.	53.
17	4	1985		C3								32.	34.	29.												32.	30.	0.
17	4	1985		C4								34.		28.												40.	42.	48.
17	4	1985		C5																						35.	40.	29.
17	4	1985		C6																						45.	35.	10.
17	4	1985		C7																						45.	50.	13.
17	4	1985		C8																						45.	50.	11.
17	4	1985		C9																						50.	60.	59.
17	4	1985		D5																								40.
17	4	1985		D6																								37.
17	4	1985		D7																								29.
22	4	1985		C2	800	6.4	5.2	4.4	28.6	28.5	28.3	37.	32.	29.	27.	44.		8.3	1.3							22.	25.	37.
22	4	1985		C3	800	6.5	5.5	5.	28.6	28.3	28.2	32.	34.	29.		19.		7.8	0.81							35.	32.	11.
22	4	1985		C4	800	6.8	4.8	3.7	29.2	28.8	28.5	34.		28.		36.		7.9	0.51							35.	42.	27.
22	4	1985		C5	800	5.4	3.8	3.1	29.5	29.2	28.9					21.		8.	1.17							28.	40.	11.
22	4	1985		C6	800	12.4	12.1	11.1	29.7	29.3	29.					13.		9.2	0.91							42.	35.	40.
22	4	1985		C7	800	8.5	8.3	7.9	29.6	29.5	29.					11.		8.5	0.57								45.	8.

Table 3. Weekly and Twice Weekly Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	SECHII CHLOROPHYLL A
22	4	1985		C8	800	5.9	5.6	5.3	29.1	28.7	28.5					28.		9.7	0.61							40.	38.	11.
22	4	1985		C9	800	11.7	10.9	10.4	29.6	29.	28.9					11.		9.3	0.81							45.	45.	37.
22	4	1985		D5	800	7.2	5.6	4.5	30.1	29.6	29.5					64.		7.3	1.2							42.	45.	32.
22	4	1985		D6	800	8.2	8.	6.8	30.3	29.8	29.5					52.		7.9	0.62							45.	48.	19.
22	4	1985		D7	800	10.	9.4	9.2	29.9	29.5	29.4					55.		8.7	1.04							40.	48.	40.
24	4	1985		C2																						28.	25.	59.
24	4	1985		C3																						32.	35.	0.
24	4	1985		C4																						38.	30.	8.
24	4	1985		C5																						32.	32.	5.
24	4	1985		C6																						40.	38.	19.
24	4	1985		C7																						48.	45.	29.
24	4	1985		C8																						45.	45.	13.
24	4	1985		C9																						40.	52.	43.
24	4	1985		D5																						45.	35.	37.
24	4	1985		D6																						45.	48.	45.
24	4	1985		D7																						45.	55.	11.
29	4	1985		C2	800	5.7	4.9	4.6	27.7	27.6	27.5							8.								28.	25.	56.
29	4	1985		C3	800	5.	4.6	4.3	27.5	27.5	27.4							7.3								30.	28.	19.
29	4	1985		C4	800	2.6	2.3	1.9	27.4	27.3	27.3	37.		28.				7.5								30.	30.	3.
29	4	1985		C5	800	5.7	5.	4.9	27.9	27.8	27.7							7.3								32.	32.	16.
29	4	1985		C6	800	6.6	6.2	6.2	27.4	27.4	27.3	30.	31.	29.	28.			7.7								25.	23.	35.
29	4	1985		C7	800	6.6	6.3	6.1	27.6	27.4	27.3	36.	30.	27.	27.			7.4								28.	28.	13.
29	4	1985		C8	800	5.6	5.5	5.4	27.5	27.2	27.1							7.4								30.	32.	0.
29	4	1985		C9	800	9.4	9.2	9.	27.8	27.7	27.6							8.6								28.	30.	48.
29	4	1985		D5	800	5.4	4.3	4.	28.8	28.8	28.8							8.1								40.	40.	43.
29	4	1985		D6	800	7.	6.4	5.9	29.	28.9	28.8							8.								42.	40.	24.
29	4	1985		D7	800	7.9	7.4	7.1	28.8	28.8	28.8							8.9								48.	50.	37.
1	5	1985		C2																						25.	25.	69.
1	5	1985		C3																						28.	25.	48.
1	5	1985		C4																						28.	28.	13.
1	5	1985		C5																						30.	32.	24.
1	5	1985		C6																						30.	28.	29.
1	5	1985		C7																						25.	35.	21.
1	5	1985		C8																						30.	30.	8.
1	5	1985		C9																						30.	38.	48.
1	5	1985		D5																						42.	38.	35.
1	5	1985		D6																						38.	45.	37.
1	5	1985		D7																						45.		24.
6	5	1985		C2															1.16									59.
6	5	1985		C3															0.8									19.
6	5	1985		C4															0.96									83.
6	5	1985		C5															1.2									29.
6	5	1985		C6															0.68									21.
6	5	1985		C7															0.74									24.
6	5	1985		C8															0.52									13.

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Table 3. Weekly and Twice Weekly Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY NO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MAX	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOROPHYLL A
6	5 1985		C9															0.93									3.
6	5 1985		D5															1.14									53.
6	5 1985		D6															1.28									19.
6	5 1985		D7															0.96									56.
8	5 1985		C2																								27.
8	5 1985		C3																								27.
8	5 1985		C4																								24.
8	5 1985		C5																								21.
8	5 1985		C6																								16.
8	5 1985		C7																								13.
8	5 1985		C8																								24.
8	5 1985		C9																								13.
8	5 1985		D5																								24.
8	5 1985		D6																								21.
8	5 1985		D7																								13.
13	5 1985		C2	800	7.5	4.5	4.6	28.4	27.8	27.6							6.9	1.34							32.	32.	80.
13	5 1985		C3	800	4.9	4.5	2.8	28.5	29.	27.4							6.5	0.92							32.	31.	45.
13	5 1985		C4	800	8.1	5.7	4.2	29.1	28.2	27.8							7.6	1.71							25.	25.	128.
13	5 1985		C5	800	9.	5.6	4.3	29.5	28.2	28.							7.7	1.66							28.	30.	5.
13	5 1985		C6	800	6.3	10.	8.6	28.9	28.8	27.8	36.		28.				8.8	0.9							30.	30.	0.
13	5 1985		C7	800	7.9	7.4	6.5	29.5	27.	28.6	32.	31.	28.	28.			8.2	0.74							42.	45.	8.
13	5 1985		C8	800	6.4	4.9	4.5	28.5	28.3	26.8	36.	29.	28.	28.			7.4	0.8							38.	40.	19.
13	5 1985		C9	800	9.8	9.	8.9	28.6	29.2	28.2							9.1	1.12							42.	42.	32.
13	5 1985		D5	800	7.8	5.8	5.4	29.7	29.5	28.9							8.1	1.47							32.	32.	32.
13	5 1985		D6	800	8.3	7.8	5.7	30.	29.4	28.8							8.5	1.1							45.	42.	40.
13	5 1985		D7	800	9.6	8.8	7.3	29.9		29.							8.9	1.39							42.	42.	56.
15	5 1985		C2																						25.	25.	
15	5 1985		C3																						25.	32.	
15	5 1985		C4																						25.	22.	
15	5 1985		C5																						40.	25.	
15	5 1985		C6																						38.	30.	
15	5 1985		C7																						38.	38.	
15	5 1985		C8																						45.	22.	
15	5 1985		D5																						42.	38.	
15	5 1985		D6																						29.	38.	
15	5 1985		D7																						28.	40.	
20	5 1985		C2	800	6.2	5.6	5.5	28.5	28.5	28.5	37.		28.	27.		24.	8.1								28.	
20	5 1985		C3	800	4.3	3.7	3.3	28.	28.5	28.4						18.	6.9								30.	
20	5 1985		C4	800	6.9	5.1	5.2	28.8	28.5	28.3	32.	32.	30.	28.		27.	8.6								28.	
20	5 1985		C5	800	7.2	5.3	4.7	28.8	28.7	28.5	34.	29.	28.			26.	8.2								28.	
20	5 1985		C6	800	12.7	11.5	11.1	28.4	28.4	28.3						21.	9.3								28.	
20	5 1985		C7	800	10.3	9.5	9.	29.2	29.1	28.9						19.	9.								35.	
20	5 1985		C8	800	8.1	7.4	7.	28.3	28.2	28.1						20.	7.8								28.	
20	5 1985		C9	800	11.3	11.2	10.9	29.3	29.2	29.1						24.	9.5								45.	

Table 3. Weekly and Twice Weekly Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MO	YEAR	PONDS	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA	HARD	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
20	5	1985	D5	800	5.7	5.5	3.4	29.6	29.6	29.5					58.		8.2								35.	38.	
20	5	1985	D6	800	7.8	7.6	6.2	30.	29.9	29.7					56.		8.9								48.	58.	
20	5	1985	D7	800	9.6	9.3	8.2	29.9	29.8	29.7					43.		9.3								45.	50.	
22	5	1985	C2															1.2					0.31	0.09	28.	28.	
22	5	1985	C3															1.11					0.25	0.08	28.	28.	
22	5	1985	C4															1.3					0.37	0.15	28.	28.	
22	5	1985	C5															1.45					0.3	0.12	30.	30.	
22	5	1985	C6															1.27					0.23	0.1	35.	32.	
22	5	1985	C7															0.98					0.38	0.28	30.	30.	
22	5	1985	C8															0.5					0.08	0.03	50.	45.	
22	5	1985	C9															1.48					0.65	0.58	50.	35.	
22	5	1985	D5															1.36					0.38	0.21	45.	45.	
22	5	1985	D6															0.79					0.3	0.22	50.	45.	
22	5	1985	D7															1.27					0.62	0.46	50.	52.	
27	5	1985	C2	800	5.4	3.8	3.2	27.5	27.3	27.1					27.		6.9	1.23							25.	23.	83.
27	5	1985	C3	800	3.6	3.3	3.3	27.6	27.3	27.1					17.		6.9	1.34							23.	22.	45.
27	5	1985	C4	800	4.3	3.	2.2	28.2	27.9	27.6	36.		28.		28.		7.3	1.4							28.	25.	21.
27	5	1985	C5	800	6.	3.8	3.1	27.7	27.5	27.3	29.	31.	28.	27.	23.		7.9	1.32							23.	22.	75.
27	5	1985	C6	800	7.	5.8	5.5	26.9	26.3	26.1	40.	28.	27.	28.	17.		7.5	0.92							25.	25.	59.
27	5	1985	C7	800	5.8	5.4	5.	26.5	25.9	25.7					17.		7.2	0.87							22.	20.	67.
27	5	1985	C8	800	5.	4.7	4.7	27.6	25.7	25.6					20.		7.1	0.77							32.	32.	16.
27	5	1985	C9	800	7.5	6.4	5.7	27.6	27.	26.8					44.		8.9	1.03							28.	30.	45.
27	5	1985	D5	800	6.8	4.7	3.9	28.9	28.1	28.					51.		8.4	1.87							32.	30.	69.
27	5	1985	D6	800	7.1	5.8	4.4	28.9	28.5	28.2					38.		8.7	1.25							38.	32.	67.
27	5	1985	D7	800	5.7	4.6	3.8	28.9	28.4	28.3							8.4	1.72							22.	40.	61.
29	5	1985	C2																						25.	23.	53.
29	5	1985	C3																						28.	22.	37.
29	5	1985	C4																						20.	25.	29.
29	5	1985	C5																						18.	20.	64.
29	5	1985	C6																						18.	15.	51.
29	5	1985	C7																						28.	18.	29.
29	5	1985	C8																						30.	28.	0.
29	5	1985	C9																						35.	32.	0.
29	5	1985	D5																						42.	35.	32.
29	5	1985	D6																						25.	45.	21.
29	5	1985	D7																						28.	28.	8.
3	6	1985	C2	800	4.6	4.2	4.	28.3	28.2	28.2					23.		6.	1.24							30.	32.	51.
3	6	1985	C3	800	4.4	3.5	3.1	28.3	28.2	28.1					18.		6.	1.35							30.	30.	51.
3	6	1985	C4	800	6.	4.5	3.9	28.3	27.9	27.8	37.	31.	26.	26.	25.		6.2	1.08							45.	42.	59.
3	6	1985	C5	800	5.5	4.6	4.3	28.6	28.6	28.5	31.	29.	24.	24.	26.		6.4	1.17							38.	40.	40.
3	6	1985	C6	800	13.2	11.8	10.9	28.6	28.3	28.2	31.		28.		20.		7.6	0.96							50.	48.	69.
3	6	1985	C7	800	6.9	6.4	6.3	28.3	28.1	28.					20.		7.2	0.43							25.	28.	21.
3	6	1985	C8	800	7.2	7.3	5.6	28.	27.7	27.5					20.		7.1	0.56									19.
3	6	1985	C9	800	9.8	9.2	8.9	28.7	28.5	28.4					25.		8.3	1.22									61.
3	6	1985	D5	800	6.4	4.4	3.3	29.2	28.9	28.8					46.		8.3	1.88									56.

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Table 3. Weekly and Twice Weekly Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
3	6	1985		D6	800	7.4	6.6	5.7	29.6	29.4	29.2					53.		8.3	1.04							42.	42.	43.
3	6	1985		D7	800	5.7	4.8	4.3	29.4	29.3	29.2					43.		7.9	1.92							48.	48.	40.
5	6	1985		C2																						25.	28.	
5	6	1985		C3																						30.	30.	
5	6	1985		C4																						30.	30.	
5	6	1985		C5																						35.	32.	
5	6	1985		C6																						35.	32.	
5	6	1985		C7																						48.	45.	
5	6	1985		C8																						45.	42.	
5	6	1985		C9																						50.	50.	
5	6	1985		D5																						25.	25.	
5	6	1985		D6																						40.	40.	
5	6	1985		D7																						48.	48.	

Table 4. Diurnal Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
4	2	1985	430	C2	6.7	6.8	6.8	28.	28.1	28.1	8.2
4	2	1985	430	C3	4.4	4.4	4.3	27.9	28.	28.	7.1
4	2	1985	430	C4	7.4	7.4	7.4	28.1	28.2	28.2	8.5
4	2	1985	430	C5	5.4		5.4	27.7		27.7	8.
4	2	1985	430	C6	5.3	5.3	5.2	27.8	27.9	27.9	7.3
4	2	1985	430	C7	5.4	5.4	5.4	27.9	27.9	27.9	7.4
4	2	1985	430	C8	6.	6.	6.	28.	28.1	28.1	7.7
4	2	1985	430	C9	10.	9.9	9.9	28.5	28.6	28.6	9.2
4	2	1985	430	D5	6.2	6.2	6.2	28.5	28.6	28.7	8.6
4	2	1985	430	D6	4.6	4.5	4.4	28.8	28.8	28.8	8.3
4	2	1985	430	D7	5.3		5.1	28.8		28.8	8.3
4	2	1985	830	C2	6.8	6.7	6.4	27.9	27.9	27.9	8.1
4	2	1985	830	C3	4.3	4.2	4.2	27.8	27.7	27.6	7.3
4	2	1985	830	C4	7.2	7.2	7.1	28.1	28.	28.	8.5
4	2	1985	830	C5	5.5	5.4	5.4	27.4	27.5	27.4	8.2
4	2	1985	830	C6	5.1	5.	4.8	27.7	27.5	27.5	7.3
4	2	1985	830	C7	5.3	5.2	5.1	27.7	27.7	27.5	7.2
4	2	1985	830	C8	6.1	5.8	5.8	27.9	27.5	27.5	7.3
4	2	1985	830	C9	10.9	9.9	9.7	28.6	28.5	28.4	9.2
4	2	1985	830	D5	6.5	6.2	6.2	28.7	28.6	28.6	8.7
4	2	1985	830	D6	4.6	4.5	4.5	28.8	28.7	28.7	8.2
4	2	1985	830	D7	5.6	5.5	5.6	28.6		28.7	8.4
4	2	1985	1230	C2	11.2	10.	8.8	30.5	29.3	28.5	8.7
4	2	1985	1230	C3	5.3	5.	5.	30.6	29.8	29.6	9.2
4	2	1985	1230	C4	8.7	9.2	8.9	31.2	30.	29.	8.9
4	2	1985	1230	C5	7.4	7.1	7.	30.8	29.6	29.4	8.4
4	2	1985	1230	C6	6.7	6.1	6.	30.5	29.6	29.	7.4
4	2	1985	1230	C7	6.5	6.3	5.6	31.	29.3	28.4	7.1
4	2	1985	1230	C8	9.3	7.7	6.2	30.6	29.3	27.8	7.5
4	2	1985	1230	C9	14.9	15.3	14.8	31.5	30.4	29.9	9.5
4	2	1985	1230	D5	9.	8.8	8.7	32.3	30.6	30.2	8.7
4	2	1985	1230	D6	6.5	6.3	6.3	31.8	31.4	31.2	8.2
4	2	1985	1230	D7	9.	9.1	9.2	31.9	31.9	31.9	8.7
4	2	1985	1630	C2	15.8	14.	11.8	33.3	30.8	29.4	9.1
4	2	1985	1630	C3	7.3	6.8	5.4	33.5	33.	31.7	7.8
4	2	1985	1630	C4	10.3	11.1	10.2	33.8	32.3	30.4	8.1
4	2	1985	1630	C5	10.1	8.9	8.2	33.3	32.6	31.2	8.9
4	2	1985	1630	C6	9.3	8.	6.2	33.3	30.7	29.7	7.6
4	2	1985	1630	C7	8.7	8.3	5.8	33.3	31.8	29.3	7.3
4	2	1985	1630	C8	14.5	10.8	7.4	33.1	30.	28.5	8.9
4	2	1985	1630	C9	17.	19.3	19.5	33.2	32.5	31.3	9.8
4	2	1985	1630	D5	11.	10.9	10.8	33.7	32.9	31.7	8.9
4	2	1985	1630	D6	7.9	7.9	7.8	33.5	33.6	33.4	8.5
4	2	1985	1630	D7	10.6	10.6	10.6	33.9	34.1	34.1	8.9

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Table 4. Diurnal Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
4	2	1985	2030	C2	9.6	9.7	9.7	30.3	30.5	30.	8.6
4	2	1985	2030	C3	5.8	5.8	5.7	31.2	31.3	31.3	7.5
4	2	1985	2030	C4	8.	8.	8.1	30.9	30.8	30.8	8.6
4	2	1985	2030	C5	6.8	6.8	6.7	30.8	30.8	30.7	8.5
4	2	1985	2030	C6	6.8	6.2	6.1	30.1	30.	29.7	7.4
4	2	1985	2030	C7	6.6	6.	5.8	30.2	30.3	29.8	6.5
4	2	1985	2030	C8	9.1	8.5	6.8	30.4	30.3	29.7	8.4
4	2	1985	2030	C9	12.3	12.3	12.3	30.8	30.9	30.9	9.4
4	2	1985	2030	D5	7.6	7.6	7.6	31.	31.1	31.1	8.8
4	2	1985	2030	D6	5.8	5.7	5.6	31.6	31.6	31.5	8.2
4	2	1985	2030	D7	6.9	6.9	6.8	31.4	31.6	31.5	8.6
4	3	1985	430	C2	6.7	6.6	5.6	26.5	26.5	26.6	7.
4	3	1985	430	C3	5.9	5.9	5.9	26.5	26.5	26.6	6.4
4	3	1985	430	C4	6.9	6.7	6.5	26.5	26.6	26.6	7.
4	3	1985	430	C5	7.9		7.9	26.		26.	7.8
4	3	1985	430	C6	7.6	7.5	7.4	26.5	26.6	26.6	7.7
4	3	1985	430	C7	6.9	6.9	6.8	26.2	26.3	26.3	7.4
4	3	1985	430	C8	6.8	6.7	6.6	26.1	26.2	26.2	7.3
4	3	1985	430	C9	10.1	10.	10.	27.4	27.5	27.5	8.7
4	3	1985	430	D5	7.3	7.3	7.5	27.1	27.2	27.2	8.2
4	3	1985	430	D6	7.5	7.5	7.4	27.6	27.7	27.7	8.
4	3	1985	430	D7	6.7	6.6	6.6	27.6	27.6	27.6	8.6
4	3	1985	830	C2	5.5	5.1	5.	26.4	26.4	26.	7.3
4	3	1985	830	C3	4.6	4.4	4.5	26.4	26.4	26.3	7.
4	3	1985	830	C4	5.9	5.4	5.2	26.5	26.5	26.5	7.5
4	3	1985	830	C5	6.5	6.	6.	25.7	25.5	25.4	8.
4	3	1985	830	C6	6.1	5.9	5.9	26.6	26.6	26.5	6.6
4	3	1985	830	C7	5.5	5.3	5.3	26.2	26.1	26.	6.5
4	3	1985	830	C8	5.3	5.2	5.	26.2	26.2	26.1	6.5
4	3	1985	830	C9	9.5	9.1	8.9	27.4	27.4	27.4	8.6
4	3	1985	830	D5	7.	6.3	5.4	27.2	27.2	27.1	8.7
4	3	1985	830	D6	6.2	6.1	6.	27.6	27.6	27.6	8.2
4	3	1985	830	D7	5.2	5.1	5.	27.5	27.6	27.5	8.6
4	3	1985	1230	C2	7.9	5.5	5.	27.3	26.6	26.6	8.
4	3	1985	1230	C3	6.6	4.8	5.	27.5	26.7	26.6	7.5
4	3	1985	1230	C4	10.	6.4	6.1	28.1	27.4	26.8	8.2
4	3	1985	1230	C5	7.5	6.7	5.3	28.1	27.2	26.4	8.
4	3	1985	1230	C6	7.2	6.6	5.5	29.1	28.1	27.3	8.
4	3	1985	1230	C7	7.4	6.2	5.2	28.9	28.2	26.8	7.2
4	3	1985	1230	C8	7.2	5.4	4.5	29.2	27.6	26.8	7.4
4	3	1985	1230	C9	11.6	11.3	11.2	30.	28.9	28.4	9.3
4	3	1985	1230	D5	10.5	7.9	6.4	30.3	28.6	28.3	8.6
4	3	1985	1230	D6	8.	8.3	8.3	29.9	29.6	29.1	8.4
4	3	1985	1230	D7	6.3	6.6	6.4	29.7	29.3	29.1	8.6
4	3	1985	1630	C2	10.	7.1	4.2	29.5	27.8	26.6	8.6

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Table 4. Diurnal Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
4	3	1985	1630	C3	8.5	5.7	4.8	29.4	27.8	27.	8.3
4	3	1985	1630	C4	7.5	6.9	5.2	28.9	28.6	27.7	8.4
4	3	1985	1630	C5	8.8	6.7	4.7	28.9	27.5	26.4	8.6
4	3	1985	1630	C6	7.3	7.3	5.6	29.7	28.6	27.6	8.5
4	3	1985	1630	C7	8.7	6.8	4.6	29.5	28.9	27.2	8.3
4	3	1985	1630	C8	6.6	5.4	4.6	29.	28.1	27.3	8.2
4	3	1985	1630	C9	12.1	11.1	10.6	30.	29.5	28.5	9.6
4	3	1985	1630	D5	11.	9.5	7.4	29.9	29.	28.7	9.6
4	3	1985	1630	D6	8.8	8.3	7.2	30.	29.9	29.6	9.
4	3	1985	1630	D7	7.8	6.6	6.4	29.8	29.6	29.5	9.2
4	3	1985	2030	C2	7.8	5.5	2.9	28.2	27.2	26.6	8.
4	3	1985	2030	C3	7.4	3.7	2.5	28.2	28.2	27.1	8.
4	3	1985	2030	C4	6.5	6.4	4.4	27.9	28.	27.7	8.4
4	3	1985	2030	C5	6.5	6.4	3.6	27.8	27.9	27.	8.8
4	3	1985	2030	C6	6.	6.2	4.4	28.3	28.4	27.7	8.7
4	3	1985	2030	C7	5.4	4.8	4.7	28.3	28.3	28.	8.5
4	3	1985	2030	C8	5.	4.7	4.	28.1	28.1	27.9	8.3
4	3	1985	2030	C9	8.	8.2	7.1	28.7	28.8	28.7	9.9
4	3	1985	2030	D5	7.8	6.7	4.6	28.6	28.8	28.7	9.8
4	3	1985	2030	D6	5.2	5.9	6.2	29.1	29.1	29.1	9.2
4	3	1985	2030	D7	5.2	4.7	4.7	28.9	29.	29.1	9.4
2	4	1985	430	C2	4.3	4.3	4.2	27.8	27.9	27.9	6.7
2	4	1985	430	C3	3.7	3.7	3.7	28.2	28.2	28.2	6.6
2	4	1985	430	C4	5.2	5.3	5.3	27.7	27.7	27.7	7.8
2	4	1985	430	C5	3.5	3.6	3.5	28.4	28.5	28.5	7.5
2	4	1985	430	C6	5.4	5.4	5.4	28.1	28.2	28.2	7.5
2	4	1985	430	C7	4.1	4.1	4.1	28.2	28.3	28.3	7.1
2	4	1985	430	C8	4.3	4.3	4.3	27.6	27.6	27.6	7.
2	4	1985	430	C9	7.2	7.2	7.2	28.	28.1	28.1	8.4
2	4	1985	430	D5	1.9	1.8	1.8	28.4	28.7	28.7	8.6
2	4	1985	430	D6	5.7	5.7	5.3	28.7	28.8	28.8	8.5
2	4	1985	430	D7	6.5	6.5	6.5	29.	29.	29.	8.9
2	4	1985	830	C2	4.7	4.2	3.7	27.7	27.7	27.8	7.
2	4	1985	830	C3	3.7	3.5	3.3	27.8	27.9	27.8	7.
2	4	1985	830	C4	5.8	5.	4.3	27.6	27.5	27.5	8.4
2	4	1985	830	C5	3.7	3.2	2.8	28.3	28.3	28.2	7.9
2	4	1985	830	C6	5.6	5.3	5.1	28.	28.	27.9	7.9
2	4	1985	830	C7	4.	3.9	3.8	28.1	28.1	28.	7.6
2	4	1985	830	C8	4.6	4.3	4.2	27.3	27.3	27.2	7.5
2	4	1985	830	C9	8.3	7.4	6.9	27.9	27.9	27.8	9.3
2	4	1985	830	D5	3.2	2.3	2.1	28.6	28.6	28.5	8.6
2	4	1985	830	D6	6.1	5.9	5.3	28.6	28.6	28.5	9.
2	4	1985	830	D7	6.8	6.4	6.	28.8	28.8	28.7	9.3
2	4	1985	1230	C2	9.5	6.4	4.1	31.1	29.2	28.2	7.8
2	4	1985	1230	C3	5.5	3.7	3.2	30.2	29.1	28.4	7.5

Table 4. Diurnal Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
2	4	1985	1230	C4	10.3	5.8	4.	30.4	28.2	27.7	9.
2	4	1985	1230	C5	7.1	5.	3.6	31.3	29.6	28.9	8.4
2	4	1985	1230	C6	8.	6.9	6.	30.8	29.2	28.6	8.5
2	4	1985	1230	C7	6.1	5.1	4.	31.2	29.5	28.7	8.
2	4	1985	1230	C8	5.4	5.2	4.9	30.5	29.4	28.3	7.6
2	4	1985	1230	C9	14.9	13.7	9.1	30.6	29.4	28.4	9.8
2	4	1985	1230	D5	8.6	6.3	6.2	31.2	30.5	30.	9.1
2	4	1985	1230	D6	8.7	9.	8.6	31.3	30.6	30.	9.3
2	4	1985	1230	D7	10.7	10.9	11.1	31.4	30.6	30.1	9.7
2	4	1985	1630	C2	13.4	9.9	5.	32.9	30.2	28.8	8.5
2	4	1985	1630	C3	9.1	5.2	3.	32.6	30.1	28.6	8.
2	4	1985	1630	C4	14.4	7.2	4.	31.5	29.4	28.	9.1
2	4	1985	1630	C5	10.5	7.7	4.2	32.4	30.8	29.6	8.5
2	4	1985	1630	C6	11.1	9.2	7.4	32.3	30.3	28.9	8.7
2	4	1985	1630	C7	9.2	7.	4.1	32.6	30.5	29.	8.2
2	4	1985	1630	C8	7.4	5.7	4.9	32.1	30.4	28.9	7.7
2	4	1985	1630	C9	14.9	14.4	10.4	32.6	30.	28.8	9.6
2	4	1985	1630	D5	11.3	9.	7.8	32.4	31.8	31.2	8.8
2	4	1985	1630	D6	10.1	11.1	10.9	32.	31.6	30.9	8.4
2	4	1985	1630	D7	11.8	13.6	13.4	32.4	31.6	31.1	9.4
2	4	1985	2030	C2	12.3	10.1	4.4	30.8	30.6	28.9	8.2
2	4	1985	2030	C3	8.	6.5	2.9	30.4	30.5	29.4	9.
2	4	1985	2030	C4	11.7	7.	2.9	30.4	29.8	28.3	8.7
2	4	1985	2030	C5	8.8	8.4	3.4	30.6	30.7	30.	8.9
2	4	1985	2030	C6	10.1	8.6	6.	30.5	30.4	29.6	8.5
2	4	1985	2030	C7	8.	6.8	3.4	30.6	30.5	29.4	8.1
2	4	1985	2030	C8	6.8	6.1	4.2	30.2	30.2	29.1	8.3
2	4	1985	2030	C9	13.7	13.4	9.4	30.6	30.2	29.1	9.5
2	4	1985	2030	D5	7.5	7.4	7.4	30.9	31.	31.	9.
2	4	1985	2030	D6	9.5	9.6	9.6	30.8	30.8	30.8	9.1
2	4	1985	2030	D7	11.7	11.6	11.5	31.1	31.1	31.1	9.4
30	4	1985	430	C2	6.2	6.2	6.2	28.3	28.3	28.3	7.4
30	4	1985	430	C3	5.7	5.7	5.7	28.2	28.2	28.3	6.9
30	4	1985	430	C4	3.4	3.3	3.3	28.3	28.4	28.5	6.9
30	4	1985	430	C5	5.9	5.9	5.9	28.3	28.4	28.5	7.8
30	4	1985	430	C6	6.9	6.9	6.8	28.	28.	28.	8.
30	4	1985	430	C7	8.2	8.1	8.1	27.8	27.8	27.9	8.7
30	4	1985	430	C8	6.5	6.4	6.4	27.9	28.	28.	7.6
30	4	1985	430	C9	10.5	10.5	10.5	28.2	28.2	28.3	9.1
30	4	1985	430	D5	4.2	4.1	4.1	28.7	29.	29.1	8.3
30	4	1985	430	D6	7.1	7.1	7.	29.2	29.3	29.3	8.9
30	4	1985	430	D7	8.3	8.1	8.	29.1	29.3	29.3	9.2
30	4	1985	830	C2	5.7	4.9	4.6	27.7	27.6	27.5	8.
30	4	1985	830	C3	5.	4.6	4.3	27.5	27.5	27.4	7.3
30	4	1985	830	C4	2.6	2.3	1.9	27.4	27.3	27.3	7.5

Table 4. Diurnal Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
30	4	1985	830	C5	5.7	5.	4.9	27.9	27.8	27.7	7.3
30	4	1985	830	C6	6.6	6.2	6.2	27.4	27.4	27.3	7.7
30	4	1985	830	C7	6.6	6.3	6.1	27.6	27.4	27.3	7.4
30	4	1985	830	C8	5.6	5.5	5.4	27.5	27.2	27.1	7.4
30	4	1985	830	C9	9.4	9.2	9.	27.8	27.7	27.6	8.6
30	4	1985	830	D5	5.4	4.3	4.	28.8	28.8	28.8	8.1
30	4	1985	830	D6	7.	6.4	5.9	29.	28.9	28.8	8.
30	4	1985	830	D7	7.9	7.4	7.1	28.8	28.8	28.8	8.9
30	4	1985	1230	C2	12.	8.1	4.7	29.8	28.5	27.9	9.2
30	4	1985	1230	C3	8.9	7.3	4.4	30.2	29.1	28.2	8.3
30	4	1985	1230	C4	5.7	3.	2.2	30.5	29.	27.9	7.8
30	4	1985	1230	C5	9.2	8.2	6.1	31.3	29.6	28.6	8.7
30	4	1985	1230	C6	9.5	8.3	7.3	29.9	28.8	28.	9.3
30	4	1985	1230	C7	9.6	8.3	7.2	29.9	28.3	27.6	8.6
30	4	1985	1230	C8	8.1	7.	5.7	30.5	28.8	27.9	8.6
30	4	1985	1230	C9	15.6	14.6	11.4	30.4	28.9	28.3	8.6
30	4	1985	1230	D5	11.	9.5	8.2	32.	30.9	30.3	9.
30	4	1985	1230	D6	11.5	12.4	11.1	32.2	31.	30.	9.2
30	4	1985	1230	D7	12.7	13.	12.8	32.	31.1	30.4	9.
30	4	1985	1630	C2	15.	11.3	4.6	31.9	30.	28.5	8.3
30	4	1985	1630	C3	12.6	9.4	4.6	31.5	30.1	28.9	7.9
30	4	1985	1630	C4	5.2	5.1	3.5	31.6	30.8	29.	8.1
30	4	1985	1630	C5	12.9	10.	7.1	32.	30.9	29.3	8.8
30	4	1985	1630	C6	13.7	9.9	8.	31.6	29.3	28.3	9.2
30	4	1985	1630	C7	16.2	11.	8.7	31.5	29.	28.1	9.6
30	4	1985	1630	C8	11.8	8.8	5.9	31.3	30.	28.3	9.1
30	4	1985	1630	C9	15.4	17.6	14.	31.7	30.	28.7	9.8
30	4	1985	1630	D5	12.9	10.2	9.6	31.9	31.8	31.5	9.5
30	4	1985	1630	D6	13.4	13.5	12.5	32.	32.1	31.1	9.5
30	4	1985	1630	D7	13.5	14.9	14.9	32.	31.8	31.2	9.8
30	4	1985	2030	C2	12.6	12.4	4.8	29.9	30.	28.7	8.
30	4	1985	2030	C3	9.8	9.7	4.3	29.7	29.9	29.5	7.8
30	4	1985	2030	C4	7.	6.6	2.6	29.9	30.1	29.4	8.3
30	4	1985	2030	C5	10.2	10.2	5.5	29.8	29.9	29.5	7.8
30	4	1985	2030	C6	11.5	10.3	7.5	29.7	29.7	28.8	8.5
30	4	1985	2030	C7	13.7	13.1	5.6	29.6	29.6	28.5	8.6
30	4	1985	2030	C8	9.7	9.5	5.2	29.4	29.5	29.	8.3
30	4	1985	2030	C9	14.7	15.	12.3	29.8	29.9	28.9	9.4
30	4	1985	2030	D5	8.8	8.7	8.6	30.5	30.8	30.9	8.4
30	4	1985	2030	D6	11.3	11.2	11.2	30.8	30.9	30.9	8.2
30	4	1985	2030	D7	12.2	12.1	12.1	30.7	30.8	30.8	9.6
8	6	1985	430	C2	3.	3.	3.	27.3	27.4	27.4	6.
8	6	1985	430	C3	2.3	2.4	2.3	27.3	27.3	27.3	6.
8	6	1985	430	C4	3.2	3.2	3.3	27.2	27.3	27.3	6.
8	6	1985	430	C5	3.3	3.2	3.3	27.5	27.5	27.5	6.5

Table 4. Diurnal Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
8	6	1985	430	C6	6.4	6.4	6.3	27.5	27.	27.	7.3
8	6	1985	430	C7	5.3	5.3	5.2	27.2	27.3	27.3	6.8
8	6	1985	430	C8	5.1	5.	5.	26.4	26.4	26.4	6.5
8	6	1985	430	C9	6.2	6.1	6.1	27.4	27.5	27.5	8.2
8	6	1985	430	D5	3.1	3.1	3.1	27.5	27.6	27.6	7.7
8	6	1985	430	D6	3.1	3.1	3.1	28.1	28.14	28.2	7.
8	6	1985	430	D7	3.1	3.	2.9	28.	28.	28.1	6.8
8	6	1985	830	C2	3.2	2.7	2.4	27.3	27.3	27.2	6.
8	6	1985	830	C3	2.4	2.1	1.8	27.3	27.2	27.2	6.9
8	6	1985	830	C4	4.2	3.2	3.2	27.1	26.8	26.6	7.1
8	6	1985	830	C5	4.2	3.3	3.	27.6	27.4	27.4	7.4
8	6	1985	830	C6	6.6	6.3	6.	27.1	27.	26.9	8.2
8	6	1985	830	C7	5.4	5.3	5.1	27.5	27.4	27.2	7.4
8	6	1985	830	C8	4.7	4.8	4.6	26.6	26.4	26.3	7.2
8	6	1985	830	C9	7.5	6.3	6.1	27.7	27.6	27.5	8.6
8	6	1985	830	D5	5.8	3.9	3.3	28.2	27.8	27.7	7.7
8	6	1985	830	D6	4.1	3.7	3.5	28.3	28.2	28.1	8.6
8	6	1985	830	D7	4.9	3.9	3.1	28.5	28.2	28.1	8.4
8	6	1985	1230	C2	7.1	4.2	2.6	28.9	28.	27.6	8.5
8	6	1985	1230	C3	6.7	2.8	1.9	28.9	28.2	27.5	8.2
8	6	1985	1230	C4	8.4	4.6	3.	28.7	27.9	27.1	8.7
8	6	1985	1230	C5	7.9	4.7	3.1	28.9	28.3	27.8	8.9
8	6	1985	1230	C6	9.1	8.1	6.7	28.9	28.	27.3	9.1
8	6	1985	1230	C7	9.	5.6	4.8	29.2	28.1	27.7	7.7
8	6	1985	1230	C8	9.5	5.	4.5	28.8	27.3	26.7	8.1
8	6	1985	1230	C9	15.4	9.4	7.2	29.3	28.5	28.	9.7
8	6	1985	1230	D5	12.7	5.1	4.	29.8	28.7	28.3	9.8
8	6	1985	1230	D6	10.3	7.8	5.3	30.1	29.5	28.8	9.4
8	6	1985	1230	D7	13.	7.5	3.9	30.1	29.3	28.8	9.5
8	6	1985	1630	C2	10.4	7.4	4.3	30.1	29.	29.	8.6
8	6	1985	1630	C3	9.2	4.3	2.1	29.9	28.8	27.9	8.5
8	6	1985	1630	C4	12.8	6.4	3.2	29.7	28.6	27.5	9.2
8	6	1985	1630	C5	13.	7.1	4.1	30.1	28.9	28.3	9.1
8	6	1985	1630	C6	9.	6.1	4.9	30.	28.5	27.7	8.9
8	6	1985	1630	C7	8.2	6.1	4.7	29.9	29.4	28.3	8.6
8	6	1985	1630	C8	14.	6.2	3.6	29.7	28.1	27.2	9.1
8	6	1985	1630	C9	15.3	13.2	8.5	29.9	29.2	28.5	9.9
8	6	1985	1630	D5	14.5	7.1	5.3	30.2	29.5	28.9	9.9
8	6	1985	1630	D6	11.3	10.5	6.2	30.3	30.3	29.5	9.5
8	6	1985	1630	D7	14.	8.1	6.5	30.4	29.8	29.5	9.5
8	6	1985	2030	C2	7.8	7.6	4.5	28.6	28.6	28.5	7.2
8	6	1985	2030	C3	5.9	5.6	2.6	28.4	28.5	28.4	6.8
8	6	1985	2030	C4	8.4	8.4	3.5	28.2	28.3	28.3	7.4
8	6	1985	2030	C5	8.1	7.7	5.2	28.6	28.6	28.7	7.7
8	6	1985	2030	C6	9.	8.9	7.	28.5	28.5	28.1	8.3

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Table 4. Diurnal Measurements. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
8	6	1985	2030	C7	8.8	8.9	4.6	28.5	28.6	28.5	8.3
8	6	1985	2030	C8	9.3	8.5	4.1	28.1	28.2	27.6	8.3
8	6	1985	2030	C9	12.3	12.2	7.8	28.5	28.7	28.7	9.
8	6	1985	2030	D5	8.1	8.1	8.1	28.8	28.9	29.	9.
8	6	1985	2030	D6	8.3	8.1	8.1	29.3	29.3	29.4	8.7
8	6	1985	2030	D7	8.5	8.5	8.5	29.1	29.3	29.3	7.4

Table 5. Fish/Shrimp Stocking, Sampling, and Harvesting. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND	ACTIVITY	SPECIES	POP. WEIGHT	POP. NUMBER	SAMPLE WEIGHT	SAMPLE WT.-#	SAMPLE WT.-SD	SAMPLE LENGTH	SAMPLE LT.-#	SAMPLE LT.-SD
10	1	1985	C2	STK	nil			47.	20	8.75	14.39	20	1.
10	1	1985	C3	STK	nil			54.	20	10.83	15.4	20	1.1
10	1	1985	C4	STK	nil			36.25	20	10.24	13.3	20	1.36
10	1	1985	C5	STK	nil			33.25	20	7.66	13.4	20	0.95
10	1	1985	C6	STK	nil			40.	20	12.56	14.	20	1.25
10	1	1985	C7	STK	nil			35.	20	10.	13.8	20	1.53
10	1	1985	C8	STK	nil			44.	20	8.9736	14.1	20	1.04
10	1	1985	C9	STK	nil			37.	20	9.63	13.7	20	1.02
10	1	1985	D5	STK	nil			35.	20	9.597	13.8	20	1.18
10	1	1985	D6	STK	nil			35.	20	11.8627	13.7	20	1.39
10	1	1985	D7	STK	nil			34.	20	13.529	13.7	20	1.49
5	2	1985	C2	SAM	nil			50.	20				
5	2	1985	C3	SAM	nil			60.	20				
5	2	1985	C4	SAM	nil			50.	20				
5	2	1985	C5	SAM	nil			55.	20				
5	2	1985	C6	SAM	nil			55.	20				
5	2	1985	C7	SAM	nil			60.	20				
5	2	1985	C8	SAM	nil			60.	20				
5	2	1985	C9	SAM	nil			65.	20				
5	2	1985	D5	SAM	nil			95.	20				
5	2	1985	D6	SAM	nil			65.	20				
5	2	1985	D7	SAM	nil			65.	20				
5	3	1985	C2	SAM	nil			50.	20				
5	3	1985	C3	SAM	nil			50.	20				
5	3	1985	C4	SAM	nil			50.	20				
5	3	1985	C5	SAM	nil			55.	20				
5	3	1985	C6	SAM	nil			50.	20				
5	3	1985	C7	SAM	nil			50.	20				
5	3	1985	C8	SAM	nil			50.	20				
5	3	1985	C9	SAM	nil			55.	20				
5	3	1985	D5	SAM	nil			55.	20				
5	3	1985	D6	SAM	nil			50.	20				
5	3	1985	D7	SAM	nil			50.	20				
3	4	1985	C2	SAM	nil			55.	20				
3	4	1985	C3	SAM	nil			60.	20				
3	4	1985	C4	SAM	nil			60.	20				
3	4	1985	C5	SAM	nil			60.	20				
3	4	1985	C6	SAM	nil			50.	20				
3	4	1985	C7	SAM	nil			55.	20				
3	4	1985	C8	SAM	nil			55.	20				
3	4	1985	C9	SAM	nil			80.	20				
3	4	1985	D5	SAM	nil			70.	20				
3	4	1985	D6	SAM	nil			65.	20				
3	4	1985	D7	SAM	nil			65.	20				
1	5	1985	C2	SAM	nil			75.	20				

Table 5. Fish/Shrimp Stocking, Sampling, and Harvesting. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND	ACTIVITY	SPECIES	POP. WEIGHT	POP. NUMBER	SAMPLE WEIGHT	SAMPLE WT.-#	SAMPLE WT.-SD	SAMPLE LENGTH	SAMPLE LT.-#	SAMPLE LT.-SD	REPROD. WEIGHT
1	5	1985	C3	SAM	nil			75.	20					
1	5	1985	C4	SAM	nil			80.	20					
1	5	1985	C5	SAM	nil			85.	20					
1	5	1985	C6	SAM	nil			70.	20					
1	5	1985	C7	SAM	nil			80.	20					
1	5	1985	C8	SAM	nil			80.	20					
1	5	1985	C9	SAM	nil			80.	20					
1	5	1985	D5	SAM	nil			80.	20					
1	5	1985	D6	SAM	nil			75.	20					
1	5	1985	D7	SAM	nil			75.	20					
10	6	1985	C2	HAR	nil	14.8	180	77.	20		16.9	20		7.7
10	6	1985	C3	HAR	nil	14.6	180	83.	20		17.3	20		3.8
10	6	1985	C4	HAR	nil	14.3	161	90.	20		17.8	20		7.7
10	6	1985	C5	HAR	nil	15.3	162	84.	20		17.4	20		5.
10	6	1985	C6	HAR	nil	13.5	189	65.	20		16.	20		3.5
10	6	1985	C7	HAR	nil	14.9	176	82.	20		17.1	20		2.8
10	6	1985	C8	HAR	nil	13.5	160	85.	20		16.7	20		5.4
10	6	1985	C9	HAR	nil	16.3	196	82.	20		16.9	20		6.9
10	6	1985	D5	HAR	nil	19.7	190	88.	20		17.6	20		16.1
10	6	1985	D6	HAR	nil	14.5	200	70.	20		16.5	20		11.2
10	6	1985	D7	HAR	nil	14.3	177	73.	20		16.8	20		12.6

Table 6. Water Quality Characteristics. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	ALKALIN	HARDNESS	PH	NH3-N	NO2-N	NO3-N	NO2&3-N	TOTAL-P	ORTHO-P	CL-	SALT	SO4	BORON	CALCIUM	COPPER	IRON	MAGNESIU	POTASSIU	SODIUM	ZINC
27	1	1985	C2											2.	7.2	0.67	1.1	0.	0.7	1	2	5.	0.
27	1	1985	C3											2.	8.5	0.58	2.1	0.	1.9	2	3	4.	0.
27	1	1985	C4											2.	6.9	0.54	2.6	0.	0.6	2	2	4.	0.02
27	1	1985	C5											2.	6.9	0.52	3.5	0.	1.2	1	2	5.	0.05
27	1	1985	C6											2.	7.2	0.76	2.6	0.	2.4	1	1	6.	0.
27	1	1985	C7											2.	6.9	0.63	2.8	0.	1.5	1	2	5.	0.
27	1	1985	C8											2.	8.5	0.65	1.6	0.	2.3	1	2	4.	0.
27	1	1985	C9											2.	8.	0.89	3.1	0.	2.2	1	2	5.	0.02
27	1	1985	D5											2.	6.9	0.65	16.6	0.	0.3	2	7	5.	0.
27	1	1985	D6											2.	8.5	0.76	12.2	0.	0.5	1	6	5.	0.02
27	1	1985	D7											2.	9.	0.54	8.8	0.	1.	1	7	5.	0.
28	1	1985	C2	26.	23.4	8.14	0.35			0.	1.58	0.14											
28	1	1985	C3	24.	24.4	7.25	0.6			0.31	0.22	0.19											
28	1	1985	C4	28.	24.8	8.48	0.34			0.	0.23	0.16											
28	1	1985	C5	26.	27.	8.21	0.44			0.13	1.23	0.18											
28	1	1985	C6	23.	23.6	7.26	0.66			0.34	0.2	0.15											
28	1	1985	C7	23.	36.4	7.23	0.55			0.03	0.86	0.46											
28	1	1985	C8	22.	23.	7.27	0.64			0.25	0.12	0.09											
28	1	1985	C9	28.	29.	9.15	0.34			0.	0.88	0.23											
28	1	1985	D5	51.	54.2	8.66	0.24			0.	0.34	0.27											
28	1	1985	D6	62.	60.8	8.24	0.17			0.	0.29	0.23											
28	1	1985	D7	57.	57.6	8.4	0.21			0.03	0.77	0.3											
9	6	1985	C2																				
9	6	1985	C3													0.03	3.4	0.	0.173	1.65	2.4	5.	0.007
9	6	1985	C4													0.03	7.3	0.	0.217	1.85	2.4	5.	0.008
9	6	1985	C5													0.04	6.9	0.	0.094	1.77	2.4	5.	0.007
9	6	1985	C6																				
9	6	1985	C7													0.04	4.4	0.	0.17	1.52	1.3	5.	0.007
9	6	1985	C8																				
9	6	1985	C9																				
9	6	1985	D5																				
9	6	1985	D6													0.03	13.7	0.	3.	2.08	5.1	4.	0.009
9	6	1985	D7																				

Table 7. Pond Soil Characteristics. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	CLAY	SILT	SAND	ORGAN. MATTER	WET-PH	SOIL-P	SOIL CA	SOIL MG	SOIL K	SOIL N	SOIL NA	SOIL NH4	SOIL NO3	SOIL CEC	SOIL SALT	SOIL AL	SOIL FE	SOIL MN	SOIL ZN	SOIL CU	SOIL SO4	LIME REQ	SOIL CACO3	EXCH H	EXCH NA
26	12	1984	POOLE	66.1	24.	9.9	1.5	6.9	18.	12.4	2.1	250.	0.29	0.09	79.	4.2	18.	0.5	74.	2.8	120.	3.3	29.7	7.1	0.26	9.2	0.28	
26	12	1984	POOLE	64.7	24.6	10.7	1.4	7.2	19.	13.7	2.1	273.	0.28	0.09	82.	4.9	20.4	0.7	66.	2.6	104.	2.4	29.1	7.	0.43	9.5	0.3	

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Table 7. Analysis of Nutrients and Lime. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	NUTRIENT TYPE	DRY MATER %	NUTRIENT N	NUTRIENT P	NUTRIENT K	NUTRIENT ORG-C
24	12	1984	TSP			20.00		
24	12	1984	UREA		46.70			
24	12	1984	CHICK		1.67	2.33	1.48	49.03
24	12	1984	CHICK		1.56	2.16	1.48	45.14
24	12	1984	CHICK		1.71	2.57	1.67	61.60
24	12	1984	CHICK		2.02	2.90	1.87	68.11
24	12	1984	CHICK		1.30	2.23	1.48	48.16

Table 8. Nutrient and Lime Inputs. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY	LIME TYPE	LIME QUANTITY
31	12	1984	C2							CaO	816
31	12	1984	C4							CaO	816
31	12	1984	C5							CaO	2396
9	1	1985	C2			CHICK	500				
9	1	1985	C3			CHICK	500				
9	1	1985	C4			CHICK	500				
9	1	1985	C5			CHICK	500				
9	1	1985	C6					TSP	60.78		
9	1	1985	C6					UREA	17.65		
9	1	1985	C7					TSP	60.78		
9	1	1985	C7					UREA	17.65		
9	1	1985	C8					TSP	60.78		
9	1	1985	C8					UREA	17.65		
9	1	1985	C9					TSP	60.78		
9	1	1985	C9					UREA	17.65		
9	1	1985	D5			CHICK	500				
9	1	1985	D6			CHICK	500				
9	1	1985	D7			CHICK	500				
16	1	1985	C2			CHICK	500				
16	1	1985	C3			CHICK	500				
16	1	1985	C4			CHICK	500				
16	1	1985	C5			CHICK	500				
16	1	1985	C6					TSP	60.78		
16	1	1985	C6					UREA	17.65		
16	1	1985	C7					TSP	60.78		
16	1	1985	C7					UREA	17.65		
16	1	1985	C8					TSP	60.78		
16	1	1985	C8					UREA	17.65		
16	1	1985	C9					TSP	60.78		
16	1	1985	C9					UREA	17.65		
16	1	1985	D5			CHICK	500				
16	1	1985	D6			CHICK	500				
16	1	1985	D7			CHICK	500				
23	1	1985	C2			CHICK	500				
23	1	1985	C3			CHICK	500				
23	1	1985	C4			CHICK	500				
23	1	1985	C5			CHICK	500				
23	1	1985	C6					TSP	60.78		
23	1	1985	C6					UREA	17.65		
23	1	1985	C7					TSP	60.78		
23	1	1985	C7					UREA	17.65		
23	1	1985	C8					TSP	60.78		
23	1	1985	C8					UREA	17.65		
23	1	1985	C9					TSP	60.78		
23	1	1985	C9					UREA	17.65		

Table 8. Nutrient and Lime Inputs. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY
23	1	1985	D5			CHICK	500		
23	1	1985	D6			CHICK	500		
23	1	1985	D7			CHICK	500		
30	1	1985	C2			CHICK	500		
30	1	1985	C3			CHICK	500		
30	1	1985	C4			CHICK	500		
30	1	1985	C5			CHICK	500		
30	1	1985	C6					TSP	60.78
30	1	1985	C6					UREA	17.65
30	1	1985	C7					TSP	60.78
30	1	1985	C7					UREA	17.65
30	1	1985	C8					TSP	60.78
30	1	1985	C8					UREA	17.65
30	1	1985	C9					TSP	60.78
30	1	1985	C9					UREA	17.65
30	1	1985	D5			CHICK	500		
30	1	1985	D6			CHICK	500		
30	1	1985	D7			CHICK	500		
6	2	1985	C2			CHICK	500		
6	2	1985	C3			CHICK	500		
6	2	1985	C4			CHICK	500		
6	2	1985	C5			CHICK	500		
6	2	1985	C6					TSP	60.78
6	2	1985	C6					UREA	17.65
6	2	1985	C7					TSP	60.78
6	2	1985	C7					UREA	17.65
6	2	1985	C8					TSP	60.78
6	2	1985	C8					UREA	17.65
6	2	1985	C9					TSP	60.78
6	2	1985	C9					UREA	17.65
6	2	1985	D5			CHICK	500		
6	2	1985	D6			CHICK	500		
6	2	1985	D7			CHICK	500		
13	2	1985	C2			CHICK	500		
13	2	1985	C3			CHICK	500		
13	2	1985	C4			CHICK	500		
13	2	1985	C5			CHICK	500		
13	2	1985	C6					TSP	60.78
13	2	1985	C6					UREA	17.65
13	2	1985	C7					TSP	60.78
13	2	1985	C7					UREA	17.65
13	2	1985	C8					TSP	60.78
13	2	1985	C8					UREA	17.65
13	2	1985	C9					TSP	60.78
13	2	1985	C9					UREA	17.65
13	2	1985	D5			CHICK	500		

Table 8. Nutrient and Lime Inputs. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY
13	2	1985	D6			CHICK	500		
13	2	1985	D7			CHICK	500		
20	2	1985	C2			CHICK	500		
20	2	1985	C3			CHICK	500		
20	2	1985	C4			CHICK	500		
20	2	1985	C5			CHICK	500		
20	2	1985	C6					TSP	60.78
20	2	1985	C6					UREA	17.65
20	2	1985	C7					TSP	60.78
20	2	1985	C7					UREA	17.65
20	2	1985	C8					TSP	60.78
20	2	1985	C8					UREA	17.65
20	2	1985	C9					TSP	60.78
20	2	1985	C9					UREA	17.65
20	2	1985	D5			CHICK	500		
20	2	1985	D6			CHICK	500		
20	2	1985	D7			CHICK	500		
27	2	1985	C2			CHICK	500		
27	2	1985	C3			CHICK	500		
27	2	1985	C4			CHICK	500		
27	2	1985	C5			CHICK	500		
27	2	1985	C6					TSP	60.78
27	2	1985	C6					UREA	17.65
27	2	1985	C7					TSP	60.78
27	2	1985	C7					UREA	17.65
27	2	1985	C8					TSP	60.78
27	2	1985	C8					UREA	17.65
27	2	1985	C9					TSP	60.78
27	2	1985	C9					UREA	17.65
27	2	1985	D5			CHICK	500		
27	2	1985	D6			CHICK	500		
27	2	1985	D7			CHICK	500		
6	3	1985	C2			CHICK	500		
6	3	1985	C3			CHICK	500		
6	3	1985	C4			CHICK	500		
6	3	1985	C5			CHICK	500		
6	3	1985	C6					TSP	60.78
6	3	1985	C6					UREA	17.65
6	3	1985	C7					TSP	60.78
6	3	1985	C7					UREA	17.65
6	3	1985	C8					TSP	60.78
6	3	1985	C8					UREA	17.65
6	3	1985	C9					TSP	60.78
6	3	1985	C9					UREA	17.65
6	3	1985	D5			CHICK	500		

Table 8. Nutrient and Lime Inputs. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY
6	3	1985	D6						
6	3	1985	D7			CHICK	500		
13	3	1985	C2			CHICK	500		
13	3	1985	C3			CHICK	500		
13	3	1985	C4			CHICK	500		
13	3	1985	C5			CHICK	500		
13	3	1985	C6			CHICK	500		
13	3	1985	C6					TSP	60.78
13	3	1985	C7					UREA	17.65
13	3	1985	C7					TSP	60.78
13	3	1985	C8					UREA	17.65
13	3	1985	C8					TSP	60.78
13	3	1985	C9					UREA	17.65
13	3	1985	C9					TSP	60.78
13	3	1985	D5					UREA	17.65
13	3	1985	D6			CHICK	500		
13	3	1985	D7			CHICK	500		
20	3	1985	C2			CHICK	500		
20	3	1985	C3			CHICK	500		
20	3	1985	C4			CHICK	500		
20	3	1985	C5			CHICK	500		
20	3	1985	C6			CHICK	500		
20	3	1985	C6					TSP	60.78
20	3	1985	C7					UREA	17.65
20	3	1985	C7					TSP	60.78
20	3	1985	C8					UREA	17.65
20	3	1985	C8					TSP	60.78
20	3	1985	C9					UREA	17.65
20	3	1985	C9					TSP	60.78
20	3	1985	D5					UREA	17.65
20	3	1985	D6			CHICK	500		
20	3	1985	D7			CHICK	500		
27	3	1985	C2			CHICK	500		
27	3	1985	C3			CHICK	500		
27	3	1985	C4			CHICK	500		
27	3	1985	C5			CHICK	500		
27	3	1985	C6			CHICK	500		
27	3	1985	C6			CHICK	500		
27	3	1985	C7					TSP	60.78
27	3	1985	C7					UREA	17.65
27	3	1985	C8					TSP	60.78
27	3	1985	C8					UREA	17.65
27	3	1985	C9					TSP	60.78
27	3	1985	C9					UREA	17.65
27	3	1985	D5			CHICK	500		

Table 8. Nutrient and Lime Inputs. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY
27	3	1985	D6			CHICK	500		
27	3	1985	D7			CHICK	500		
3	4	1985	C2			CHICK	500		
3	4	1985	C3			CHICK	500		
3	4	1985	C4			CHICK	500		
3	4	1985	C5			CHICK	500		
3	4	1985	C6					TSP	60.78
3	4	1985	C6					UREA	17.65
3	4	1985	C7					TSP	60.78
3	4	1985	C7					UREA	17.65
3	4	1985	C8					TSP	60.78
3	4	1985	C8					UREA	17.65
3	4	1985	C9					TSP	60.78
3	4	1985	C9					UREA	17.65
3	4	1985	D5			CHICK	500		
3	4	1985	D6			CHICK	500		
3	4	1985	D7			CHICK	500		
10	4	1985	C2			CHICK	500		
10	4	1985	C3			CHICK	500		
10	4	1985	C4			CHICK	500		
10	4	1985	C5			CHICK	500		
10	4	1985	C6					TSP	60.78
10	4	1985	C6					UREA	17.65
10	4	1985	C7					TSP	60.78
10	4	1985	C7					UREA	17.65
10	4	1985	C8					TSP	60.78
10	4	1985	C8					UREA	17.65
10	4	1985	C9					TSP	60.78
10	4	1985	C9					UREA	17.65
10	4	1985	D5			CHICK	500		
10	4	1985	D6			CHICK	500		
10	4	1985	D7			CHICK	500		
17	4	1985	C2			CHICK	500		
17	4	1985	C3			CHICK	500		
17	4	1985	C4			CHICK	500		
17	4	1985	C5			CHICK	500		
17	4	1985	C6					TSP	60.78
17	4	1985	C6					UREA	17.65
17	4	1985	C7					TSP	60.78
17	4	1985	C7					UREA	17.65
17	4	1985	C8					TSP	60.78
17	4	1985	C8					UREA	17.65
17	4	1985	C9					TSP	60.78
17	4	1985	C9					UREA	17.65
17	4	1985	D5			CHICK	500		

Table 8. Nutrient and Lime Inputs. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY
17	4	1985	D6			CHICK	500		
17	4	1985	D7			CHICK	500		
24	4	1985	C2			CHICK	500		
24	4	1985	C3			CHICK	500		
24	4	1985	C4			CHICK	500		
24	4	1985	C5			CHICK	500		
24	4	1985	C6					TSP	60.78
24	4	1985	C6					UREA	17.65
24	4	1985	C7					TSP	60.78
24	4	1985	C7					UREA	17.65
24	4	1985	C8					TSP	60.78
24	4	1985	C8					UREA	17.65
24	4	1985	C9					TSP	60.78
24	4	1985	C9					UREA	17.65
24	4	1985	D5			CHICK	500		
24	4	1985	D6			CHICK	500		
24	4	1985	D7			CHICK	500		
1	5	1985	C2			CHICK	500		
1	5	1985	C3			CHICK	500		
1	5	1985	C4			CHICK	500		
1	5	1985	C5			CHICK	500		
1	5	1985	C6					TSP	60.78
1	5	1985	C6					UREA	17.65
1	5	1985	C7					TSP	60.78
1	5	1985	C7					UREA	17.65
1	5	1985	C8					TSP	60.78
1	5	1985	C8					UREA	17.65
1	5	1985	C9					TSP	60.78
1	5	1985	C9					UREA	17.65
1	5	1985	D5			CHICK	500		
1	5	1985	D6			CHICK	500		
1	5	1985	D7			CHICK	500		
8	5	1985	C2			CHICK	500		
8	5	1985	C3			CHICK	500		
8	5	1985	C4			CHICK	500		
8	5	1985	C5			CHICK	500		
8	5	1985	C6					TSP	60.78
8	5	1985	C6					UREA	17.65
8	5	1985	C7					TSP	60.78
8	5	1985	C7					UREA	17.65
8	5	1985	C8					TSP	60.78
8	5	1985	C8					UREA	17.65
8	5	1985	C9					TSP	60.78
8	5	1985	C9					UREA	17.65
8	5	1985	D5			CHICK	500		

Table 8. Nutrient and Lime Inputs. Bogor, Indonesia, Cycle II, Wet Season

DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY
8	5	1985	D6			CHICK	500		
8	5	1985	D7			CHICK	500		
15	5	1985	C2			CHICK	500		
15	5	1985	C3			CHICK	500		
15	5	1985	C4			CHICK	500		
15	5	1985	C5			CHICK	500		
15	5	1985	C6					TSP	60.78
15	5	1985	C6					UREA	17.65
15	5	1985	C7					TSP	60.78
15	5	1985	C7					UREA	17.65
15	5	1985	C8					TSP	60.78
15	5	1985	C8					UREA	17.65
15	5	1985	C9					TSP	60.78
15	5	1985	C9					UREA	17.65
15	5	1985	D5			CHICK	500		
15	5	1985	D6			CHICK	500		
15	5	1985	D7			CHICK	500		
22	5	1985	C2			CHICK	500		
22	5	1985	C3			CHICK	500		
22	5	1985	C4			CHICK	500		
22	5	1985	C5			CHICK	500		
22	5	1985	C6					TSP	60.78
22	5	1985	C6					UREA	17.65
22	5	1985	C7					TSP	60.78
22	5	1985	C7					UREA	17.65
22	5	1985	C8					TSP	60.78
22	5	1985	C8					UREA	17.65
22	5	1985	C9					TSP	60.78
22	5	1985	C9					UREA	17.65
22	5	1985	D5			CHICK	500		
22	5	1985	D6			CHICK	500		
22	5	1985	D7			CHICK	500		
29	5	1985	C2			CHICK	500		
29	5	1985	C3			CHICK	500		
29	5	1985	C4			CHICK	500		
29	5	1985	C5			CHICK	500		
29	5	1985	C6					TSP	60.78
29	5	1985	C6					UREA	17.65
29	5	1985	C7					TSP	60.78
29	5	1985	C7					UREA	17.65
29	5	1985	C8					TSP	60.78
29	5	1985	C8					UREA	17.65
29	5	1985	C9					TSP	60.78
29	5	1985	C9					UREA	17.65
29	5	1985	D5			CHICK	500		
29	5	1985	D6			CHICK	500		
29	5	1985	D7			CHICK	500		