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Report to the
York River Oyster Research Corporation

on

The Physiological Response of Oysters to Several Polymeric Materials and Their Derivatives

by

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Part I

Experimental Results

INTRODUCTION

The physiological responses of several polymeric materials and their derivatives, associated with the manufacturing process of pulp, were tested on oysters. It was thought that, when fed in small quantities, these substances might increase shell or meat size or be of value as possible nutritive supplements. The substances tested were divided into two classes. The first, consisting of basic polymeric materials, may occur in natural waters as the result of chemical changes. Representatives of these were indulin C and dextrose. The second class is composed of chemically pure derivatives of the preceding substances. These may appear in trace amounts in natural waters and represent breakdown products of the lignin and carbohydrate substances similar to indulin C and to dextrose. Representatives of this group tested in the following study were glycolic acid, lactic acid, vanillin and catechol.

In the design of this study, it was desirable that the oysters be given the maximum opportunity of utilizing the dissolved supplements. Since the literature suggests two possible methods, both were evaluated. In one, the supplements were metered directly into troughs of flowing seawater. Possible utilization by this technique would be by absorption through the epidermis (Yonge, 1928). The second method was based on the findings of Bader (1962) and Nelson (1963) who demonstrated that soluble sugars and lignins may be adsorbed on the surface of silt or clay particles. It was thought that if these coated particles were added to troughs containing oysters, they would be filtered from the water and taken into the animals' digestive system. There the sugars, etc. would be desorbed from the particle by the animals' digestive enzymes or acids.

APPARATUS AND METHODS

The study consisted of a preliminary investigation during late fall of 1965 and four experiments during the spring, summer and fall of 1966.

Apparatus and methods were essentially the same in all studies, but supplements and their concentrations and other details varied. Consequently, techniques common to all studies will be discussed here; differences will be covered under individual studies.

Oysters were held in shallow plastic troughs 14" x 7½" x 2" (Fig. 1). Water flowed to oysters through calibrated rotometers; flows were adjusted by screw clamps to 1.4 liters/day/trough (Fig. 2).

In preparing supplements for feeding, 5.0 to 10.0 ml of liquid or 25.0 g of solids were added to 4,000 cc of distilled water contained in a 6,000 ml flask. Flasks were plugged with cotton and autoclaved for 10 minutes at 10 pounds pressure. After sterilization, cotton plugs were removed and replaced by a sterilized two-holed rubber stopper containing two glass tubes. One tube was a cotton-plugged air vent, and the second conducted the supplement from the flask and was capped with a small stopper to prevent entrance of bacteria. Sterilization was necessary to prevent growth of bacteria in the supplements since these microorganisms might be of nutritive value or they might alter the chemical composition of the supplement.

After autoclaving and during each experiment, insoluble particulate substances, such as indulin C, starch, or montmorillonite, were kept in suspension with magnetic stirrers. Supplements were metered from the 6,000 ml flasks into troughs containing oysters at precise rates with peristaltic pumps (Fig. 3). Generally, a flaskful lasted two days.

Oysters were obtained from the upper James River and were essentially free of MSX or Dermocystidium. To facilitate statistical analysis of results, oysters were selected to fall within a narrow weight class; individual oysters were consecutively numbered. Effects of supplements were evaluated by a series of measurements on individual oysters. Size of the unopened oyster was measured in terms of underwater weight, air weight, length from hinge to bill, and total volume (displacement in water). Size of shell cavity was measured as the difference in displacement between the unopened oyster and the single valves. Meat weight was determined in terms of both wet and dry weight. After shucking, the intact meat was drained for one minute and weighed to obtain wet weight. Meats were dried in an oven at 87°C for 24 hours and dry weight determined. Differences in measurements of individual oysters in test and control groups were compared by Students' "t" test.

Controls were maintained in all experiments. In experiments I, II, III and IV, oysters also received starch as a supplement. This substance, added in trace quantities, had previously been shown to increase shell and meat growth (Haven, 1965) and was used as a standard to estimate influence of other supplements.

The statistical design of this paper necessitated measurement of many hundreds of oysters for seven growth parameters. These data are summarized in tabular form and evaluated statistically. Data on growth and meat size of individual oysters for all experiments are tabulated separately in the Appendix.

RESULTS

Preliminary Study--This study, lasting from 10 November to 20 December 1965, was exploratory. Its purpose was to determine approximate optimum levels for feeding supplements. Only a few oysters were used and results were not analyzed statistically. It was conducted late in the season when water temperatures were low and when growth of oysters was decreasing.

Groups of 8 oysters were held in shallow, rectangular troughs receiving a water flow of 1.4 l/m. Supplements added were catechol, indulin C, and vanillin. These were added by siphons and not metered; consequently, rates fluctuated between 1 and 4 mgl^{-1}. There were no apparent differences in growth between test and control groups.

In a second preliminary study, 8 oysters were held in a circular trough designed to collect all feces voided by the animals (Haven and Morales-Alamo, 1965). Results indicated that catechol at 1 to 4 mgl^{-1} decreased fecal production by about 50%; other supplements had no measurable effect. As a consequence of the obvious adverse influence of catechol, it was not evaluated as a possible supplement.

Experiment I--This study was conducted on 8 lots of oysters during the spring from 11 May to 16 June 1966, a period of increasing water temperatures. Concentration of supplements and other details are listed below:

1. Control
2. Starch, 1 mgl^{-1}
3. Lactic acid, 0.05 mgl^{-1} + glycolic acid, 0.05 mgl^{-1} + montmorillonite, 1 mgl^{-1}
4. Lactic acid, 0.05 mgl^{-1} + glycolic acid, 0.05 mgl^{-1}

5. Montmorillonite, 1.0 mgl^{-1}
6. Indulin C + montmorillonite, 1 mgl^{-1}
7. Dextrose, 1 mgl^{-1}
8. Vanillin, 1 mgl^{-1}

Results based on measurements of individual oysters for experiment I are shown in Tables 1 and 2. None of the supplements had a significant effect on underwater weight, length, air weight or shell cavity volume. Starch-fed oysters had significantly heavier meats on a wet and dry weight basis than controls. Oysters receiving the lactic-glycolic acid mixture plus montmorillonite had significantly less meat on a wet weight basis. All other supplements had no significant effect on meat weights.

Experiment II--This study was carried out during the summer from 30 June to 13 August 1966 when water temperatures were at their seasonal maximum. Levels of supplements were twice those used in experiment I and oysters were much smaller. Apparatus, methods, etc. were essentially the same as in experiment I; supplements added and their concentrations are listed below:

1. Control
2. Starch, 2.0 mgl^{-1}
3. Lactic acid, 1.0 mgl^{-1} + glycolic acid, 1.0 mgl^{-1} + montmorillonite, 2.0 mgl^{-1}
4. Lactic acid, 1.0 mgl^{-1} + glycolic acid, 1.0 mgl^{-1}
5. Montmorillonite, 2.0 mgl^{-1}
6. Indulin C, 2.0 mgl^{-1} + montmorillonite
7. Indulin C, 2.0 mgl^{-1}
8. Dextrose, 2.0 mgl^{-1} + montmorillonite, 2.0 mgl^{-1}
9. Dextrose, 2.0 mgl^{-1}

Results for starch were essentially the same as in experiment I. Addition of starch at 2.0 mgl^{-1} increased wet and dry weights of meats, but had no effect on shell growth (Tables 3 and 4). Addition of the lactic-glycolic acid mixtures resulted in two distinctly different responses. Oysters receiving the mixture without clay had significantly heavier meats on both a wet and dry weight basis, although no differences were observed for the remaining measurements. The mixture with montmorillonite resulted in a decrease in wet meat weights while no changes were observed in the remaining parameters.

Indulin C and dextrose had no influence on shell or meat size either as solutions or when mixed with montmorillonite. Montmorillonite alone had no significant effect.

Experiment III--This experiment was conducted during fall from 26 August to 8 October 1966, a period of rapidly decreasing water temperatures. Supplement concentration was the same as in experiment II. Supplements and their concentrations are listed below:

1. Control
2. Starch, 2.0 mgl^{-1}
3. Lactic acid, 1.0 mgl^{-1} + glycolic acid, 1.0 mgl^{-1} + montmorillonite, 2.0 mgl^{-1}
4. Lactic acid, 2.0 mgl^{-1} + glycolic acid, 2.0 mgl^{-1}
5. Montmorillonite, 2.0 mgl^{-1}
6. Indulin C, 2.0 mgl^{-1} + montmorillonite, 2.0 mgl^{-1}
7. Indulin C, 2.0 mgl^{-1}
8. Dextrose, 2.0 mgl^{-1} + montmorillonite, 2.0 mgl^{-1}
9. Dextrose, 2.0 mgl^{-1}

Oysters receiving starch showed significantly higher rates of growth for all parameters measured (Tables 5 and 6). Results differed from experiments I and II in several additional respects. For the first time dextrose showed a significant effect on oyster growth; those receiving this supplement showed an increase in underwater weight, air weight, shell cavity volume and dry meat weight. Mixtures of dextrose and montmorillonite, however, had no detectable influence on growth of shell or meats. Other supplements had no significant effect on shell measurements or meat size; this includes the lactic-glycolic acid mixtures which had previously resulted in significant changes in meat weights.

Experiment IV--This study extended from 12 October to 6 December 1966 and utilized concentrations similar to experiments II and III. Its purpose was to confirm the absence of an effect by vanillin and the positive results of dextrose obtained in previous studies. Dry meat weights were not measured. Concentrations and supplements utilized were:

1. Control
2. Starch, 2.0 mgl^{-1}
3. Vanillin, 2.0 mgl^{-1}
4. Dextrose, 2.0 mgl^{-1}

Results confirmed all previous studies in respect to vanillin. This supplement had no significant influence on shell or meat growth. Results did not agree with the previous study for dextrose; addition of this supplement had no significant effect. Addition of starch during this period of decreasing water temperatures increased wet meat weights but did not influence shell growth.

DISCUSSION

Starch--The value of cornstarch as a nutritive supplement had previously been demonstrated (Haven, 1965). It was included in the present study to demonstrate that under the laboratory conditions used minute quantities of supplements could produce changes in shell or meat size. Starch feeding was also useful in showing how a supplement can affect only one of the parameters measured and that the response may differ with season.

Addition of starch in experiments I and II produced significant differences in dry and wet meat weights during the spring and summer of 1966 but had no effect on shell volume, length, air weight or underwater weight. In experiment III during fall, addition of starch produced a significant increase in all parameters. In experiment IV, when water temperatures were decreasing rapidly and feeding had nearly stopped, addition of starch had no influence on any of the shell parameters but did increase wet meat weight. Dry meat weight was not measured.

Indulin C and Vanillin--When fed to oysters, indulin C and vanillin in solution and the same chemicals mixed with montmorillonite had no detectable influence on shell weight, lengths, shell cavity volume, or meat weights. The tests were carried out over a wide range of environmental conditions and during periods of low and high water temperatures. The consistency of the results indicates that at 1.0 and 2.0 mgl^{-1} vanillin and indulin C are of no detectable nutritive value to oysters.

Lactic-Glycolic Acids--Conclusive results were not obtained with these chemicals. In experiment I addition of the supplements in conjunction

with montmorillonite resulted in oysters having significantly lower wet meat weights with no difference in the remaining measurements. The same two chemicals added without clay had no significant effect on oyster weight and size or on meat weights.

Experiment II was conducted when water temperatures were higher and when supplements were added at higher levels (2.0 mgl^{-1} each). Here addition of the two acids without clay resulted in oysters having significantly heavier dry and wet meat weights. No change, however, was observed for underwater weight, air weight, length or shell volume or shell cavity volume. When montmorillonite was added to the two solutions, results agreed with experiment I; there was a significant decrease in wet meat weight but no detectable difference in dry meat weight. No effect on other shell measurements was found.

In experiment III, conducted during falling water temperatures, no effect was observed on any of the parameters measured for the two acids alone or as solutions mixed with clay.

It is concluded that the lactic-glycolic acid solutions were associated with an increase in dry meat weight during the summer of 1966. However, the absence of any significant influence during spring and fall suggests the need for further studies before its value as a nutritive supplement may be established.

The negative results obtained by adding clay to the two acids in two out of the three tests are difficult to evaluate. It is probable that the acids were adsorbed by the clays and were ingested by the oysters; consequently, more was available on clay than in true solutions. That is, there exists the possibility that very low concentrations of the two acids may in some manner stimulate meat development, while higher concentrations available on the clay may have the opposite effect.

Dextrose--Addition of dextrose and dextrose mixed with montmorillonite at 1.0 and 2.0 mgl^{-1} during spring and mid-summer had no influence on shell or meat size.

During fall in experiment III, dextrose at 2.0 mgl^{-1} produced a significant effect on underwater weight, air weight, shell cavity size, and dry meat weight. When clay was mixed with the same solution and fed to oysters, the mixture had no effect. It was tentatively concluded that oysters were unable to utilize dextrose adsorbed on particles of clay.

CONCLUSIONS

Indulin C and vanillin in the concentrations tested had no physiological effect on growth.

Dextrose in solution may influence meat and shell size of oysters; however, data collected are insufficient to establish whether it will be useful only during fall or if higher concentrations may work at other seasons. The reason for an absence of any effect when oysters were fed dextrose and clay is not clear.

The data suggest that a mixture of lactic and glycolic acids may increase meat size; however, this conclusion is tentative and further research is needed to reconcile the positive effect of the solutions alone with the negative effect of the same solutions mixed with montmorillonite.

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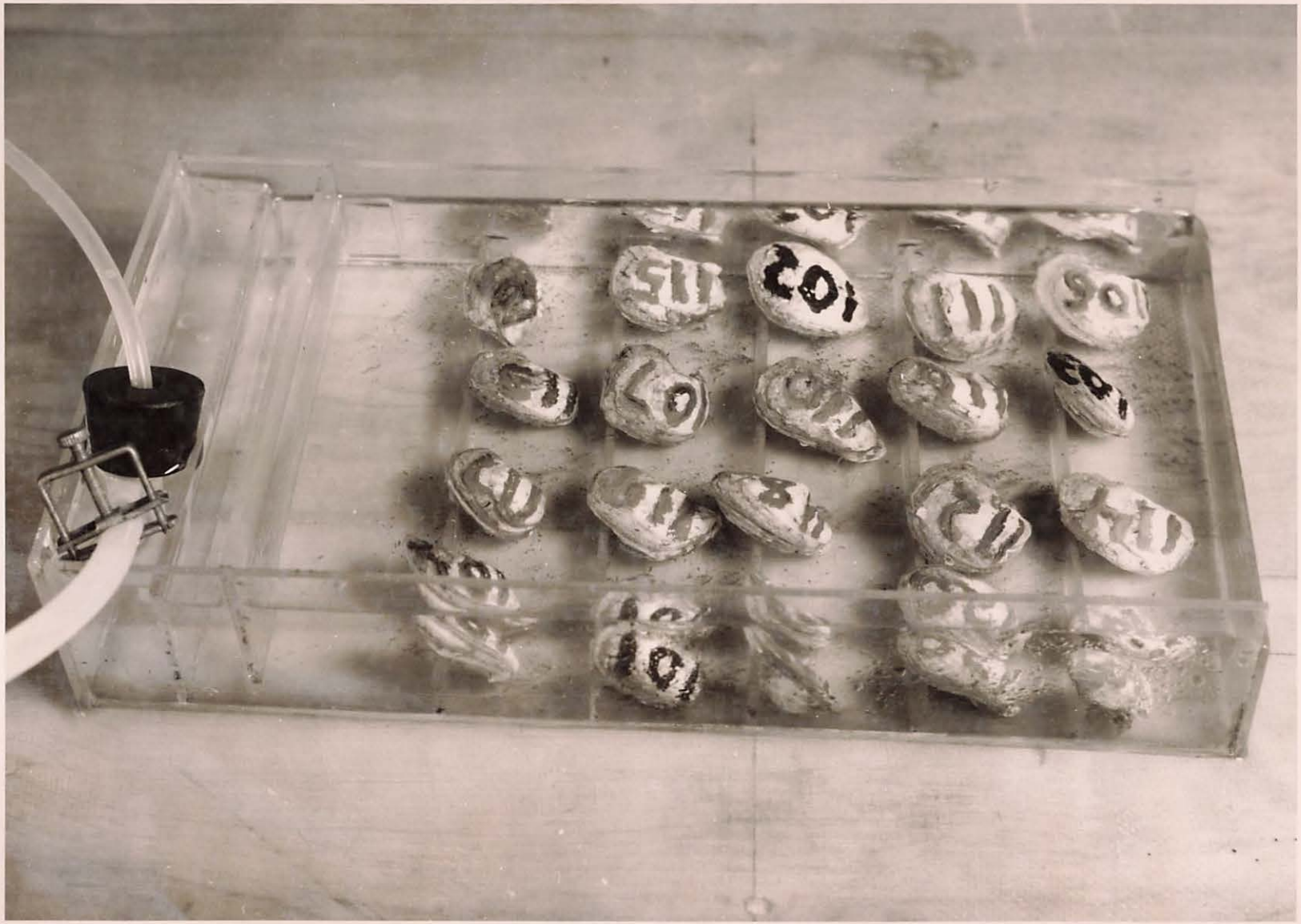
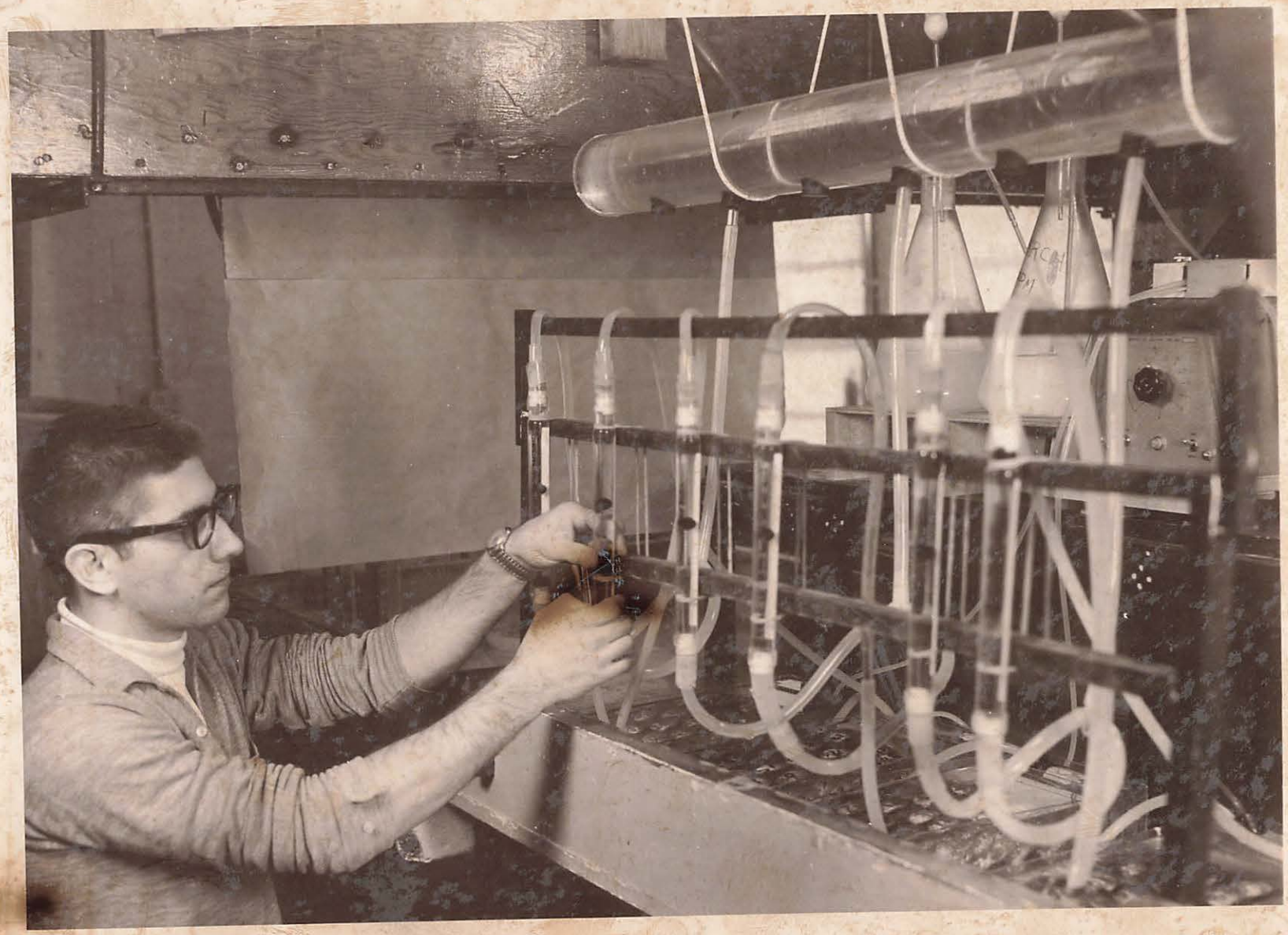


Figure 1.



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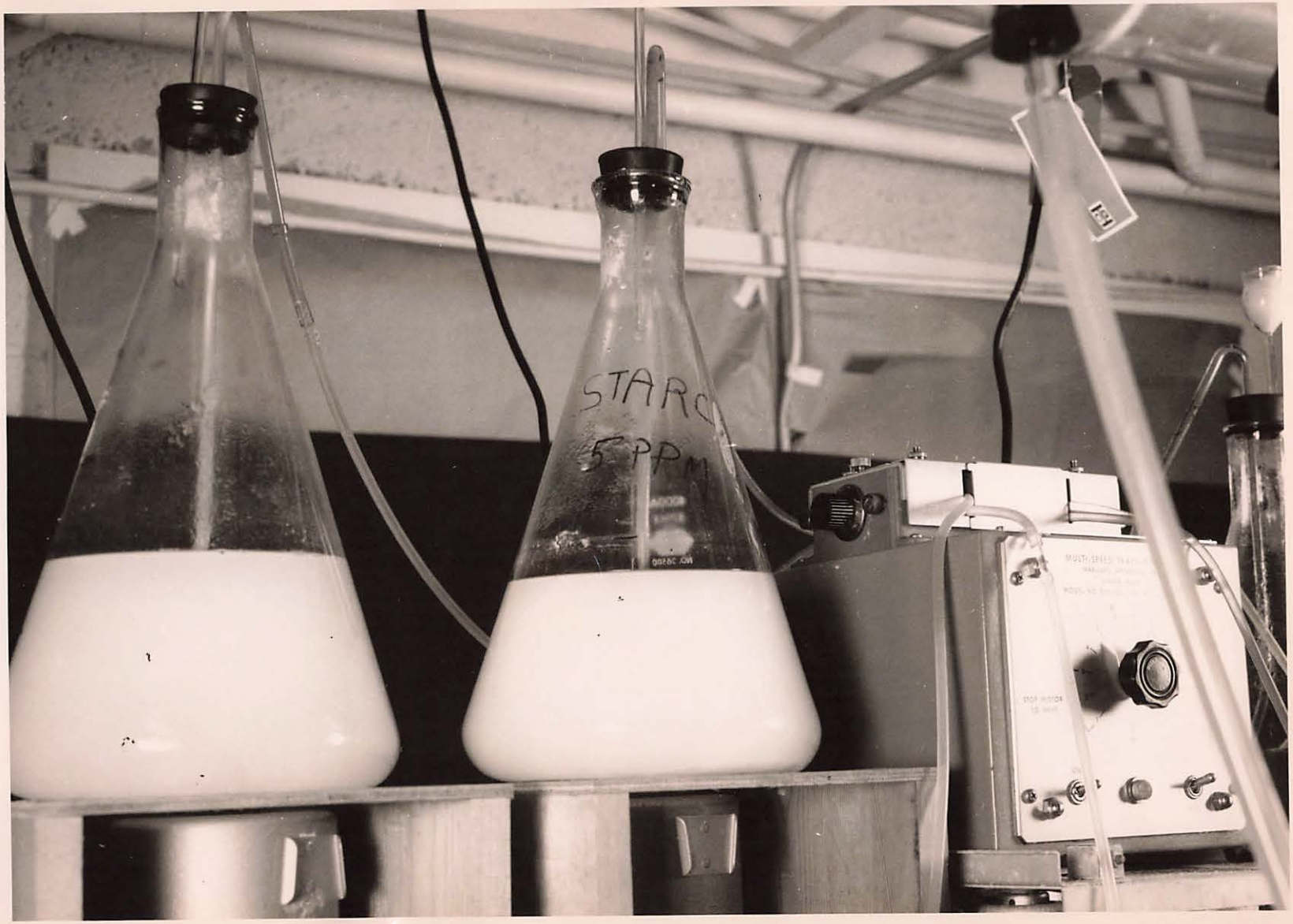

Figure 3.

Table 1

Experiment I. Growth of oysters fed various diet supplements, York River Oyster Research Corporation Study, 5/11/66 to 6/16/66. Values shown are means based on measurements of individual oysters.

	No. of oysters	Initial mean measurements				Mean increase during study				Final mean meat wt. (g)		Final shell cavity volume (cc)
		U.W. Wt. (g)	Air Wt. (g)	Length (mm)	Vol. (cc)	U.W. Wt. (g)	Air Wt. (g)	Length (mm)	Vol. (cc)	Wet Wt.	Dry Wt.	
Control	24	16.11	35.78	57.2	19.1	2.51	3.62	4.2	3.7	5.66	1.11	9.8
Starch	12	15.96	36.02	59.2	16.0	2.86	4.19	5.6	8.0	7.17	1.57	10.9
Lac. + Gly.	12	15.85	35.37	54.7	18.1	2.26	2.99	3.6	3.9	6.25	1.15	9.5
Lac. + Gly. + Mont.	12	16.14	35.33	56.4	18.4	1.62	2.09	2.5	2.5	4.58	0.89	8.8
Mont.	12	15.45	35.18	57.4	18.5	2.74	3.93	3.9	4.2	6.33	1.09	9.9
Ind. C + Mont.	12	16.07	35.90	57.9	18.7	3.36	5.57	5.9	5.2	6.28	1.27	10.1
Ind. C	12	15.35	35.41	58.2	19.2	2.19	3.00	3.5	3.1	6.32	1.14	9.7
Dext.	12	15.91	35.03	57.2	18.5	2.43	3.62	4.1	3.7	6.25	1.14	9.4
Van.	12	15.87	35.57	56.6	19.4	2.42	4.04	4.7	3.5	5.72	1.04	9.8

Table 2

Experiment I. Results of statistical comparison between growth of oysters receiving various supplements and growth of control oysters, York River Oyster Research Corporation Study, 5/11/66 to 6/16/66. NS indicates that test was not significantly different from control; a number indicates that the difference was significant.

	Starch	Lac. + Gly.	Lac. + Gly. + Mont.	Mont.	Ind. C + Mont.	Ind. C	Dext.	Van.
Underwater weight (g)	NS	NS	NS	NS	NS	NS	NS	NS
Air weight (g)	NS	NS	NS	NS	NS	NS	NS	NS
Length (mm)	NS	NS	NS	NS	NS	NS	NS	NS
Shell cavity volume (cc)	NS	NS	NS	NS	NS	NS	NS	NS
Dry meat weight (g)	3.48**	NS	NS	NS	NS	NS	NS	NS
Wet meat weight (g)	2.734**	2.287*	NS	NS	NS	NS	NS	NS

*Significant at 95% confidence level.
**Significant at 99% confidence level.

Table 3

Experiment II. Growth of oysters fed various diet supplements, York River Oyster Research Corporation Study, 6/30/66 to 8/13/66. Values shown are means based on measurements of individual oysters.

	No. of oysters	Initial mean measurements				Mean increase during study				Final mean meat wt. (g)		Final shell cavity volume (cc)
		U.W. Wt. (g)	Air Wt. (g)	Length (mm)	Vol. (cc)	U.W. Wt. (g)	Air Wt. (g)	Length (mm)	Vol. (cc)	Wet Wt.	Dry Wt.	
Control	18	5.51	13.41	42.6	8.3	2.45	4.41	3.8	2.0	1.50	0.25	4.6
Starch	20	5.37	12.82	42.0	8.0	3.04	5.84	4.4	2.6	2.23	0.47	4.5
Lac.+ Gly.	20	5.84	14.03	44.1	8.8	2.38	4.55	3.5	2.0	2.19	0.37	4.8
Lac. + Gly. + Mont.	14	5.61	12.94	40.7	8.0	2.35	4.46	3.9	1.9	0.79	0.24	4.2
Mont.	18	5.67	13.57	44.1	8.4	2.75	5.21	4.3	2.4	1.80	0.31	4.8
Inc. C + Mont.	15	5.99	14.14	43.0	8.6	2.47	4.53	3.9	2.0	1.67	0.28	4.6
Ind. C	15	5.56	13.13	42.1	8.0	2.66	4.88	4.0	2.4	1.60	0.27	4.6
Dext.	18	6.09	14.33	43.0	8.7	2.97	5.61	4.4	2.6	1.91	0.31	4.9
Dext. + Mont.	15	6.56	14.72	42.3	8.9	2.92	5.66	3.9	2.4	1.13	0.33	4.6

Initial mean measurements: Wet meat weight, 1.71 g; dry meat weight, 0.31 g.

Table 4

Experiment II. Results of statistical comparison between growth of oysters receiving various supplements and growth of control oysters, York River Oyster Research Corporation Study, 6/30/66 to 8/13/66. NS indicates that test was not significantly different from control; a number indicates that the difference was significant.

	Starch	Lac. + Gly.	Lac. + Gly. + Mont.	Mont.	Ind. C + Mont.	Ind. C	Dext. + Mont.	Dext.
Underwater weight (g)	NS	NS	NS	NS	NS	NS	NS	NS
Air weight (g)	NS	NS	NS	NS	NS	NS	NS	NS
Length (mm)	NS	NS	NS	NS	NS	NS	NS	NS
Shell cavity volume (cc)	NS	NS	NS	NS	NS	NS	NS	NS
Dry meat weight (g)	3.760**	2.246*	NS	NS	NS	NS	NS	NS
Wet meat weight (g)	3.371	2.707	3.365	NS	NS	NS	NS	NS

*Significant at 95% confidence level.
**Significant at 99% confidence level.

Table 5

Experiment III. Growth of oysters fed various diet supplements, York River Oyster Research Corporation Study, 8/26/66 to 10/8/66. Values shown are means based on measurements of individual oysters.

	No. of oysters	Initial mean measurements				Mean increase during study				Final mean meat wt. (g)		Final shell cavity volume (cc)
		U.W. Wt. (g)	Air Wt. (g)	Length (mm)	Vol. (cc)	U.W. Wt. (g)	Air Wt. (g)	Length (mm)	Vol. (cc)	Wet Wt.	Dry Wt.	
Control	20	6.09	13.94	42.6	8.3	2.73	5.57	4.8	2.7	2.11	0.34	4.4
Starch	20	6.15	13.97	42.3	8.4	4.38	10.02	8.4	4.7	3.45	0.82	5.3
Lac. + Gly.	20	6.26	13.82	40.5	8.1	2.68	5.78	4.7	2.7	1.89	0.32	4.3
Lac. + Gly. + Mont.	20	6.18	13.70	41.6	8.1	2.77	5.84	4.8	2.7	1.85	0.31	4.4
Mont.	20	6.32	14.00	41.8	8.1	3.20	6.80	5.8	3.4	1.95	0.35	4.5
Ind. C + Mont.	20	6.16	13.66	40.9	7.8	2.56	5.60	5.0	2.8	1.99	0.30	4.2
Ind. C	20	6.23	13.92	42.2	8.1	2.49	4.96	4.6	2.4	1.89	0.31	4.1
Dext.	20	6.21	14.06	40.6	8.3	3.77	8.41	8.8	4.0	2.25	0.40	4.9
Dext. + Mont.	20	6.17	13.95	42.2	8.3	3.25	7.54	6.3	3.6	2.12	0.38	4.9

Initial mean measurements: Wet meat weight, 1.36 g; dry meat weight, 0.24 g.

Table 6

Experiment III. Results of statistical comparison between growth of oysters receiving various supplements and growth of control oysters, York River Oyster Research Corporation Study, 8/26/66 to 10/8/66. NS indicates that test was not significantly different from control; a number indicates that the difference was significant.

	Starch	Lac. + Gly.	Lac. + Gly. + Mont.	Mont.	Ind. C + Mont.	Ind. C	Dext. + Mont.	Dext.
Underwater weight (g)	3.01**	NS	NS	NS	NS	NS	NS	2.59*
Air weight (g)	3.568**	NS	NS	NS	NS	NS	NS	2.869**
Length (mm)	2.833*	NS	NS	NS	NS	NS	NS	NS
Shell cavity volume (cc)	3.286**	NS	NS	NS	NS	NS	NS	2.249*
Dry meat weight (g)	9.53**	NS	NS	NS	NS	NS	NS	2.69*
Wet meat weight (g)	4.62**	NS	NS	NS	NS	NS	NS	NS

*Significant at 95% confidence level.
**Significant at 99% confidence level.

Table 7

Experiment IV. Growth of oysters fed various diet supplements, York River Oyster Research Corporation Study, 10/12/66 to 12/6/66. Values shown are means based on measurements of individual oysters.

	No. of oysters	Initial mean measurements				Mean increase during study				Final mean meat wt. (g)		Final shell cavity volume (cc)
		U.W. Wt. (g)	Air Wt. (g)	Length (mm)	Vol. (cc)	U.W. Wt. (g)	Air Wt. (g)	Length (mm)	Vol. (cc)	Wet Wt.	Dry Wt.	
Control	20	6.93	16.03	44.1	9.48	1.31	2.36	2.3	1.07	2.31	----	4.47
Starch	20	6.92	16.05	44.2	9.54	1.51	2.77	2.4	1.25	3.10	----	4.64
Vanillin	20	6.96	16.18	44.9	9.61	1.25	2.40	2.1	1.08	2.29	----	4.60
Dextrose	20	6.81	15.69	44.5	9.29	1.32	2.37	1.8	1.14	2.49	----	4.57

Initial mean measurements: Wet meat weight, 1.86 g; dry meat weight, msg.

Table 8

Experiment IV. Results of statistical comparison between growth of oysters receiving various supplements and growth of control oysters, York River Oyster Research Corporation Study, 10/12/66 to 12/6/66. NS indicates that test was not significantly different from the control; a number indicates that the difference was significant.

	Starch	Vanillin	Dextrose
Underwater weight (g)	NS	NS	NS
Air weight (g)	NS	NS	NS
Length (mm)	NS	NS	NS
Shell cavity volume (cc)	NS	NS	NS
Dry meat weight (g)	--	--	--
Wet meat weight (g)	3.373*	NS	NS

*Significant at 99% confidence level.

Part II

Appendix

Data on Growth of Individual Oysters

Experiment I
Growth of Oysters Fed Various Supplements
Y.R.O.R. Corporation Study
5/11/66 to 6/16/66

Control

Oyster number	Weekly Underwater Weights (g) 5/11	5/19	5/26	6/2	6/9	6/16	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
97	20.20	20.49	21.30	22.12	22.93	23.92	3.72	43.50	48.48	4.98
98	15.52	15.87	16.10	16.44	17.20	17.87	2.35	33.20	36.42	3.22
99	15.75	15.80	15.70	15.71	15.70	15.65	-0.10	33.70	33.80	0.10
102	18.95	19.74	20.60	21.41	22.21	22.90	3.95	39.40	45.22	5.82
103	17.94	18.10	18.60	19.18	19.76	20.54	2.60	44.00	47.52	3.52
104	13.97	14.25	14.50	14.80	15.19	15.64	1.67	31.80	34.55	2.75
110	11.48	12.10	12.90	13.59	14.22	15.03	3.55	27.30	33.49	6.19
111	14.60	15.20	16.00	16.69	17.40	18.62	4.02	31.10	36.90	5.80
112	17.72	18.05	18.60	19.28	19.82	20.49	2.77	39.60	45.22	5.62
113	12.65	13.11	13.50	13.77	14.25	14.91	2.26	32.90	35.31	2.41
116	17.43	17.70	18.30	18.59	19.35	20.03	2.60	38.10	42.70	4.60
120	16.81	17.08	17.30	17.83	18.36	19.07	2.26	37.60	40.23	2.63
121	13.48	13.98	14.30	14.80	15.48	16.30	2.82	31.00	34.80	3.80
123	16.60	16.99	17.20	17.96	18.65	19.25	2.65	34.50	38.45	3.95
125	14.00	14.22	14.60	15.11	15.57	16.17	2.17	33.00	36.08	3.08
130	14.85	15.05	15.40	15.87	16.58	17.24	2.39	33.40	36.54	3.14
131	16.67	16.88	17.10	17.60	18.10	18.60	1.93	37.80	41.11	3.31
132	17.15	17.50	17.80	18.26	18.99	19.40	2.25	37.30	40.21	2.91
133	16.90	17.23	17.80	18.28	19.00	19.65	2.75	36.50	40.60	4.10
134	14.08	14.37	14.80	15.49	16.35	17.14	3.06	33.10	37.52	4.42
137	21.52	21.40	21.40	21.38	21.45	21.31	-0.21	46.70	46.54	-0.16
139	18.30	18.68	19.20	19.72	19.83	20.76	2.46	37.60	40.80	3.20
141	13.48	14.02	14.50	15.27	15.95	16.88	3.40	30.20	34.18	3.98
144	16.54	16.89	17.40	18.06	18.65	19.52	2.98	35.50	39.00	3.50
$\bar{x}$	16.11	16.45	16.83	17.38	17.96	18.62	2.51	35.78	39.40	3.62
$\bar{x}$ weekly gain		0.34	0.38	0.55	0.58	0.66	2.51 = Total			

Experiment I continued

Control

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
97	58	62	4	22.5	27.1	4.6	5.97	1.43	16.6	10.5
98	51	57	6	17.5	20.8	3.3	5.67	1.16	12.0	8.8
99	55	59	4	17.5	24.5	7.0	2.42	0.29	10.8	13.7
102	54	63	9	25.0	28.9	3.9	4.79	0.96	15.8	13.1
103	59	64	5	20.0	20.2	0.2	6.12	0.99	14.8	5.4
104	64	66	2	17.5	20.3	2.8	5.16	0.95	10.4	9.9
110	54	60	6	15.0	21.2	6.2	5.25	0.93	10.1	11.1
111	56	65	9	15.0	24.5	9.5	5.38	1.24	12.6	11.9
112	54	56	2	20.0	22.6	2.6	5.54	1.26	14.6	8.0
113	53	55	2	20.0	25.0	5.0	6.99	1.59	10.7	14.3
116	57	64	7	20.0	23.3	3.3	7.36	1.50	13.8	9.5
120	61	63	2	20.0	18.2	-1.8	4.72	1.00	13.5	4.7
121	59	64	5	17.5	22.0	4.5	7.93	1.63	11.3	10.7
123	52	58	6	17.5	21.5	4.0	4.80	0.96	13.4	8.1
125	61	64	3	17.5	21.7	4.2	7.02	1.37	11.7	10.0
130	52	54	2	17.5	21.7	4.2	4.79	1.02	12.0	9.7
131	58	65	7	20.0	24.5	4.5	7.75	1.40	13.0	11.5
132	63	64	1	20.0	23.1	3.1	6.29	1.38	13.4	9.7
133	64	69	5	20.0	23.3	3.3	5.22	1.09	13.9	9.4
134	60	64	4	17.5	23.1	5.6	7.93	1.32	12.0	11.1
137	58	58	0	22.5	25.2	2.7	3.00	0.33	13.9	11.3
139	57	60	3	22.5	22.5	0	4.58	0.83	14.4	8.1
141	55	57	2	17.5	19.9	2.4	5.32	0.92	12.2	7.7
144	58	63	5	17.5	21.9	4.4	5.93	1.18	13.9	8.0
$\bar{x}$	57.2	61.4	4.2	19.1	22.8	3.7	5.66	1.11	12.9	9.8

Experiment I continued

Starch

Oyster number	Weekly Underwater Weights (g) 5/11	5/19	5/26	6/2	6/9	6/16	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
1	16.88	17.32	17.80	18.47	19.15	19.92	3.04	37.80	42.56	4.76
3	17.23	17.50	17.70	18.22	18.78	19.49	2.26	36.40	39.67	3.27
4	12.33	12.80	13.20	13.87	14.78	15.69	3.36	26.80	31.90	5.10
5	14.28	14.71	15.20	16.05	17.13	18.23	3.95	31.22	35.88	4.66
10	16.67	17.10	17.60	18.36	18.94	19.70	3.03	38.22	43.74	5.52
11	18.25	18.89	19.60	20.33	20.88	21.02	2.77	40.20	45.85	5.65
12	17.77	18.36	19.40	20.41	21.63	23.00	5.23	39.20	42.68	3.48
13	16.60	17.08	17.20	17.96	18.73	19.79	3.19	38.00	42.61	4.61
14	16.11	16.40	16.40	16.23	16.28	16.29	0.18	38.60	38.95	0.35
15	13.39	13.60	13.90	14.20	14.63	15.17	1.78	32.20	36.20	4.00
16	14.50	15.07	15.50	16.25	16.80	17.83	3.33	33.60	38.63	5.03
23	17.46	17.93	18.10	18.45	18.98	19.65	2.19	40.00	43.80	3.80
$\bar{x}$	15.96	16.40	16.80	17.40	18.06	18.82	2.86	36.02	40.21	4.19
$\bar{x}$ weekly gain	0.44	0.40	0.60	0.66	0.76		2.86 = Total			

Lactic, Glycolic and Montmorillonite

25	18.52	18.44	18.30	18.38	18.33	18.33	-0.19	41.00	40.93	-0.07
30	13.88	13.95	13.70	13.78	13.79	13.71	-0.17	30.70	31.29	0.59
32	15.18	15.64	16.00	16.38	16.87	17.68	2.50	33.40	37.10	3.70
34	15.10	15.36	15.70	16.25	16.85	17.55	2.45	34.10	37.96	3.86
36	13.58	14.12	14.40	14.85	15.36	15.85	2.27	31.20	32.51	1.31
37	17.75	18.28	18.60	19.22	19.93	21.02	3.27	38.50	42.83	4.33
39	13.28	13.80	14.30	14.83	15.53	16.29	3.01	29.10	32.70	3.60
42	16.76	16.71	16.60	16.63	16.68	16.60	-0.16	35.70	35.49	-0.21
43	18.31	18.69	19.20	19.90	20.45	21.40	3.09	39.40	43.33	3.93
45	19.17	18.51	19.10	18.93	18.98	19.11	-0.06	41.50	41.45	-0.05
47	17.85	18.31	18.80	18.88	19.22	19.73	1.88	36.10	38.82	2.72
88	14.25	14.59	14.40	14.49	15.02	15.75	1.50	33.30	34.61	1.31
$\bar{x}$	16.14	16.37	16.59	16.88	17.25	17.75	1.62	35.33	37.42	2.09
$\bar{x}$ weekly gain	0.23	0.23	0.29	0.37	0.50		1.62 = Total			

Experiment I continued

Starch

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
1	57	63	6	20.0	25.8	5.8	8.74	2.05	13.6	12.2
3	60	68	8	15.0	22.5	7.5	7.00	1.51	13.4	9.1
4	57	64	7	15.0	18.9	3.9	4.34	1.17	12.6	6.3
5	57	62	5	15.0	20.4	5.4	5.33	1.38	12.5	7.9
10	60	68	8	12.5	27.2	14.7	8.88	1.76	13.6	13.6
11	58	63	5	20.0	25.6	5.6	6.64	1.33	13.9	11.7
12	62	64	2	15.0	25.1	10.1	6.43	1.58	15.6	9.5
13	58	73	15	15.0	26.6	11.6	9.83	2.12	14.2	12.4
14	58	58	0	17.5	23.0	5.5	5.13	0.92	11.3	11.7
15	68	71	3	17.5	22.1	4.6	6.58	1.40	10.2	11.9
16	57	61	4	15.0	23.8	8.8	7.06	1.73	12.9	10.9
23	58	63	5	15.0	27.0	12.0	10.03	1.85	13.5	13.5
$\bar{x}$	59.2	64.8	5.6	16.0	24.0	8.0	7.17	1.57	13.1	10.9

Lactic, Glycolic and Montmorillonite

25	58	56	-2	22.5	22.9	0.4	3.05	0.60	12.7	10.2
30	55	55	0	17.5	17.4	-0.1	1.77	0.25	9.6	7.8
32	56	58	2	20.0	21.3	1.3	6.84	1.48	12.1	10.2
34	57	62	5	20.0	22.2	2.2	5.41	1.04	12.2	10.0
36	59	53	-6	17.5	18.6	1.1	2.95	0.60	10.9	7.7
37	51	63	12	15.0	24.2	9.2	6.19	1.39	14.3	9.9
39	54	54	0	17.5	18.7	1.2	6.06	1.27	11.4	7.3
42	59	55	-4	20.5	19.0	-1.5	2.56	0.27	10.9	8.1
43	67	66	-1	22.5	24.2	1.7	5.36	1.16	14.8	9.4
45	50	68	18	15.0	23.0	8.0	3.56	0.52	12.9	10.1
47	55	58	3	17.5	19.5	2.0	4.03	0.78	13.7	5.8
88	56	59	3	15.0	20.1	5.1	7.24	1.34	10.9	9.2
$\bar{x}$	56.4	58.9	2.5	18.4	20.9	2.5	4.58	0.89	12.2	8.8

Experiment I continued

Dextrose

Oyster number	Weekly Underwater Weights (g) 5/11	5/19	5/26	6/2	6/9	6/16	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
49	15.20	15.80	16.50	17.31	18.21	19.05	3.85	31.50	37.24	5.74
51	16.08	16.40	16.80	17.43	17.94	18.69	2.61	35.20	38.93	3.73
56	14.83	15.25	15.80	16.50	17.12	17.95	3.12	31.70	35.70	4.00
57	14.91	15.15	15.40	15.79	16.25	16.91	2.00	36.70	38.43	1.73
58	19.97	20.09	19.80	19.82	19.80	19.80	-0.17	41.00	41.25	0.25
59	16.83	17.45	17.90	18.61	19.23	19.85	3.02	40.00	44.84	4.84
61	14.08	14.05	13.90	13.85	13.85	13.89	-0.19	32.50	32.51	0.01
62	9.88	10.36	11.00	11.38	12.00	12.64	2.76	25.30	29.61	4.31
65	15.78	16.12	16.30	16.90	17.59	18.51	2.73	32.80	36.74	3.94
67	15.58	15.86	16.80	16.54	16.98	17.55	1.97	31.80	35.18	3.38
68	20.40	20.98	21.40	22.15	22.99	24.00	3.60	43.10	48.80	5.70
70	17.41	18.00	18.60	19.40	20.38	21.29	3.88	38.80	44.56	5.76
$\bar{x}$	15.91	16.30	16.68	17.14	17.70	18.34	2.43	35.03	38.65	3.62
$\bar{x}$ weekly gain	0.39	0.38	0.46	0.56	0.64		2.43 = Total			

Lactic and Glycolic

73	14.88	15.28	15.60	16.16	16.70	17.60	2.72	32.90	36.28	3.38
75	16.43	16.58	16.30	16.45	16.48	16.49	0.06	39.80	39.58	-0.22
77	15.90	16.42	16.90	17.50	18.25	19.27	3.37	33.10	37.62	4.52
78	15.93	16.50	17.20	17.92	18.84	19.83	3.90	35.80	41.68	5.88
80	14.75	16.07	16.40	16.66	17.23	18.02	3.27	34.80	38.60	3.80
81	16.83	17.25	18.00	18.40	19.12	19.90	3.07	36.00	39.90	3.90
83	18.27	19.17	19.80	20.50	20.98	22.10	3.83	40.00	45.43	5.43
84	17.28	17.75	17.80	17.94	17.95	18.19	0.91	34.70	35.80	1.10
86	17.07	16.14	16.90	16.97	16.93	16.87	-0.20	37.20	37.58	0.38
91	14.81	15.18	15.40	15.95	16.56	17.39	2.58	35.20	38.15	2.95
94	12.92	12.97	12.80	12.77	12.84	12.80	-0.12	31.20	30.95	-0.25
95	15.10	15.82	16.40	17.21	19.03	18.84	3.74	33.80	38.78	4.98
$\bar{x}$	15.85	16.26	16.63	17.04	17.58	18.11	2.26	35.37	38.36	2.99
$\bar{x}$ weekly gain	0.41	0.37	0.41	0.54	0.53		2.26 = Total			

Experiment I continued

Dextrose

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
49	58	66	8	15.0	20.8	5.8	5.41	0.95	13.2	7.6
51	62	63	1	12.5	22.5	10.0	5.82	1.14	13.1	9.4
56	54	57	3	17.5	20.0	2.5	5.53	1.14	12.7	7.3
57	62	67	5	20.0	23.4	3.4	7.02	1.16	12.6	10.8
58	54	54	0	22.5	21.4	-1.1	----	----	12.8	8.6
59	62	66	4	20.0	26.7	6.7	6.95	1.20	13.6	13.1
61	59	58	-1	17.5	18.4	0.9	3.97	0.32	10.0	8.4
62	58	65	7	17.5	18.6	1.1	6.13	1.29	9.8	8.8
65	51	57	6	22.5	20.6	-1.9	5.60	1.11	12.8	7.8
67	50	55	5	15.0	19.3	4.3	5.31	0.90	11.7	7.6
68	59	63	4	22.5	28.3	5.8	7.67	1.54	16.5	11.8
70	57	64	7	20.0	26.5	6.5	9.37	1.77	14.8	11.7
$\bar{x}$	57.2	61.3	4.1	18.5	22.2	3.7	6.25	1.14	12.8	9.4

Lactic and Glycolic

73	55	60	5	17.5	20.7	3.2	5.93	1.24	12.2	8.5
75	60	60	0	22.5	23.2	0.7	4.97	0.51	11.7	11.5
77	51	57	6	12.5	21.7	9.2	6.20	1.25	13.1	8.6
78	55	61	6	22.5	25.1	2.6	8.59	1.50	13.8	11.3
80	53	56	3	17.5	23.0	5.5	8.51	1.64	12.7	10.3
81	53	58	5	20.0	21.9	1.9	6.00	1.23	13.3	8.6
83	59	66	7	15.0	26.1	11.1	7.54	1.54	15.5	10.6
84	56	56	0	17.5	18.5	1.0	4.00	0.85	11.6	6.9
86	54	53	-1	20.0	20.7	0.7	----	----	11.8	8.9
91	53	57	4	17.5	22.6	5.1	7.08	1.13	12.7	9.9
94	54	56	2	17.5	18.4	0.9	3.42	0.45	9.2	9.2
95	54	60	6	17.5	22.5	5.0	6.51	1.29	13.3	9.2
$\bar{x}$	54.7	58.3	3.6	18.1	22.0	3.9	6.25	1.15	12.6	9.5

Experiment I continued

Montmorillonite

Oyster number	Weekly Underwater Weights (g) 5/11	5/19	5/26	6/2	6/9	6/16	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
145	13.56	13.71	14.20	14.63	15.22	15.60	2.04	31.80	35.20	3.40
146	16.22	16.31	16.40	16.63	16.99	17.59	1.37	36.70	37.88	1.18
148	14.64	15.18	15.90	16.79	17.53	18.53	3.89	35.60	40.54	4.94
152	15.88	16.38	16.60	16.83	17.69	18.18	2.30	34.10	37.49	3.39
153	15.68	16.40	17.50	18.66	19.83	21.01	5.33	34.80	42.92	8.12
154	14.56	15.15	15.70	16.27	16.88	17.16	2.60	33.30	37.30	4.00
155	15.40	16.05	16.60	17.12	17.73	18.49	3.09	37.50	41.60	4.10
158	12.78	13.19	13.90	14.38	15.37	16.44	3.66	31.00	36.38	5.38
159	14.82	15.31	15.80	16.27	16.71	17.18	2.36	33.50	37.33	3.83
163	15.72	15.80	15.90	16.05	16.38	16.77	1.05	37.00	38.20	1.20
164	19.40	19.72	20.20	20.70	21.31	21.85	2.45	40.70	44.01	3.31
165	16.73	17.27	17.80	18.41	19.00	19.44	2.71	36.20	40.50	4.30
$\bar{x}$	15.45	15.87	16.37	16.89	17.55	18.19	2.74	35.18	39.11	3.93
$\bar{x}$ weekly gain		0.42	0.50	0.52	0.66	0.64	2.74 = Total			

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170	13.90	14.05	14.30	14.73	15.12	15.61	1.71	32.30	34.30	2.00
176	15.31	15.60	15.90	16.37	16.74	16.90	1.59	39.70	41.70	2.00
177	15.90	16.18	16.80	17.11	17.38	17.70	1.80	35.90	38.08	2.18
178	15.90	16.37	16.80	17.39	18.09	18.72	2.82	35.00	38.42	3.42
179	14.45	14.99	15.40	16.20	16.95	17.51	3.06	30.70	35.39	4.69
181	13.20	13.61	14.10	14.52	15.38	15.89	2.69	30.00	34.31	4.31
182	13.54	13.61	13.60	13.74	13.85	13.85	0.31	33.70	34.40	0.70
183	18.50	18.85	19.20	19.79	20.43	21.04	2.54	40.70	44.02	3.32
184	12.50	12.70	13.10	13.65	14.10	14.70	2.20	31.20	34.16	2.96
188	16.58	17.19	17.80	18.69	19.58	20.35	3.77	37.00	42.53	5.53
189	16.10	16.51	16.90	17.45	18.19	18.76	2.66	37.40	41.14	3.74
191	18.37	18.49	18.40	18.71	19.18	19.49	1.12	41.30	42.50	1.20
$\bar{x}$	15.35	15.68	16.03	16.53	17.08	17.54	2.19	35.41	38.41	3.00
$\bar{x}$ weekly gain		0.33	0.35	0.50	0.55	0.46	2.19 = Total			

Experiment I continued

Montmorillonite

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
145	60	63	3	15.0	20.8	5.8	6.96	1.32	10.4	10.4
146	61	63	2	20.0	21.4	1.4	5.34	0.81	12.2	9.2
148	56	61	5	20.0	24.7	4.7	8.08	1.35	13.2	11.5
152	50	54	4	17.5	20.7	3.2	6.54	1.10	12.0	8.7
153	59	67	8	15.0	25.0	10.0	6.98	1.35	14.5	10.5
154	55	56	1	20.0	21.4	1.4	6.61	1.16	12.3	9.1
155	60	65	5	22.5	25.4	2.9	6.72	1.29	13.3	12.1
158	63	68	5	17.5	22.7	5.2	5.78	1.04	11.9	10.8
159	50	54	4	17.5	21.9	4.4	6.27	1.04	13.1	8.8
163	60	61	1	20.0	22.4	2.4	5.75	0.82	11.4	11.0
164	57	61	4	20.0	23.8	3.8	5.53	0.96	14.9	8.9
165	58	62	4	17.5	21.9	4.4	5.35	0.83	13.9	8.0
$\bar{x}$	57.4	61.3	3.9	18.5	22.7	4.2	6.33	1.09	12.8	9.9

Indulin C

170	60	62	2	15.0	20.6	5.6	5.60	1.09	11.3	9.3
176	65	65	0	22.5	26.2	3.7	8.49	1.35	12.6	13.6
177	60	60	0	20.0	21.0	1.0	6.13	1.06	12.2	8.8
178	58	62	4	17.5	22.0	4.5	5.45	1.05	13.3	8.7
179	50	56	6	15.0	19.6	4.6	5.01	0.94	12.1	7.5
181	56	62	6	17.5	20.0	2.5	5.31	1.00	10.9	9.1
182	63	62	-1	20.0	20.2	0.2	4.52	0.52	9.9	10.3
183	56	63	7	22.5	24.5	2.0	7.21	1.36	15.0	9.5
184	54	60	6	17.5	21.7	4.2	7.92	1.64	11.3	10.4
188	60	64	4	20.0	24.3	4.3	8.23	1.61	14.4	9.9
189	58	64	6	20.0	24.0	4.0	4.47	1.52	13.3	10.7
191	59	61	2	22.5	23.6	1.1	7.47	0.60	14.9	8.7
$\bar{x}$	58.2	61.7	3.5	19.2	22.3	3.1	6.32	1.14	12.6	9.7

Experiment I continued

Vanillin

Oyster number	Weekly Underwater Weights (g) 5/11	5/19	5/26	6/2	6/9	6/16	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
194	17.88	18.40	18.90	19.72	20.49	21.47	3.59	39.70	44.72	5.02
195	16.13	16.12	16.40	17.00	17.78	18.51	2.38	36.60	40.65	4.05
196	11.40	11.79	12.50	12.97	13.80	14.54	3.14	25.10	29.91	4.81
200	8.14	8.27	8.10	8.11	8.19	8.09	-0.05	19.00	19.51	0.51
201	13.47	13.99	14.80	15.41	16.21	17.15	3.68	33.60	39.23	5.63
202	21.81	22.11	22.40	22.89	23.63	24.31	2.50	40.60	45.70	5.10
204	10.33	10.70	11.40	12.23	13.10	14.07	3.74	30.00	36.11	6.11
207	17.63	18.11	18.50	19.11	19.95	20.72	3.09	38.70	43.42	4.72
210	19.97	19.99	19.80	19.88	19.93	19.86	-0.11	43.80	44.00	0.20
211	17.71	18.23	18.60	19.03	19.67	20.05	2.34	38.80	43.35	4.55
212	20.60	20.31	22.20	23.31	24.00	25.31	4.71	44.50	51.11	6.61
215	15.33	15.40	15.20	15.20	15.32	15.43	0.10	36.40	37.65	1.25
$\bar{x}$	15.87	16.12	16.57	17.06	17.67	18.29	2.42	35.57	39.61	4.04
$\bar{x}$ weekly gain	0.25	0.45	0.49	0.61	0.62		2.42 = Total			

Indulin C and Montmorillonite

218	12.63	13.09	13.80	14.38	15.09	15.95	3.32	30.80	36.20	5.40
220	16.11	16.88	17.60	18.30	19.22	20.10	3.99	36.00	42.20	6.20
221	14.58	15.10	15.50	16.01	16.69	17.16	2.58	33.40	39.54	6.14
223	15.15	15.47	15.90	16.40	17.07	17.66	2.51	34.10	38.83	4.73
224	15.55	15.91	16.40	16.91	17.53	18.24	2.69	32.30	36.80	4.50
225	15.21	15.64	16.00	16.61	17.25	17.93	2.72	32.80	37.60	4.80
228	14.20	14.40	14.80	15.30	15.88	16.50	2.30	34.60	38.00	3.40
230	20.77	21.61	22.60	23.90	25.13	26.53	5.76	46.20	55.68	9.48
231	16.97	17.53	17.90	18.40	19.08	19.81	2.84	36.60	40.42	3.82
233	17.11	17.57	18.30	19.12	19.63	21.03	3.92	37.50	43.52	6.02
237	17.00	17.80	18.70	19.51	20.18	21.21	4.21	38.30	45.42	7.12
238	17.50	18.04	19.40	18.58	20.39	21.00	3.50	38.20	43.42	5.22
$\bar{x}$	16.07	16.59	17.24	17.79	18.60	19.43	3.36	35.90	41.47	5.57
$\bar{x}$ weekly gain	0.52	0.65	0.55	0.81	0.83		3.36 = Total			

Experiment I continued

Vanillin

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
194	60	65	5	20.0	26.5	6.5	7.41	1.36	14.5	12.0
195	57	62	5	22.5	23.3	0.8	6.81	0.96	13.0	10.3
196	50	59	9	12.5	17.7	5.2	4.90	1.05	10.5	7.2
200	50	50	0	12.5	10.8	-1.7	1.12	0.05	5.9	4.9
201	64	70	6	17.5	24.6	7.1	7.[illegible]3	1.53	12.5	12.1
202	46	49	3	20.0	2[illegible].1	[illegible].1	[illegible].05	0.57	18.2	4.9
204	58	65	7	20.0	25.5	5.5	8.07	1.77	10.7	14.8
207	56	62	6	20.0	24.7	4.7	7.[illegible]5	[illegible].46	14.3	10.4
210	60	62	2	22.5	23.7	1.2	[illegible].7	0.46	13.8	9.9
211	60	66	6	20.0	24.4	4.4	[illegible].91	1.1[illegible]	13.6	10.8
212	58	65	7	22.5	2[illegible].7	[illegible].2	[illegible].[illegible]2	1.66	18.1	10.6
215	61	61	0	22.5	21.3	-1.2	4.[illegible]9	0.46	11.5	9.8
$\bar{x}$	56.6	61.3	4.7	19.4	22.9	3.5	5.72	1.04	13.0	9.8

Indulin C and Montmorillonite

218	54	57	3	17.5	2[illegible].8	4.3	5.33	1.19	12.0	9.8
220	56	59	3	17.5	2[illegible].1	6.6	5.63	1.21	14.9	9.2
221	65	75	10	17.5	2[illegible].9	6.4	[illegible].78	1.07	12.4	11.5
223	55	60	5	20.0	2[illegible].[illegible]	2.3	6.24	1.23	[illegible]2.2	10.1
224	54	61	7	15.0	20.1	5.1	4.53	0.99	[illegible]3.0	7.1
228	56	63	7	17.5	2[illegible].7	3.2	5.40	0.95	[illegible].8	7.9
230	60	60	0	20.0	2[illegible].0	3.0	7.78	1.26	[illegible].9	11.1
231	64	74	10	20.0	3[illegible].[illegible]	12.8	8.31	1.95	[illegible].6	14.2
232	59	63	4	17.5	2[illegible].[illegible]	4.7	[illegible].41	1.10	[illegible]6.7	8.5
233	57	64	7	20.0	2[illegible].2	5.2	[illegible].84	1.31	14.8	10.4
237	60	68	8	20.0	26.5	6.5	[illegible].54	1.49	14.9	11.6
238	55	62	7	22.5	23.8	1.3	7.57	1.45	14.1	9.7
$\bar{x}$	57.9	63.8	5.9	18.7	23.9	5.2	6.28	1.27	13.8	10.1

Experiment II
Growth of Oysters Fed Various Supplements
Y.R.O.R. Corporation Study
6/30/66 to 8/13/66

Control

Oyster number	Weekly Underwater Weights (g) 6/30	7/7	7/14	7/21	7/28	8/5	8/13	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
101	5.25	5.64	6.07	6.80	7.18	7.36	7.65	2.40	12.52	17.13	4.61
102	4.67	4.72	4.95	5.94	5.99	6.27	6.39	1.72	11.11	13.97	2.86
103	4.60	4.28	4.68	5.18	5.58	5.70	5.99	1.39	10.12	13.51	3.39
104	4.70	5.15	5.38	5.70	5.80	5.78	5.79	1.09	12.08	13.61	1.53
105	5.73	5.89	6.38	7.04	7.65	8.28	8.60	2.87	14.98	20.04	5.06
106	7.47	7.98	8.44	9.20	9.30	9.30	9.25	1.78	20.95	23.59	2.64
107	3.58	3.77	3.95	4.41	4.42	4.45	4.45	0.87	9.10	10.35	1.25
109	3.94	4.31	4.81	5.49	5.90	6.30	6.78	2.84	9.68	14.33	4.65
110	7.77	8.62	9.00	9.67	10.61	11.50	11.97	4.20	20.20	27.41	7.21
111	4.11	4.42	4.80	5.18	5.14	5.15	5.06	0.95	10.21	11.85	1.64
112	8.99	9.39	9.94	10.53	11.22	11.88	12.25	3.26	19.91	26.01	6.10
113	4.35	4.43	4.95	5.61	6.35	6.78	7.39	3.04	9.89	15.45	5.56
114	9.95	10.48	11.04	12.02	12.85	13.79	14.50	4.55	22.10	30.10	8.00
115	4.65	4.98	5.17	5.64	5.94	6.27	6.43	1.78	10.07	13.13	3.06
116	6.97	7.64	8.28	9.16	9.72	10.41	10.79	3.82	18.21	25.41	7.20
117	4.81	5.00	5.41	5.85	6.71	7.20	7.99	3.18	11.21	17.39	6.18
118	3.63	3.79	3.90	4.41	4.87	5.04	5.32	1.69	9.19	12.50	3.31
119	4.01	4.31	4.84	5.68	6.34	6.73	6.69	2.68	9.85	14.89	5.04
$\bar{x}$	5.51	5.68	6.06	6.66	7.07	7.42	7.96	2.45	13.41	17.82	4.41
$\bar{x}$ weekly gain		0.17	0.38	0.60	0.41	0.35	0.54	2.45 = Total			

Experiment II continued.

Control

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
101	42	46	4	7.8	10.2	2.4	1.52	0.15	5.6	4.6
102	40	40	0	6.9	8.0	1.1	1.23	0.18	4.9	3.1
103	38	41	3	6.2	8.0	1.8	1.11	0.18	4.4	3.6
104	49	49	0	7.7	8.3	0.6	0.78	0.10	4.0	4.3
105	44	49	5	9.5	12.2	2.7	1.88	0.32	6.0	6.2
106	51	50	-1	13.9	14.7	0.8	2.06	0.33	7.4	7.3
107	36	37	1	5.9	6.4	0.5	0.67	----	3.4	3.0
109	41	47	6	6.1	8.6	2.5	1.44	0.25	5.0	3.6
110	51	65	14	13.1	15.8	2.7	2.18	0.30	9.5	6.3
111	37	40	3	6.9	7.6	0.7	0.84	0.13	3.8	3.8
112	44	49	5	11.3	13.9	2.6	2.11	0.37	8.6	5.3
113	41	46	5	5.9	8.4	2.5	1.24	0.22	5.2	3.7
114	45	49	4	12.7	16.2	3.5	2.54	0.47	9.2	7.0
115	35	38	3	5.9	7.4	1.5	0.91	0.15	4.6	2.8
116	53	53	0	11.8	14.5	2.7	2.33	0.40	8.2	7.3
117	35	45	10	6.6	9.8	3.2	1.93	0.38	5.8	4.0
118	40	42	2	6.2	7.6	1.4	1.03	0.17	4.1	3.5
119	45	49	4	6.3	8.4	2.1	1.16	0.21	4.8	3.6
$\bar{x}$	42.6	46.4	3.8	8.3	10.3	2.0	1.50	0.25	5.8	4.6

Experiment II continued

Starch

Oyster number	Weekly Underwater Weights (g) 6/30	7/7	7/14	7/21	7/28	8/5	8/13	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
21	4.21	4.71	5.13	5.81	6.68	7.31	8.05	3.84	10.31	17.80	7.49
22	5.54	5.81	6.27	6.70	6.61	6.62	6.62	1.08	13.31	15.33	2.02
23	6.37	7.11	7.76	8.71	9.91	10.28	10.20	3.83	15.99	23.67	7.68
24	5.46	5.83	6.28	6.85	6.81	6.75	6.71	1.25	13.90	16.27	2.37
25	6.09	6.79	7.50	8.63	9.54	10.62	11.64	5.55	15.20	25.49	10.29
26	5.24	5.71	6.33	7.18	7.30	8.70	9.50	4.26	12.19	20.06	7.87
27	5.09	5.74	6.30	7.14	8.08	8.87	9.72	4.63	12.70	21.39	8.69
28	5.96	6.61	7.40	8.48	9.52	10.49	11.37	5.41	14.65	24.19	9.54
29	4.94	5.41	6.01	6.81	7.68	9.01	9.98	5.04	11.59	21.64	10.05
30	4.61	5.89	5.95	6.82	7.78	8.80	9.59	4.98	11.24	21.55	10.31
31	9.34	9.87	10.42	10.90	11.11	11.20	11.16	1.82	20.23	24.53	4.30
32	4.56	5.10	5.43	6.06	6.22	6.30	6.38	1.82	10.71	13.90	3.19
33	4.40	4.91	5.50	6.08	6.46	6.67	6.79	2.39	9.45	14.00	4.55
34	5.83	6.31	6.94	7.58	7.59	7.82	8.05	2.22	13.21	17.60	4.39
35	5.42	5.88	6.44	7.38	7.85	7.86	7.81	2.39	12.11	16.76	4.65
36	4.88	5.38	5.92	6.57	6.62	6.58	6.62	1.74	11.99	15.19	3.20
37	4.97	5.38	5.62	5.70	7.04	7.70	8.28	3.31	12.18	18.54	6.36
38	3.94	4.19	4.50	5.20	5.90	6.34	6.30	2.36	10.31	15.12	4.81
39	3.64	3.68	3.70	3.71	3.70	3.68	3.66	0.02	10.49	10.40	-0.09
40	6.99	7.18	7.86	8.47	9.13	9.63	9.79	2.80	14.61	19.85	5.24
$\bar{x}$	5.37	5.87	6.36	7.09	7.58	8.06	8.41	3.04	12.82	18.66	5.84
$\bar{x}$ weekly gain		0.50	0.49	0.73	0.49	0.48	0.35	3.04 = Total			

Experiment II continued

Starch

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
21	40	46	6	7.0	10.4	3.4	3.01	0.64	5.7	4.7
22	41	41	0	8.4	9.0	0.6	1.33	0.21	5.0	4.0
23	42	48	6	10.3	14.2	3.9	2.52	0.53	8.0	6.2
24	42	45	3	8.9	9.8	0.9	1.52	0.15	5.3	4.5
25	44	52	8	9.7	14.6	4.9	2.89	0.72	8.3	6.3
26	44	49	5	7.7	10.8	3.1	2.76	0.73	6.7	4.1
27	52	58	6	8.2	12.6	4.4	2.96	0.73	6.6	6.0
28	46	51	5	9.1	13.0	3.9	3.44	0.83	8.0	5.0
29	38	46	8	7.2	12.2	5.0	2.71	0.60	6.8	5.4
30	50	59	9	7.6	12.8	5.2	2.88	0.61	6.5	6.3
31	44	45	1	11.5	13.2	1.7	2.82	0.60	7.6	4.6
32	39	42	3	6.6	7.6	1.0	1.66	0.35	4.8	2.8
33	39	41	2	5.3	7.8	2.5	1.64	0.38	4.6	3.2
34	41	44	3	8.0	9.7	1.7	2.08	0.37	5.5	4.2
35	36	42	6	7.4	9.0	1.6	1.36	0.24	5.6	3.4
36	39	41	2	7.6	9.0	1.4	1.74	0.32	5.2	3.8
37	39	46	7	7.8	10.5	2.7	2.52	0.56	5.8	4.7
38	41	46	5	7.0	9.0	2.0	2.27	0.37	5.1	3.9
39	42	42	0	7.1	7.0	-0.1	0.40	0.04	3.0	4.0
40	42	44	2	7.9	10.5	2.6	2.16	0.46	7.0	3.5
$\bar{x}$	42.0	46.4	4.4	8.0	10.6	2.6	2.23	0.47	6.1	4.5

Experiment II continued

Lactic and Glycolic

Oyster number	Weekly Underwater Weights (g) 6/30	7/7	7/15	7/21	7/28	8/5	8/13	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
81	9.54	9.89	10.46	11.33	12.10	12.54	13.11	3.57	20.86	27.16	6.30
82	5.24	5.63	6.05	6.73	7.48	7.90	8.19	2.95	13.72	19.45	5.73
83	4.19	4.46	4.72	5.36	5.48	5.45	5.41	1.22	9.58	11.84	2.26
84	6.40	6.57	7.00	7.44	7.43	7.41	7.52	1.12	13.55	16.30	2.75
85	5.31	5.89	6.17	6.71	7.51	7.98	8.55	3.24	11.28	18.28	7.00
86	5.84	6.30	6.58	7.35	7.60	7.62	7.58	1.74	16.22	19.30	3.08
87	6.70	6.75	7.01	7.51	7.90	8.33	8.78	2.08	14.45	18.12	3.67
88	5.91	6.48	6.91	7.50	8.03	8.63	9.01	3.10	13.70	19.80	6.10
89	5.10	5.50	6.02	6.79	7.30	7.56	7.80	2.70	11.70	16.58	4.88
90	4.78	5.19	5.52	5.93	5.81	5.93	5.90	1.12	10.85	12.72	1.87
91	4.61	5.05	5.56	6.37	7.01	7.46	7.82	3.21	12.61	19.11	6.50
92	6.68	7.54	8.42	9.35	10.21	10.81	11.46	4.78	16.58	25.80	9.22
93	6.65	7.00	7.45	8.12	8.68	8.93	9.34	2.69	18.12	22.77	4.65
94	5.53	5.95	6.13	6.72	7.43	7.59	7.93	2.40	14.60	18.57	3.97
95	4.49	4.50	4.54	4.54	4.52	4.50	4.50	0.01	13.13	13.15	0.02
96	5.62	5.98	6.25	6.49	6.44	6.40	6.36	0.74	16.00	17.49	1.49
97	6.19	6.50	6.79	7.27	7.86	8.30	8.82	2.63	12.43	17.50	5.07
98	6.49	6.89	7.39	8.87	8.68	8.88	9.27	2.78	14.60	20.03	5.43
99	5.27	5.47	5.57	5.71	5.70	5.90	6.28	1.01	11.79	13.46	1.67
100	6.19	6.69	7.28	8.16	9.20	10.08	10.80	4.61	14.89	24.10	9.21
$\bar{x}$	5.84	6.21	6.59	7.21	7.62	7.91	8.22	2.38	14.03	18.58	4.55
$\bar{x}$ weekly gain		0.37	0.38	0.62	0.41	0.29	0.31	2.38 = Total			

Experiment II continued

Lactic and Glycolic

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
81	44	51	7	12.0	14.8	2.8	3.01	0.59	8.8	6.0
82	44	48	4	9.2	11.7	2.5	3.59	0.61	6.0	5.7
83	41	43	2	5.9	7.0	1.1	1.30	0.13	4.0	3.0
84	43	46	3	8.3	9.1	0.8	1.10	0.18	5.5	3.6
85	42	47	5	7.0	10.3	3.3	2.45	0.44	5.9	4.4
86	49	54	5	10.9	12.2	1.3	2.94	0.46	5.5	6.7
87	39	40.	1	8.2	9.8	1.6	1.53	0.30	6.8	3.0
88	43	47	4	8.4	11.4	3.0	2.18	0.38	6.2	5.2
89	42	45	3	7.2	8.9	1.7	1.90	0.30	5.4	3.5
90	42	43	1	6.6	7.3	0.7	1.14	0.13	4.4	2.9
91	48	53	5	8.5	11.6	3.1	3.56	0.62	5.4	6.2
92	53	60	7	10.9	14.6	3.7	3.77	0.69	7.9	6.7
93	45	48	3	11.8	13.8	2.0	3.19	0.55	7.4	6.4
94	44	52	8	9.6	11.0	1.4	1.81	0.27	5.6	5.4
95	44	44	0	9.0	9.0	0.0	0.55	0.05	3.5	5.5
96	46	45	-1	10.9	11.4	0.5	2.11	0.28	5.6	5.8
97	42	39	-3	7.0	9.0	2.0	1.26	0.25	6.3	2.7
98	44	48	4	8.6	11.2	2.6	2.15	0.41	6.6	4.6
99	44	46	2	7.0	7.5	0.5	1.36	0.22	4.4	3.1
100	44	54	10	9.3	14.0	4.7	2.93	0.52	7.7	6.3
$\bar{x}$	44.1	47.6	3.5	8.8	10.8	2.0	2.19	0.37	6.0	4.8

Experiment II continued

Dextrose and Montmorillonite

Oyster number	Weekly Underwater Weights (g) 6/30	7/7	7/15	7/21	7/28	8/5	8/13	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
41	5.44	5.70	6.10	6.82	7.39	8.00	8.65	3.21	11.91	17.91	6.00
42	10.88	11.72	12.19	13.14	13.76	14.20	14.85	3.97	23.03	30.22	7.19
43	4.52	4.92	5.40	5.83	6.46	6.77	7.31	2.79	11.00	16.60	5.60
45	5.02	5.53	6.00	6.79	7.42	7.80	8.22	3.20	12.09	18.09	6.00
47	4.37	4.75	5.19	6.05	6.56	7.00	7.63	3.26	10.53	16.91	6.38
48	10.00	10.28	10.56	10.97	11.43	11.71	11.98	1.98	21.52	25.12	3.60
49	5.63	6.18	6.68	7.49	8.12	8.62	9.00	3.37	14.32	20.89	6.57
50	5.50	5.58	5.72	6.23	6.81	7.29	7.09	1.59	12.51	15.70	3.19
53	5.55	5.95	6.20	6.80	6.88	6.80	6.80	1.25	11.86	14.52	2.66
54	11.85	11.84	12.20	13.08	13.81	14.33	14.85	3.00	25.03	31.00	5.97
55	4.97	5.30	5.70	5.85	5.88	5.92	5.91	0.94	11.91	14.13	2.22
56	11.28	12.00	12.55	13.57	14.38	14.84	15.44	4.16	23.16	30.26	7.10
57	3.87	4.18	4.60	5.30	5.81	6.20	6.92	3.05	9.79	16.08	6.29
59	5.08	5.61	6.04	6.73	6.91	8.42	9.18	4.10	11.12	19.35	8.23
60	4.41	4.83	5.29	6.18	7.11	7.73	8.38	3.97	11.04	18.92	7.88
$\bar{x}$	6.56	6.96	7.36	8.06	8.58	9.04	9.48	2.92	14.72	20.38	5.66
$\bar{x}$ weekly gain		0.40	0.40	0.70	0.52	0.46	0.44	2.92 = Total			

Lactic, Glycolic and Montmorillonite

61	5.90	6.09	6.33	7.02	7.33	7.38	7.31	1.41	12.53	15.30	2.77
62	4.11	4.35	4.78	5.29	5.91	5.50	5.47	1.36	9.91	12.35	2.44
65	4.20	4.52	5.00	5.66	5.85	5.84	5.80	1.60	9.89	13.04	3.15
66	6.92	7.36	7.92	8.80	9.49	9.40	9.32	2.40	14.81	19.55	4.74
67	4.48	4.89	5.38	6.10	6.45	6.89	7.32	2.84	10.29	16.09	5.80
69	8.09	8.68	9.39	10.43	10.70	10.66	10.55	2.46	17.02	21.81	4.79
70	4.48	4.87	5.40	6.14	6.72	7.40	7.78	3.30	11.58	17.50	5.92
71	7.34	7.54	7.94	8.50	9.42	10.07	10.17	2.83	16.87	22.46	5.59
72	4.91	4.50	5.00	5.70	6.04	6.20	6.28	1.37	11.09	13.68	2.59
75	6.39	6.82	7.40	8.43	9.17	9.25	9.17	2.78	16.84	21.68	4.84
77	5.58	5.90	6.50	7.18	8.04	8.83	9.42	3.84	13.00	20.32	7.32
78	5.27	5.73	6.30	6.68	7.24	7.69	7.87	2.60	13.68	18.63	4.95
79	4.22	4.51	4.74	5.12	5.18	5.12	5.10	0.88	9.24	11.11	1.87
80	6.59	7.00	7.59	8.23	9.10	9.79	9.85	3.26	14.47	20.12	5.65
$\bar{x}$	5.61	5.91	6.40	7.09	7.62	7.86	7.96	2.35	12.94	17.40	4.46
$\bar{x}$ weekly gain		0.30	0.49	0.69	0.53	0.24	0.10	2.35 = Total			

Experiment II continued

Dextrose and Montmorillonite

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
41	37	42	5	7.2	10.1	2.9	1.74	0.29	5.8	4.3
42	49	52	3	12.9	16.0	3.1	2.29	0.52	9.8	6.2
43	38	45	7	7.2	9.8	2.6	1.40	0.38	5.6	4.2
45	40	44	4	7.7	10.0	2.3	0.62	0.24	6.2	3.8
47	39	45	6	6.8	9.9	3.1	0.66	0.30	5.6	4.3
48	48	49	1	12.0	13.3	1.3	1.54	0.52	7.8	5.5
49	50	53	3	9.3	12.8	3.5	0.95	0.38	6.8	6.0
50	44	47	3	7.5	8.6	1.1	0.85	0.22	5.0	3.6
53	39	41	2	7.2	8.1	0.9	0.20	0.09	4.8	3.3
54	48	47	-1	13.5	16.7	3.2	1.75	0.54	10.0	6.7
55	44	45	1	8.7	9.0	0.3	0.12	0.06	5.1	3.9
56	46	49	3	12.4	15.2	2.8	1.95	0.44	10.0	5.2
57	39	45	6	6.5	9.4	2.9	0.75	0.26	6.0	3.4
59	33	41	8	6.8	10.6	3.8	1.10	0.32	6.6	4.0
60	41	48	7	7.3	9.8	2.5	0.98	0.38	5.4	4.4
$\bar{x}$	42.3	46.2	3.9	8.9	11.3	2.4	1.13	0.33	6.7	4.6

Lactic, Glycolic and Montmorillonite

61	39	40	1	7.2	8.8	1.6	0.35	0.12	4.3	4.5
62	40	41	1	6.4	7.2	0.8	0.26	0.12	4.3	2.9
65	38	41	3	6.2	7.4	1.2	0.41	0.16	4.3	3.1
66	41	45	4	8.8	10.6	1.8	0.89	0.18	6.3	4.3
67	41	44	3	6.5	9.2	2.7	1.05	0.36	5.0	4.2
69	43	56	13	10.2	11.7	1.5	0.22	0.12	7.4	4.3
70	38	42	4	7.6	10.0	2.4	2.18	0.42	5.6	4.4
71	42	46	4	10.0	13.0	3.0	0.96	0.32	7.8	5.2
72	38	40	2	6.2	7.8	1.6	0.65	0.25	4.4	3.4
75	50	53	3	11.0	12.8	1.8	0.93	0.28	7.4	5.4
77	40	46	6	8.3	11.5	3.2	1.74	0.45	6.6	4.9
78	43	48	5	8.8	10.8	2.0	0.92	0.30	5.8	5.0
79	37	37	0	5.6	6.3	0.7	0.24	0.12	3.8	2.5
80	40	46	6	8.6	11.2	2.6	0.30	0.15	7.0	4.2
$\bar{x}$	40.7	44.6	3.9	8.0	9.9	1.9	0.79	0.24	5.7	4.2

Experiment II continued

Montmorillonite

Oyster number	Weekly Underwater Weights (g) 6/30	7/7	7/15	7/21	7/28	8/5	8/13	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
162	6.39	7.02	7.85	8.59	8.90	9.29	9.78	3.39	15.22	22.41	7.19
164	4.92	5.32	5.82	6.40	6.73	6.78	6.77	1.85	11.71	15.10	3.39
165	4.87	5.28	5.79	6.50	7.11	7.68	8.56	3.69	12.00	19.70	7.70
166	5.96	6.38	6.83	7.61	7.93	8.30	8.70	2.74	14.07	18.89	4.82
167	5.10	5.11	5.60	6.35	7.08	7.16	8.27	3.17	11.05	17.28	6.23
168	4.70	5.30	6.00	6.35	6.38	6.40	6.36	1.66	11.79	14.57	2.78
169	6.60	7.15	7.63	8.10	8.07	8.05	8.04	1.44	14.91	17.08	2.17
170	5.03	5.27	5.45	6.00	6.70	7.29	8.03	3.00	12.07	18.49	6.42
171	4.57	4.93	5.13	6.00	6.55	7.10	7.70	3.13	12.30	18.32	6.02
172	5.19	5.48	6.04	6.81	6.99	7.00	7.00	1.81	14.83	17.46	2.63
173	6.03	6.30	6.83	7.52	7.62	7.62	7.58	1.55	14.01	16.78	2.77
174	5.48	5.61	5.92	6.55	7.25	7.60	8.04	2.56	13.92	18.55	4.63
175	6.43	6.79	7.28	8.13	9.05	9.80	10.52	4.09	14.69	22.40	7.71
176	8.09	8.62	9.08	9.80	10.22	10.79	11.24	3.15	18.32	24.03	5.71
177	5.72	6.25	6.87	7.50	8.60	9.21	9.78	4.06	14.42	22.18	7.76
178	5.68	5.91	6.47	7.47	8.07	8.22	8.73	3.05	13.57	19.51	5.94
179	6.08	6.54	7.18	8.20	8.91	9.40	9.96	3.88	14.10	21.60	7.50
180	5.16	5.28	5.80	6.46	6.49	6.45	6.42	1.26	11.32	13.69	2.37
$\bar{x}$	5.67	6.03	6.53	7.24	7.70	8.01	8.42	2.75	13.57	18.78	5.21
$\bar{x}$ weekly gain		0.36	0.50	0.71	0.46	0.31	0.41	2.75 = Total			

Experiment II continued

Montmorillonite

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
162	48	53	5	10.3	13.4	3.1	2.43	0.44	7.4	6.0
164	38	40	2	7.2	8.8	1.6	1.28	0.19	5.2	3.6
165	40	50	10	7.6	11.8	4.2	2.73	0.48	6.2	5.6
166	42	46	4	8.5	11.0	2.5	1.58	0.30	6.2	4.8
167	43	47	4	6.2	9.6	3.4	1.56	0.29	5.9	3.7
168	40	43	4	7.6	8.4	0.8	1.03	0.15	5.0	3.4
169	43	44	1	8.7	9.4	0.7	0.68	0.08	5.6	3.8
170	47	55	8	7.5	11.1	3.6	2.58	0.41	5.6	5.5
171	47	53	6	8.2	11.0	2.8	2.15	0.42	5.5	5.5
172	54	53	-1	10.0	10.6	0.6	1.80	0.27	5.3	5.3
173	41	44	3	8.5	9.6	1.1	1.02	----	5.4	4.2
174	43	46	3	8.6	10.8	2.2	2.14	0.38	5.6	5.2
175	43	48	5	8.6	11.8	3.2	2.51	0.41	7.0	4.8
176	39	46	7	10.8	13.5	2.7	2.22	0.35	7.8	5.7
177	45	52	7	9.2	12.8	3.6	2.14	0.40	7.4	5.4
178	43	46	3	8.4	11.0	2.6	1.52	0.25	6.0	5.0
179	57	63	6	8.7	12.2	3.5	2.21	0.40	6.8	5.4
180	40	42	2	6.5	7.6	1.1	0.79	0.09	4.4	3.2
$\bar{x}$	44.1	48.4	4.3	8.4	10.8	2.4	1.80	0.31	6.0	4.8

Experiment II continued

Indulin C

Oyster number	Weekly Underwater Weights (g) 6/30	7/7	7/14	7/21	7/28	8/5	8/13	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
122	4.89	5.02	5.48	5.98	6.50	7.00	7.45	2.56	11.33	16.05	4.72
123	4.15	4.42	4.78	5.20	5.83	6.37	6.88	2.73	9.50	14.20	4.70
124	6.27	6.45	6.72	7.39	7.99	8.55	8.92	2.65	14.08	19.19	5.11
125	4.09	4.55	5.09	5.72	6.35	6.70	7.19	3.10	10.08	15.92	5.84
126	4.41	4.80	5.20	5.85	6.53	6.89	7.40	2.99	10.41	15.57	5.16
127	5.98	6.47	7.03	7.61	8.28	8.80	9.50	3.52	13.83	20.69	6.86
130	4.23	4.32	4.60	5.02	5.28	5.50	5.55	1.32	9.30	11.52	2.22
131	7.23	7.61	8.43	9.42	10.28	11.17	11.65	4.42	20.00	28.97	8.97
132	8.83	9.02	9.38	9.68	9.84	9.86	9.78	0.95	22.07	23.70	1.63
133	11.53	11.88	12.08	12.84	13.52	14.06	14.24	2.71	24.41	29.21	4.80
134	3.87	3.94	4.11	4.41	4.82	5.02	5.29	1.42	9.08	11.20	2.12
136	3.38	3.90	4.40	5.12	5.70	6.11	6.75	3.37	9.38	15.69	6.31
137	5.33	5.61	6.03	6.69	7.27	7.90	8.52	3.19	11.31	17.00	5.69
138	3.93	4.10	4.42	4.99	5.48	5.78	6.07	2.14	10.73	14.78	4.05
139	5.28	5.71	6.17	6.88	7.02	7.48	8.08	2.80	11.47	16.46	4.99
$\bar{x}$	5.56	5.85	6.26	6.85	7.38	7.81	8.22	2.66	13.13	18.01	4.88
$\bar{x}$ weekly gain	0.29	0.41	0.59	0.53	0.43	0.41		2.66 = Total			

Indulin C and Montmorillonite

141	4.31	4.48	4.87	5.59	5.62	6.41	6.97	2.66	9.77	15.00	5.23
142	4.83	5.25	5.62	6.04	6.59	6.99	7.32	2.49	10.68	14.93	4.25
143	3.76	4.06	4.50	5.10	5.61	5.92	6.12	2.36	8.48	12.82	4.34
144	4.12	4.21	4.46	4.92	5.30	5.69	6.12	2.00	9.20	13.02	3.82
146	8.90	9.48	9.74	10.30	10.38	10.41	10.40	1.50	19.62	22.41	2.79
147	4.68	4.89	5.25	5.69	5.69	5.74	5.74	1.06	10.11	12.04	1.93
149	13.68	14.19	14.70	14.87	16.08	16.37	16.64	2.96	28.48	34.10	5.62
151	4.84	5.50	5.48	5.71	5.93	5.90	5.90	1.06	11.95	13.76	1.81
152	8.67	9.68	10.69	11.92	12.89	13.75	14.33	5.66	22.25	34.59	12.34
153	4.07	4.41	4.71	5.30	5.88	6.25	6.62	2.55	11.43	15.57	4.14
154	5.60	5.67	5.75	5.90	6.22	6.45	6.50	0.90	16.92	18.00	1.08
155	4.85	5.41	5.78	6.37	7.19	7.76	8.50	3.65	11.40	18.25	6.85
157	5.02	5.33	5.73	6.40	6.73	7.00	7.44	2.42	12.50	16.79	4.29
158	6.10	6.22	6.50	6.98	7.33	7.63	8.10	2.00	14.28	17.44	3.16
160	6.43	7.00	7.42	8.12	8.87	9.60	10.22	3.79	14.98	21.35	6.37
$\bar{x}$	5.99	6.39	6.75	7.28	7.76	8.12	8.46	2.47	14.14	18.67	4.53
$\bar{x}$ weekly gain	0.40	0.36	0.53	0.48	0.36	0.34		2.47 = Total			

Experiment II continued

Indulin C

Oyster number	Initial	Final	Gain	Initial	Final	Gain	Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
122	46	50	4	6.9	8.9	2.0	1.16	0.23	5.8	3.1
123	38	42	4	6.0	8.0	2.0	1.29	0.26	4.9	3.1
124	40	45	5	8.6	10.8	2.2	1.67	0.27	6.2	4.6
125	42	46	4	6.4	9.3	2.9	1.39	0.25	5.4	3.9
126	36	40	4	6.3	8.6	2.3	1.20	0.24	5.5	3.1
127	44	53	9	8.3	11.7	3.4	1.71	0.32	6.6	5.1
130	38	40	2	5.5	6.6	1.1	0.90	0.15	4.0	2.2
131	56	61	5	13.2	18.0	4.8	3.16	0.49	9.0	9.0
132	49	49	0	13.5	14.4	0.9	2.17	0.29	7.2	7.2
133	48	49	1	13.3	15.3	2.0	2.93	0.38	9.2	6.1
134	40	41	1	5.7	6.4	0.7	0.76	0.14	3.8	3.6
136	38	45	7	6.6	9.6	3.0	1.65	0.31	5.2	4.4
137	39	43	4	6.4	9.0	2.6	1.19	0.24	6.0	3.0
138	37	41	4	7.0	9.2	2.2	1.36	0.23	4.4	4.8
139	41	47	6	6.8	9.0	2.2	1.39	0.25	5.2	3.8
$\bar{x}$	42.1	46.1	4.0	8.0	10.4	2.4	1.60	0.27	5.9	4.5

Indulin C and Montmorillonite

141	36	42	6	6.0	8.5	2.5	1.48	0.27	5.0	3.5
142	36	38	2	6.4	8.0	1.6	1.10	0.21	5.3	2.7
143	32	36	4	5.3	7.2	1.9	0.87	0.16	4.4	2.8
144	33	40	7	5.4	7.3	1.9	1.19	0.18	4.4	2.9
146	51	52	1	11.3	12.4	1.1	1.55	0.22	7.4	5.0
147	36	36	0	6.0	6.8	0.8	1.01	0.13	4.0	2.8
149	46	50	4	15.2	18.0	2.8	3.12	0.51	10.8	7.2
151	45	47	2	7.5	8.3	0.8	0.97	----	4.6	3.7
152	53	63	10	14.3	20.7	6.4	3.78	0.63	9.6	11.1
153	46	50	4	7.9	9.2	1.3	1.61	0.31	5.6	3.6
154	52	52	0	11.4	12.0	0.6	1.29	0.21	5.0	7.0
155	45	51	6	7.2	10.2	3.0	1.83	0.33	6.2	4.0
157	41	47	6	7.9	10.0	2.1	1.80	0.39	5.0	5.0
158	43	46	3	8.5	9.2	0.7	1.51	0.28	5.6	3.6
160	49	53	4	9.3	11.5	2.2	1.92	0.34	6.6	4.9
$\bar{x}$	43	46.9	3.9	8.6	10.6	2.0	1.67	0.28	6.0	4.6

Experiment II continued

Dextrose

Oyster number	Weekly Underwater Weights (g) 6/30	7/7	7/14	7/21	7/28	8/5	8/13	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
181	6.00	6.37	7.00	7.29	7.23	7.35	7.35	1.35	13.62	15.70	2.08
182	5.41	5.90	6.48	6.45	7.81	8.30	8.32	2.91	12.72	17.77	5.05
183	4.88	5.40	5.91	6.50	6.45	6.47	6.45	1.57	12.28	15.49	3.21
184	3.50	3.88	4.30	4.69	4.97	6.04	6.41	2.91	8.91	14.60	5.69
185	5.70	5.95	6.42	7.29	8.02	8.56	9.23	3.53	12.93	19.36	6.43
186	5.17	5.59	5.99	6.29	6.38	6.35	6.31	1.14	10.91	12.99	2.08
187	4.52	4.87	4.96	6.06	6.69	6.80	6.80	2.28	10.02	14.50	4.48
188	7.45	8.18	8.82	9.83	10.56	11.72	12.17	4.72	17.27	27.03	9.76
190	6.22	6.68	7.11	7.75	8.59	9.28	9.97	3.75	13.82	20.78	6.96
191	6.13	6.46	6.91	7.40	7.30	7.42	7.32	1.19	15.00	17.44	2.44
192	6.18	6.87	7.65	8.71	9.45	10.52	11.15	4.97	17.18	26.19	9.01
193	7.31	8.02	8.92	9.99	10.65	11.06	11.70	4.39	19.28	27.14	8.13
194	8.73	8.98	9.43	10.08	10.71	11.13	11.65	2.92	18.94	24.41	5.47
196	5.55	6.13	6.72	7.23	8.50	9.04	9.60	4.05	13.25	21.22	7.97
197	4.87	5.28	5.52	6.32	7.08	7.52	8.32	3.45	11.61	18.12	6.51
198	8.60	8.90	9.46	10.29	10.90	11.00	11.05	2.45	18.13	22.85	4.72
199	6.92	7.51	8.08	8.75	8.85	8.86	9.02	2.10	16.71	20.50	3.79
200	6.51	7.00	7.53	8.39	9.29	9.84	10.34	3.83	15.35	22.62	7.27
$\bar{x}$	6.09	6.55	7.06	7.74	8.30	8.74	9.06	2.97	14.33	19.94	5.61
$\bar{x}$ weekly gain		0.46	0.51	0.68	0.56	0.44	0.32	2.97 = Total			

Experiment II continued

Dextrose

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
181	45	47	2	8.0	9.0	1.0	1.21	0.19	4.9	4.1
182	39	42	3	7.8	9.8	2.0	1.63	0.24	5.8	4.0
183	41	43	2	8.0	9.5	1.5	1.31	0.19	4.8	4.7
184	40	46	6	5.8	8.8	3.0	1.51	0.25	5.0	3.8
185	43	49	6	7.7	10.8	3.1	2.19	0.34	5.4	5.4
186	39	40	1	6.5	7.0	0.5	0.67	0.10	4.6	2.4
187	38	43	5	5.9	8.2	2.3	1.10	0.17	4.9	3.3
188	47	55	8	10.6	15.4	4.8	2.67	0.42	8.5	6.9
190	43	46	3	8.1	11.2	3.1	2.30	0.35	6.8	4.4
191	45	48	3	9.3	10.4	1.1	1.34	0.18	5.2	5.2
192	50	57	7	11.2	15.5	4.3	2.69	0.49	9.1	6.4
193	50	54	4	12.4	16.2	3.8	1.40	0.40	8.8	7.4
194	41	46	5	10.3	13.0	2.7	2.29	0.36	8.0	5.0
196	42	50	8	8.4	12.1	3.7	3.16	0.64	6.4	5.7
197	43	48	5	7.1	10.5	3.4	2.92	0.37	5.8	4.7
198	43	47	4	9.7	11.9	2.2	1.84	0.30	7.2	4.7
199	44	47	3	10.4	11.9	1.5	2.28	0.31	6.4	5.5
200	41	46	5	9.3	12.7	3.4	1.93	0.31	8.0	4.7
$\bar{x}$	43.0	47.4	4.4	8.7	11.3	2.6	1.91	0.31	6.4	4.9

Experiment III
Growth of Oysters Fed Various Supplements
Y.R.O.R. Corporation Study
8/26/66 to 10/8/66

Control

Oyster number	Weekly Underwater Weights (g) 8/26	9/9	9/16	9/24	10/1	10/8	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
101	6.67	7.44	8.04	8.72	9.00	9.20	2.53	14.79	20.11	5.32
102	5.69	6.53	6.95	7.32	7.43	7.59	1.90	13.62	17.38	3.76
103	4.40	5.40	5.91	6.59	7.00	7.23	2.83	9.55	15.22	5.67
104	6.19	7.23	7.81	8.09	8.21	8.39	2.20	14.15	18.35	4.20
105	3.61	4.10	4.65	5.20	5.51	5.65	2.04	8.15	12.35	4.20
106	8.51	9.26	9.91	10.61	10.91	11.09	2.58	19.28	24.60	5.32
107	7.75	8.37	8.78	9.40	9.85	10.20	2.45	16.86	22.30	5.44
108	5.85	7.03	7.79	8.53	8.90	9.18	3.33	12.90	19.85	6.95
109	7.34	8.60	9.43	10.31	10.90	11.25	3.91	17.12	24.58	7.46
110	6.52	7.59	8.48	9.51	10.20	10.70	4.18	16.72	25.40	8.68
111	5.67	6.82	7.70	8.67	9.22	9.72	4.05	12.11	20.38	8.27
112	5.50	6.24	6.89	7.49	7.80	8.00	2.50	12.51	17.98	5.47
113	6.05	7.05	7.69	8.32	8.71	9.12	3.07	16.29	22.45	6.16
114	5.90	6.31	6.96	7.34	7.80	8.12	2.22	12.77	17.00	4.23
115	6.20	6.92	7.70	8.40	8.82	9.27	3.07	13.62	19.92	6.30
116	5.90	6.89	7.57	8.30	8.78	9.13	3.23	13.96	20.90	6.94
117	7.41	8.70	8.90	9.06	9.10	9.19	1.78	16.99	20.45	3.46
118	4.59	5.00	5.56	5.94	6.13	6.40	1.81	11.20	14.68	3.48
119	5.71	7.11	7.88	8.34	8.73	9.00	3.29	12.55	19.65	7.10
120	6.39	6.90	7.29	7.52	7.76	7.87	1.48	13.70	16.60	2.90
$\bar{x}$	6.09	6.98	7.59	8.18	8.54	8.82	2.73	13.94	19.51	5.57
$\bar{x}$ weekly gain		0.89	0.61	0.59	0.36	0.28	2.73 = Total			

Experiment III continued

Control

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
101	44	49	5	9.0	11.3	2.3	2.00	0.37	7.0	4.3
102	46	48	2	8.6	10.2	1.6	1.70	0.28	6.0	4.2
103	35	42	7	5.6	8.3	2.7	1.65	0.30	5.4	2.9
104	49	53	4	8.5	10.4	1.9	1.70	0.31	6.2	4.2
105	34	38	4	5.0	7.0	2.0	1.63	0.23	4.3	2.7
106	43	48	5	11.1	13.9	2.8	2.86	0.39	7.8	6.1
107	45	51	6	8.8	12.0	3.2	1.81	0.29	7.4	4.6
108	47	51	4	7.7	10.8	3.1	2.25	0.32	6.7	4.1
109	50	53	3	10.4	13.4	3.0	2.17	0.38	8.2	5.2
110	40	52	12	10.7	14.8	4.1	3.53	0.52	8.0	6.8
111	40	48	8	7.0	10.7	3.7	1.73	0.34	7.0	3.7
112	40	46	6	7.8	10.3	2.5	1.65	0.28	6.4	3.9
113	48	53	5	10.9	13.7	2.8	3.12	0.47	7.4	6.3
114	39	42	3	7.3	9.2	1.9	1.67	0.28	6.0	3.2
115	43	48	5	7.9	11.0	3.1	2.37	0.34	6.9	4.1
116	45	47	2	8.6	11.9	3.3	2.59	0.41	6.8	5.1
117	46	47	1	9.2	11.6	2.4	2.58	0.33	6.6	5.0
118	40	45	5	5.0	8.6	3.6	1.54	0.27	5.2	3.4
119	40	47	7	7.4	11.0	3.6	1.98	0.36	6.5	4.5
120	37	39	2	8.6	9.0	0.4	1.63	0.26	5.7	3.3
$\bar{x}$	42.6	47.4	4.8	8.3	11.0	2.7	2.11	0.34	6.6	4.4

Experiment III continued

Starch

Oyster number	Weekly Underwater Weights (g) 8/26	9/9	9/16	9/24	10/1	10/8	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
21	4.90	5.85	6.61	7.45	8.17	9.02	4.12	10.85	19.84	8.99
22	6.51	8.02	8.41	9.01	9.56	10.00	3.49	16.45	24.10	7.65
23	5.41	6.88	7.55	8.55	9.55	10.20	4.79	12.07	23.01	10.94
24	5.63	7.50	8.35	9.44	10.33	11.12	5.49	12.56	26.01	13.45
25	8.61	10.01	10.78	11.57	11.85	11.93	3.32	18.53	25.60	7.07
26	4.51	5.71	6.37	7.30	8.17	8.80	4.29	10.18	21.39	11.21
27	4.61	5.87	6.63	7.59	8.35	8.99	4.38	10.67	20.55	9.88
28	7.02	8.91	10.04	11.52	12.87	13.32	6.30	15.52	31.45	15.93
29	4.78	6.10	6.92	8.20	9.20	10.01	5.23	12.15	24.42	12.27
30	6.28	7.60	8.49	9.65	10.58	11.27	4.99	13.80	25.07	11.27
31	5.99	7.13	7.89	8.90	9.56	10.14	4.15	14.09	24.05	9.96
32	5.00	5.81	6.35	7.14	7.75	8.31	3.31	11.59	18.95	7.36
33	5.05	6.42	7.08	7.96	8.65	9.09	4.04	11.82	20.55	8.73
34	5.61	6.49	7.18	7.96	8.66	9.00	3.39	14.30	21.11	6.81
35	4.53	5.65	6.27	6.42	7.01	7.54	3.01	10.45	16.80	6.35
36	12.60	13.39	14.22	15.43	16.38	17.16	4.56	25.64	37.00	11.36
37	5.51	7.11	7.97	9.05	10.00	10.75	5.24	12.09	23.12	11.03
38	6.46	7.78	8.43	9.40	10.19	10.87	4.41	14.10	24.77	10.67
39	6.60	7.75	8.48	9.68	10.60	11.31	4.71	16.18	26.20	10.02
40	7.38	8.63	9.59	10.51	11.18	11.74	4.36	16.35	25.78	9.43
$\bar{x}$	6.15	7.43	8.18	9.14	9.93	10.53	4.38	13.97	23.99	10.02
$\bar{x}$ weekly gain		1.28	0.75	0.96	0.79	0.60		4.38 = Total		

Experiment III continued

Starch

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
21	41	49	8	6.6	11.0	4.4	2.69	0.66	7.0	4.0
22	46	53	7	10.6	14.0	3.4	3.91	0.92	8.0	6.0
23	42	50	8	7.4	12.8	5.4	3.79	0.93	7.6	5.2
24	43	55	12	7.6	14.0	6.4	3.67	0.81	8.1	5.9
25	44	50	6	11.6	13.5	1.9	2.69	0.62	8.6	4.9
26	41	50	9	6.2	11.2	5.0	2.88	0.65	6.4	4.8
27	40	47	7	6.6	11.5	4.9	3.03	0.74	6.6	4.9
28	46	57	11	9.2	17.2	8.0	5.26	1.35	9.6	7.6
29	40	52	12	8.0	13.9	5.9	4.12	1.02	7.6	6.3
30	40	50	10	8.0	13.6	5.6	3.05	0.76	8.0	5.6
31	40	55	15	8.6	13.4	4.8	3.41	0.80	8.5	4.9
32	46	49	3	7.0	10.6	3.6	2.88	0.66	6.6	4.0
33	41	48	7	7.4	11.4	4.0	3.02	0.71	6.9	4.5
34	50	55	5	9.1	12.5	3.4	3.11	0.73	7.0	5.4
35	40	43	3	6.4	9.2	2.8	2.22	0.51	5.8	3.4
36	42	52	10	13.2	19.0	5.8	4.84	1.26	12.2	6.8
37	42	50	8	7.2	12.2	5.0	2.58	0.61	7.8	4.4
38	41	51	10	8.0	13.7	5.7	3.56	0.80	8.0	5.7
39	39	48	9	10.0	14.6	4.6	4.64	1.09	8.0	6.6
40	42	50	8	9.7	13.7	4.0	3.58	0.82	8.4	5.3
$\bar{x}$	42.3	50.7	8.4	8.4	13.1	4.7	3.45	0.82	7.8	5.3

Experiment III continued

Lactic and Glycolic

Oyster number	Weekly Underwater Weights (g) 8/26	9/9	9/16	9/24	10/1	10/8	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
81	3.41	4.26	4.70	4.96	5.35	5.60	2.19	7.79	12.80	5.01
82	6.53	7.35	7.85	8.68	9.00	9.31	2.78	14.62	20.20	5.58
83	5.01	5.61	6.00	6.50	6.91	7.20	2.19	11.35	16.30	4.95
84	6.45	7.25	7.80	8.45	8.69	9.00	2.55	13.47	19.10	5.63
85	7.17	8.11	8.87	9.90	10.41	10.89	3.72	15.62	23.08	7.46
86	5.50	6.68	7.12	7.91	8.17	8.37	2.87	11.78	17.90	6.12
87	6.09	7.13	7.87	8.72	9.10	9.37	3.28	13.30	20.00	6.70
88	6.60	7.32	8.02	8.46	8.70	8.84	2.24	14.34	19.05	4.71
89	7.17	8.05	8.33	8.89	9.11	9.31	2.14	15.88	20.30	4.42
90	4.32	5.00	5.53	6.02	6.50	6.80	2.48	9.38	15.08	5.70
91	7.33	8.08	8.73	9.51	9.90	10.21	2.88	16.11	20.94	4.83
92	7.16	8.04	8.29	8.86	9.23	9.45	2.29	15.90	21.00	5.10
93	4.99	5.62	6.31	7.11	7.65	8.02	3.03	12.90	20.00	7.10
94	6.69	7.98	8.92	9.75	10.26	10.49	3.80	15.00	24.98	9.98
95	5.63	6.89	7.59	8.34	8.90	9.21	3.58	13.85	20.93	7.08
96	7.40	8.13	8.49	8.86	9.11	9.43	2.03	15.80	20.17	4.37
97	7.26	8.60	9.15	9.43	10.61	11.20	3.94	15.71	24.40	8.69
98	7.65	8.41	8.73	8.77	8.79	8.80	1.15	16.15	18.37	2.22
99	6.81	7.82	8.21	8.60	9.00	9.19	2.38	14.05	19.55	5.50
100	5.99	6.69	7.15	7.71	8.00	8.19	2.20	13.42	17.80	4.38
$\bar{x}$	6.26	7.15	7.68	8.27	8.64	8.94	2.68	13.82	19.60	5.78
$\bar{x}$ weekly gain	0.89	0.53	0.59	0.37	0.30		2.68 = Total			

Experiment III continued

Lactic and Glycolic

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
81	40	42	2	4.8	7.5	2.7	1.65	0.25	4.6	2.9
82	42	44	2	8.7	10.9	2.2	1.65	0.29	6.8	4.1
83	34	39	5	6.6	9.4	2.8	1.55	0.26	5.4	4.0
84	41	47	6	7.4	10.1	2.7	1.91	0.34	6.3	3.8
85	43	49	6	9.2	12.3	3.1	2.42	0.42	7.5	4.8
85	40	43	3	6.8	9.6	2.8	1.47	0.28	6.0	3.6
87	42	47	5	8.1	10.9	2.8	2.15	0.36	6.7	4.2
88	37	43	6	8.2	10.6	2.4	1.99	0.29	6.0	4.6
89	40	44	4	9.6	11.4	1.8	1.83	0.27	6.7	4.7
90	36	42	6	5.4	8.0	2.6	1.56	0.28	5.2	2.8
91	42	47	5	9.0	12.0	3.0	2.21	0.33	7.7	4.3
92	41	45	4	9.3	11.8	2.5	2.08	0.38	7.0	4.8
93	45	51	6	8.4	12.0	3.6	2.11	0.37	6.4	5.6
94	45	50	5	8.8	13.0	4.2	2.30	0.39	7.5	5.5
95	40	46	6	8.6	12.0	3.4	2.23	0.44	6.9	5.1
96	40	44	4	9.0	11.0	2.0	1.62	0.28	6.5	4.5
97	42	49	7	9.0	12.8	3.8	2.29	0.42	8.1	4.7
98	40	43	3	8.8	10.2	1.4	1.56	0.25	6.5	3.7
99	37	41	4	7.6	10.4	2.8	1.36	0.24	6.5	3.9
100	43	47	4	7.8	9.8	2.0	1.91	0.28	5.8	4.0
$\bar{x}$	40.5	45.2	4.7	8.1	10.8	2.7	1.89	0.32	6.5	4.3

Experiment III continued

Lactic, Glycolic and Montmorillonite

Oyster number	Weekly Underwater Weights (g) 8/26	9/9	9/16	9/24	10/1	10/8	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
61	5.27	5.86	6.35	6.89	7.14	7.28	2.01	12.00	16.40	4.40
62	7.82	8.50	9.04	9.99	10.80	11.41	3.59	17.04	24.61	7.57
63	5.59	6.32	6.77	7.35	7.75	8.12	2.53	11.69	17.31	5.62
64	4.85	6.03	6.78	7.42	7.87	8.08	3.23	11.36	17.53	6.17
65	7.52	8.92	9.22	9.35	9.33	9.35	1.83	16.69	20.46	3.77
66	7.90	8.97	9.57	10.29	10.55	10.78	2.88	16.92	23.25	6.33
67	4.45	5.27	5.79	6.30	6.65	6.83	2.38	9.78	15.10	5.32
68	6.02	7.14	8.00	8.89	9.52	9.99	3.97	13.60	21.60	8.00
69	6.84	8.28	9.14	10.17	10.38	11.50	4.66	14.49	24.13	9.64
70	7.83	8.41	9.02	9.80	10.20	10.97	3.14	17.00	23.00	6.00
71	5.50	6.10	6.62	7.32	7.69	8.07	2.57	12.60	19.23	6.63
72	5.91	6.80	7.25	8.10	8.60	8.95	3.04	12.50	18.91	6.41
73	6.10	7.01	7.57	8.19	8.67	8.96	2.86	13.32	18.95	5.63
74	6.89	7.60	8.18	8.74	9.01	9.22	2.33	14.17	19.00	4.83
75	5.57	6.30	6.83	7.61	7.96	8.35	2.78	12.92	19.07	6.15
76	6.01	7.00	7.36	7.90	8.29	8.50	2.49	12.95	18.80	5.85
77	6.36	7.00	7.39	7.94	8.50	8.78	2.42	14.20	19.95	5.75
78	7.63	8.25	8.61	9.27	9.51	9.70	2.07	16.81	20.94	4.13
79	4.60	5.60	6.30	6.95	7.25	7.60	3.00	11.37	17.62	6.25
80	4.95	5.40	5.80	6.27	6.37	6.50	1.55	12.51	15.00	2.49
$\bar{x}$	6.18	7.04	7.58	8.24	8.63	8.95	2.77	13.70	19.54	5.84
$\bar{x}$ weekly gain		0.86	0.54	0.66	0.39	0.32	2.77 = Total			

Experiment III continued

Lactic, Glycolic and Montmorillonite

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
61	44	47	3	7.4	9.7	2.3	1.80	0.29	5.8	3.9
62	44	50	6	10.0	13.2	3.2	2.52	0.41	8.5	4.7
63	41	47	6	6.7	9.5	2.8	1.46	0.28	6.1	2.4
64	40	46	6	7.0	9.9	2.9	1.57	0.28	6.0	3.9
65	48	50	2	10.0	11.3	1.3	2.37	0.38	6.8	4.5
66	40	44	4	9.8	12.8	3.0	2.27	0.35	7.6	5.2
67	38	44	6	6.2	8.4	2.2	1.43	0.21	4.9	3.5
68	40	50	10	8.2	11.8	3.6	1.94	0.39	6.0	3.8
69	39	48	9	8.2	12.5	4.3	2.03	0.35	8.0	4.5
70	46	49	3	9.8	12.5	2.7	1.81	0.36	7.7	4.8
71	43	48	5	8.0	10.8	2.8	2.34	0.39	6.1	4.7
72	39	44	5	6.8	10.0	3.2	1.52	0.29	6.7	3.3
73	40	42	2	8.0	10.4	2.4	1.87	0.32	6.6	3.8
74	40	44	4	7.7	10.5	2.8	1.39	0.21	6.4	4.1
75	41	46	5	8.0	10.8	2.8	2.28	0.38	6.0	4.8
76	43	49	6	7.4	10.5	3.1	1.62	0.28	6.1	4.4
77	45	50	5	8.3	11.3	3.0	1.82	0.30	6.4	4.9
78	40	41	1	9.6	11.6	2.0	1.76	0.29	6.9	4.7
79	42	47	5	7.2	10.3	3.1	1.75	0.31	6.0	4.3
80	39	42	3	8.0	9.0	1.0	1.48	0.22	3.9	5.1
$\bar{x}$	41.6	46.4	4.8	8.1	10.8	2.7	1.85	0.31	6.4	4.4

Experiment III continued

Montmorillonite

Oyster number	Weekly Underwater Weights (g) 8/26	9/9	9/16	9/24	10/1	10/8	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
161	7.90	11.05	10.37	11.34	12.02	12.49	4.59	16.95	26.71	9.76
162	9.57	7.42	11.91	12.31	12.43	12.63	3.06	21.45	28.05	6.60
163	6.74	9.40	8.20	9.20	9.62	10.00	3.26	14.48	21.20	6.72
164	8.35	6.98	9.94	11.46	11.95	12.31	3.96	18.13	26.52	8.39
165	5.73	7.30	7.69	8.41	8.93	9.43	3.70	12.68	21.08	8.40
166	5.71	5.06	8.08	8.85	9.21	9.61	3.90	15.00	23.81	8.81
167	4.62	10.04	5.60	6.10	6.20	6.32	1.70	10.70	14.50	3.80
168	8.80	8.00	10.46	10.86	10.99	11.22	2.42	19.00	23.91	4.91
169	6.71	6.39	8.60	8.87	8.98	9.15	2.44	14.30	19.10	4.80
170	5.22	8.89	7.29	8.30	8.75	9.08	3.86	12.25	20.40	8.15
171	7.59	7.45	9.69	10.32	10.64	10.81	3.22	16.30	23.37	7.07
172	6.41	4.40	8.30	9.30	9.84	10.07	3.66	13.39	20.95	7.56
173	3.42	5.75	4.90	5.60	6.35	6.77	3.35	7.74	14.81	7.07
174	5.00	7.50	6.30	7.02	7.60	8.17	3.17	10.70	17.53	6.83
175	6.25	5.97	8.30	9.00	9.52	9.92	3.67	13.52	21.72	8.20
176	5.15	5.35	6.48	7.14	7.40	7.71	2.56	11.38	16.70	5.32
177	5.29	6.09	6.51	7.30	7.40	7.60	2.31	12.58	16.68	4.10
178	5.29	7.80	6.80	7.70	8.22	8.68	3.39	11.39	18.31	6.92
179	6.81	7.10	8.47	8.95	9.07	9.26	2.45	15.62	20.62	5.00
180	5.92		7.75	8.43	8.85	9.15	3.23	12.45	20.10	7.65
$\bar{x}$	6.32	7.37	8.08	8.82	9.20	9.52	3.20	14.00	20.80	6.80
$\bar{x}$ weekly gain		1.05	0.71	0.74	0.38	0.32		3.20 = Total		

Experiment III continued

Montmorillonite

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
161	42	50	8	9.6	14.5	4.9	2.24	0.42	9.3	5.2
162	46	52	6	12.6	15.9	3.3	2.87	0.45	9.3	6.6
163	42	47	5	8.0	12.2	4.2	1.98	0.34	7.1	5.1
164	47	53	6	10.2	13.9	3.7	2.58	0.46	8.9	5.0
165	38	44	6	7.4	11.8	4.4	2.02	0.36	6.8	5.0
166	47	55	8	8.7	14.0	5.3	2.68	0.52	7.4	6.6
167	42	46	4	6.4	8.6	2.2	1.37	0.23	4.9	3.7
168	49	52	3	10.5	12.8	2.3	1.99	0.32	7.8	5.0
169	43	45	2	8.0	10.2	2.2	1.53	0.27	6.6	3.6
170	41	47	6	7.4	11.5	4.1	1.46	0.32	6.7	4.8
171	42	48	6	9.0	12.4	3.4	2.66	0.62	8.0	4.4
172	38	47	9	7.4	11.0	3.6	1.79	0.32	7.0	4.0
173	36	43	7	4.7	8.0	3.3	1.50	0.26	5.2	2.8
174	37	45	8	6.0	9.6	3.6	1.49	0.27	6.0	3.6
175	40	49	9	7.8	11.8	4.0	1.82	0.30	7.2	4.6
176	39	45	6	6.8	9.2	2.4	1.70	0.26	5.7	3.5
177	45	46	1	7.4	9.3	1.9	1.77	0.25	5.7	3.6
178	38	43	5	6.8	9.8	3.0	1.58	0.27	6.4	3.4
179	47	51	4	9.0	11.7	2.7	2.12	0.35	6.6	5.1
180	38	44	6	7.0	11.2	4.2	1.93	0.31	6.6	4.6
$\bar{x}$	41.8	47.6	5.8	8.1	11.5	3.4	1.95	0.35	7.0	4.5

Experiment III continued

Indulin C and Montmorillonite

Oyster number	Weekly Underwater Weights (g) 8/26	9/9	9/16	9/24	10/1	10/8	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
141	5.63	5.67	5.65	5.69	5.65	5.69	0.06	13.22	13.30	0.08
142	5.57	6.72	7.30	8.28	8.70	8.96	3.39	14.04	21.23	7.19
143	5.16	5.82	6.33	6.83	7.10	7.30	2.14	10.41	15.80	5.39
144	7.29	8.65	9.62	10.52	11.12	11.78	4.49	16.58	26.91	10.33
145	7.10	7.75	8.28	8.89	9.34	9.68	2.58	14.98	20.50	5.52
146	6.14	6.90	7.38	7.65	7.90	8.05	1.91	14.30	18.56	4.26
147	6.69	7.85	8.78	9.80	10.55	11.20	4.51	14.34	24.90	10.56
148	4.82	5.88	6.40	6.95	7.29	7.57	2.75	9.93	16.31	6.38
149	5.71	6.60	7.06	7.60	8.06	8.40	2.69	12.71	18.82	6.11
150	7.00	7.92	8.73	9.59	9.97	10.41	3.41	15.42	22.81	7.39
151	7.56	8.59	9.05	9.48	9.70	9.92	2.36	16.67	21.58	4.91
152	7.56	8.43	9.10	10.05	10.42	11.11	3.55	15.32	23.50	8.18
153	5.19	5.83	6.19	6.60	6.76	6.88	1.69	11.10	14.41	3.31
154	5.91	6.60	7.01	7.69	8.00	8.26	2.35	14.00	18.49	4.49
155	4.57	5.31	5.70	6.17	6.40	6.58	2.01	9.87	13.82	3.95
156	4.19	4.99	5.48	6.04	6.46	6.71	2.52	9.29	15.59	6.30
157	4.80	5.29	5.82	6.46	6.73	7.00	2.20	12.50	17.30	4.80
158	10.01	10.66	11.19	11.71	11.89	12.03	2.02	21.20	25.10	3.90
159	5.79	6.64	6.80	7.35	7.60	7.89	2.10	13.29	17.30	4.01
160	6.51	7.32	7.88	8.56	8.71	8.98	2.47	13.93	19.15	5.22
$\bar{x}$	6.16	6.97	7.49	8.10	8.42	8.72	2.56	13.66	19.26	5.60
$\bar{x}$ weekly gain		0.81	0.52	0.61	0.32	0.30		2.56 = Total		

Experiment III continued

Indulin C and Montmorillonite

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
141	40	40	0	8.0	8.2	0.2	1.02	0.11	4.8	3.4
142	46	52	6	9.0	12.2	3.2	2.82	0.40	7.0	5.2
143	37	42	5	6.8	8.5	1.7	1.39	0.21	5.3	3.2
144	47	53	6	9.8	15.2	5.4	2.85	0.44	8.2	7.0
145	42	46	4	8.4	10.8	2.4	2.06	0.31	6.8	4.0
146	50	52	2	7.6	10.6	3.0	2.04	0.29	6.1	4.5
147	40	50	10	8.0	13.2	5.2	3.02	0.47	8.0	5.2
148	37	44	7	5.7	8.3	2.6	1.09	0.18	5.5	2.7
149	41	48	7	7.4	10.5	3.1	2.23	0.29	6.0	4.5
150	41	46	5	9.0	12.2	3.2	2.27	0.39	7.6	4.6
151	46	50	4	9.3	11.7	2.4	1.82	0.29	7.4	4.3
152	40	46	6	6.2	11.8	5.6	2.17	0.37	8.1	3.7
153	37	41	4	8.4	8.0	-0.4	1.58	0.24	5.1	2.9
154	42	45	3	8.4	10.7	2.3	1.82	0.31	6.0	4.7
155	37	41	4	6.0	7.7	1.7	1.34	0.25	4.8	2.9
156	36	46	10	5.6	8.8	3.2	1.80	0.28	5.1	3.7
157	40	45	5	8.2	10.6	2.4	2.40	0.34	5.7	4.9
158	42	44	2	10.6	13.2	2.6	2.92	0.34	8.0	5.2
159	38	42	4	6.8	9.7	2.9	1.49	0.29	6.3	3.4
160	39	44	5	7.6	10.3	2.7	1.65	0.26	6.8	3.5
$\bar{x}$	40.9	45.9	5.0	7.8	10.6	2.8	1.99	0.30	6.4	4.2

Experiment III continued

Indulin C

Oyster number	Weekly Underwater Weights (g) 8/26	9/9	9/16	9/24	10/1	10/8	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
121	6.81	7.48	7.80	8.31	8.48	8.65	1.84	15.62	20.10	4.48
122	6.62	7.91	8.76	9.74	10.55	11.15	4.53	14.68	24.30	9.62
123	6.35	7.49	8.13	8.62	8.90	9.15	2.80	13.58	20.19	6.61
124	3.81	4.49	4.90	5.39	5.64	5.82	2.01	8.51	12.42	3.91
125	5.05	5.61	5.91	6.30	6.37	6.50	1.45	11.40	14.02	2.62
126	5.68	6.12	6.49	6.85	7.05	7.19	1.51	13.02	16.05	3.03
127	8.97	9.72	10.30	10.81	11.00	11.20	2.23	19.57	24.28	4.71
128	6.99	8.30	8.83	9.40	9.69	10.00	3.01	16.41	20.30	3.89
129	6.49	7.40	8.05	8.90	9.50	10.00	3.51	13.86	21.68	7.82
130	5.95	6.41	6.90	7.27	7.43	7.59	1.64	12.70	15.48	2.78
131	5.74	6.62	7.73	8.70	9.21	9.69	3.95	12.30	20.35	8.05
132	5.28	6.12	6.57	7.10	7.33	7.55	2.27	13.05	18.03	4.98
133	10.19	11.47	11.81	12.42	13.00	13.46	3.27	21.15	28.60	7.45
134	6.31	7.10	7.58	8.06	8.34	8.51	2.20	14.51	18.50	3.99
135	8.10	8.90	9.16	9.71	9.91	10.19	2.09	17.72	22.06	4.34
136	7.02	7.88	8.14	8.46	8.77	8.99	1.97	15.21	19.37	4.16
137	5.40	6.46	7.18	8.02	8.60	9.10	3.70	12.29	17.22	4.93
138	5.30	5.75	6.18	6.73	7.10	7.29	1.99	12.57	16.78	4.21
139	4.89	5.61	6.10	6.52	6.75	6.91	2.02	11.21	15.40	4.19
140	3.70	4.44	4.65	5.00	5.72	5.42	1.72	8.90	12.40	3.50
$\bar{x}$	6.23	7.06	7.56	8.12	8.47	8.72	2.49	13.92	18.88	4.96
$\bar{x}$ weekly gain	0.83	0.50	0.56	0.35	0.25		2.49 = Total			

Experiment III continued

Indulin C

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
121	43	47	4	9.4	11.8	2.4	1.81	0.27	6.2	5.6
122	40	49	9	8.4	13.3	4.9	2.27	0.43	8.2	5.1
123	40	45	5	8.0	10.8	2.8	2.14	0.33	6.6	4.2
124	39	44	5	5.0	6.9	1.9	1.31	0.22	4.5	2.4
125	41	42	1	7.0	8.0	1.0	1.57	0.25	4.8	3.2
126	45	47	2	7.9	9.2	1.3	1.32	0.22	5.7	3.5
127	47	53	6	10.7	13.5	2.8	2.23	0.33	7.8	5.7
128	45	49	4	10.0	12.4	2.4	2.52	0.44	7.0	5.4
129	41	50	9	8.1	11.6	3.5	2.51	0.38	7.2	4.4
130	43	44	1	7.0	8.3	1.3	1.21	0.19	5.6	2.7
131	42	47	5	7.0	10.5	3.5	1.90	0.38	7.4	3.1
132	43	48	5	8.2	10.5	2.3	2.18	0.31	5.9	4.6
133	45	53	8	11.4	14.9	3.5	2.38	0.38	9.5	5.4
134	44	47	3	8.7	10.4	1.7	1.54	0.36	6.2	4.2
135	45	47	2	10.2	12.0	1.8	2.39	0.36	7.2	4.8
136	39	42	3	8.9	9.0	0.1	1.82	0.31	6.4	2.6
137	41	50	9	7.3	11.2	3.9	1.81	0.29	6.7	4.5
138	42	44	2	7.6	9.9	2.3	1.96	0.29	5.6	4.3
139	38	43	5	6.8	8.8	2.0	1.50	0.22	5.4	3.4
140	41	45	4	5.2	7.3	2.1	1.42	0.22	4.2	3.1
$\bar{x}$	42.2	46.8	4.6	8.1	10.5	2.4	1.89	0.31	6.4	4.1

Experiment III continued

Dextrose

Oyster number	Weekly Underwater Weights (g) 8/26	9/9	9/16	9/24	10/1	10/8	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
181	6.62	7.69	8.65	9.61	10.11	10.89	4.27	14.40	23.41	9.01
182	5.45	6.57	7.28	7.99	8.54	9.00	3.55	12.25	20.03	7.78
183	4.69	5.74	6.46	7.22	7.85	8.30	3.61	10.12	19.11	8.99
184	6.31	7.70	8.32	9.68	10.42	11.01	4.70	15.42	27.12	11.70
185	6.24	7.73	8.68	9.55	10.21	10.76	4.52	14.97	24.25	9.28
186	6.77	7.82	8.55	9.37	9.55	9.78	3.01	14.57	20.55	5.98
187	4.86	6.29	7.09	7.98	8.61	9.30	4.44	10.65	20.27	9.62
188	7.65	8.88	9.70	10.30	10.82	11.25	3.60	17.60	24.78	7.18
189	5.99	6.88	7.57	7.99	8.29	8.54	2.55	14.15	19.62	5.47
190	4.89	5.60	6.19	6.96	7.43	7.82	2.93	12.10	18.61	6.51
191	4.28	5.11	5.88	6.76	7.30	7.80	3.52	10.34	17.30	6.96
192	5.95	7.31	8.19	9.19	10.06	10.21	4.26	13.90	24.78	10.88
193	6.75	8.32	9.30	10.25	10.65	11.11	4.36	15.47	25.59	10.12
194	6.17	7.58	8.60	9.60	10.41	11.21	5.04	13.56	26.40	12.84
195	7.20	8.21	9.01	9.62	10.11	10.48	3.28	16.52	23.60	7.08
196	7.75	8.55	9.45	10.50	11.00	11.80	4.05	16.70	25.72	9.02
197	7.49	8.45	8.79	10.61	11.15	11.79	4.30	15.98	25.40	9.42
198	5.66	6.36	6.49	7.00	7.21	7.40	1.74	14.27	18.07	3.80
199	6.98	8.13	9.02	10.00	10.50	10.91	3.93	15.20	23.90	8.70
200	6.48	7.65	8.52	9.39	9.81	10.22	3.74	13.05	20.80	7.75
$\bar{x}$	6.21	7.33	8.09	8.98	9.50	9.98	3.77	14.06	22.47	8.41
$\bar{x}$ weekly gain		1.12	0.76	0.89	0.52	0.48		3.77 = Total		

Experiment III continued

Dextrose

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
181	44	51	7	8.6	12.4	3.8	1.86	0.35	8.5	3.9
182	39	48	9	7.5	11.1	3.6	2.01	0.33	6.4	4.7
183	37	46	9	6.2	10.4	4.2	2.04	0.37	6.1	4.3
184	47	58	11	9.4	14.5	5.1	2.98	0.52	8.0	6.5
185	43	52	9	8.4	13.4	5.0	2.59	0.44	7.9	5.5
186	39	45	6	8.5	11.2	2.7	1.83	0.29	7.0	4.2
187	37	46	9	6.4	10.5	4.1	2.00	0.41	6.8	3.7
188	44	51	7	10.1	13.9	3.8	3.03	0.51	7.7	6.2
189	40	46	6	8.8	10.8	2.0	1.90	0.32	6.4	4.4
190	35	40	5	7.6	10.5	2.9	2.49	0.43	6.0	4.5
191	41	46	5	6.4	9.3	2.9	1.65	0.32	6.6	2.7
192	37	50	13	8.5	13.6	5.1	2.59	0.49	8.4	5.2
193	47	54	7	9.4	13.8	4.4	2.65	0.49	8.3	5.5
194	39	52	13	7.9	13.8	5.9	2.69	0.51	8.1	5.7
195	45	51	6	9.7	13.5	3.8	2.21	0.39	7.6	5.9
196	42	53	11	9.0	13.8	4.8	2.28	0.45	8.6	5.2
197	39	49	10	8.8	13.5	4.7	2.21	0.41	8.2	5.3
198	43	50	7	8.0	11.0	3.0	1.68	0.32	6.0	5.0
199	35	52	17	9.2	13.2	4.0	2.39	0.41	7.3	5.9
200	38	47	9	7.0	10.7	3.7	1.83	0.29	7.5	3.2
$\bar{x}$	40.6	49.4	8.8	8.3	12.3	4.0	2.25	0.40	7.4	4.9

Experiment III continued

Dextrose and Montmorillonite

Oyster number	Weekly Underwater Weight (g)						Total gain (g)	Air Weight		
	8/26	9/9	9/16	9/24	10/1	10/8		Initial (g)	Final (g)	Gain (g)
41	5.09	6.01	6.62	7.35	7.80	8.13	3.04	11.48	18.58	7.10
42	6.73	7.89	8.72	9.80	10.51	11.11	4.38	13.92	24.00	10.08
43	7.48	8.93	9.93	9.91	10.09	10.40	2.92	16.42	22.85	6.43
44	6.19	6.98	7.61	8.45	8.94	9.39	3.20	12.68	19.66	6.98
45	7.72	8.72	9.32	10.27	10.82	11.22	3.50	17.65	26.51	8.86
46	5.29	5.60	6.00	6.57	7.18	7.61	2.32	11.92	19.30	7.38
47	5.25	6.36	6.99	7.80	8.42	8.84	3.59	13.27	21.46	8.19
48	5.36	6.25	6.70	7.12	7.31	7.53	2.17	13.65	19.00	5.35
49	6.46	7.87	8.46	9.28	9.87	10.30	3.84	15.91	24.64	8.73
50	6.59	7.60	8.25	9.17	9.81	10.25	3.66	14.70	22.87	8.17
51	6.68	7.41	7.88	8.51	9.52	9.32	2.64	13.86	20.44	6.58
52	6.70	8.10	8.92	9.80	10.32	10.66	3.96	15.38	25.36	9.98
53	5.71	6.97	7.80	9.00	9.55	9.89	4.18	14.50	23.12	8.62
54	4.61	5.26	5.79	6.34	6.67	6.90	2.29	10.69	15.72	5.03
55	5.65	6.29	6.84	7.60	8.02	8.28	2.63	13.49	19.61	6.12
56	5.58	6.63	7.38	8.38	9.04	9.51	3.93	11.60	20.10	8.50
57	9.61	10.74	11.45	12.55	13.29	13.86	4.25	20.05	30.30	10.25
58	5.22	6.13	6.71	7.18	7.33	7.50	2.28	11.90	16.89	4.99
59	5.51	6.45	7.07	7.80	8.11	8.25	2.74	12.18	17.98	5.80
60	5.99	7.02	7.68	8.53	9.09	9.49	3.50	13.68	21.42	7.74
$\bar{x}$	6.17	7.16	7.81	8.57	9.08	9.42	3.25	13.95	21.49	7.54
$\bar{x}$ weekly gain		0.99	0.65	0.76	0.51	0.34	3.25 = Total			

Experiment III continued

Dextrose and Montmorillonite

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
41	39	46	7	7.2	10.5	3.3	2.26	0.37	6.3	4.2
42	44	55	11	7.7	12.4	4.7	1.85	0.35	8.3	4.1
43	49	54	5	9.6	12.4	2.8	1.89	0.33	8.0	4.4
44	39	45	6	7.2	10.1	2.9	1.56	0.30	6.9	3.2
45	42	49	7	10.6	15.0	4.4	2.87	0.47	8.2	6.8
46	39	47	8	7.0	10.5	3.5	2.23	0.35	6.0	4.5
47	47	53	6	8.4	12.4	4.0	2.16	0.39	7.0	5.4
48	44	46	2	8.7	11.5	2.8	1.90	0.32	6.0	5.5
49	45	52	7	10.0	14.1	4.1	2.69	0.50	7.6	6.5
50	39	42	3	8.6	12.2	3.6	2.07	0.38	7.7	4.5
51	43	49	6	7.6	10.6	3.0	1.80	0.33	6.5	4.1
52	47	57	10	9.4	13.9	4.5	2.45	0.46	8.1	5.8
53	44	50	6	9.2	13.6	4.4	2.86	0.58	7.5	6.1
54	37	41	4	6.6	9.0	2.4	1.39	0.23	5.3	3.7
55	41	46	5	8.5	11.5	3.0	1.98	0.33	6.2	5.3
56	40	47	7	6.8	10.4	3.6	1.75	0.33	7.0	3.4
57	43	52	9	10.8	16.1	5.3	2.97	0.53	9.8	6.3
58	38	42	4	7.2	9.8	2.6	1.60	0.31	5.5	4.3
59	36	43	7	7.0	9.8	2.8	1.94	0.35	6.0	3.8
60	47	53	6	8.4	12.0	3.6	2.14	0.39	7.0	5.0
$\bar{x}$	42.2	48.5	6.3	8.3	11.9	3.6	2.12	0.38	7.0	4.9

Experiment IV
Growth of Oysters Fed Various Supplements
Y.R.O.R. Corporation Study
10/19/66 to 12/6/66

Control

Oyster number	Weekly Underwater Weights (g) 10/19	10/29	11/4	11/11	11/19	12/6	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
61	8.31	8.61	8.81	9.10	9.55	10.07	1.76	19.20	22.25	3.05
62	9.31	9.77	9.91	10.14	10.52	10.93	1.62	20.35	23.49	3.14
63	6.48	6.71	6.89	7.07	7.25	7.50	1.02	14.17	16.07	1.90
64	6.70	7.12	7.38	7.77	8.20	8.78	2.08	17.08	20.70	3.62
65	5.80	5.97	6.10	6.22	6.34	6.58	0.78	13.05	14.39	1.34
66	6.30	6.71	6.83	7.01	7.32	7.68	1.38	14.26	16.48	2.22
67	8.23	8.66	8.81	9.03	9.45	9.89	1.66	17.97	20.90	2.93
68	4.50	4.27	4.85	5.04	5.30	5.72	1.22	10.95	13.19	2.24
69	8.50	8.83	9.00	9.28	9.72	10.15	1.65	18.15	21.30	3.15
70	5.25	5.43	5.50	5.51	5.60	5.66	0.41	12.46	12.95	0.49
71	6.91	7.25	7.49	7.75	8.08	8.48	1.57	15.39	18.30	2.91
72	5.61	5.99	6.12	6.33	6.68	7.00	1.39	13.82	16.51	2.69
73	7.51	7.79	7.90	8.03	8.30	8.55	1.04	18.84	20.50	1.66
74	7.22	7.52	7.66	7.85	8.11	8.32	1.10	16.91	19.00	2.09
75	5.62	5.90	6.05	6.23	6.51	6.83	1.21	14.15	16.53	2.38
76	8.08	8.45	8.59	8.82	9.22	9.51	1.43	18.68	21.40	2.72
77	5.72	5.98	6.08	6.22	6.39	6.51	0.79	12.48	13.81	1.33
78	7.77	8.00	8.10	8.29	8.53	8.92	1.15	17.02	19.30	2.28
79	7.69	8.15	8.36	8.59	8.92	9.40	1.71	18.30	21.20	2.90
80	7.15	7.49	7.61	7.81	8.05	8.38	1.23	17.36	19.52	2.16
$\bar{x}$	6.93	7.23	7.40	7.60	7.90	8.24	1.31	16.03	18.39	2.36
$\bar{x}$ weekly gain		0.30	0.17	0.20	0.30	0.34	1.31 = Total			

Experiment IV continued

Control

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
61	48	51	3	11.3	12.8	1.5	3.13	----	8.4	4.4
62	48	51	3	11.3	13.0	1.7	2.54	----	8.0	5.0
63	40	40	0	8.1	9.0	0.9	1.71	----	5.5	3.5
64	48	51	3	10.8	12.1	1.3	2.45	----	6.2	5.9
65	44	45	1	7.5	8.3	0.8	1.40	----	4.7	3.6
66	41	43	2	8.2	9.2	1.0	2.13	----	5.4	3.8
67	42	45	3	10.0	11.2	1.2	2.41	----	7.2	4.0
68	43	45	2	6.8	7.9	1.1	1.85	----	4.2	3.7
69	44	46	2	9.8	11.5	1.7	2.15	----	7.3	4.2
70	38	38	0	8.0	7.8	-0.2	2.05	----	4.3	3.5
71	46	50	4	8.9	10.3	1.4	1.96	----	6.2	4.1
72	42	44	2	8.6	10.1	1.5	2.35	----	5.5	4.6
73	52	51	-1	11.8	12.4	0.6	2.73	----	6.8	5.6
74	42	45	3	10.3	11.0	0.7	2.56	----	6.2	4.8
75	41	45	4	9.0	10.0	1.0	2.72	----	5.2	4.8
76	47	48	1	11.1	12.2	1.1	3.43	----	6.5	5.7
77	39	40	1	7.1	7.8	0.7	1.39	----	4.5	3.3
78	44	48	4	9.4	10.7	1.3	2.05	----	6.6	4.1
79	47	51	4	10.9	12.1	1.2	2.85	----	6.9	5.2
80	47	51	4	10.6	11.5	0.9	2.38	----	5.9	5.6
$\bar{x}$	44.1	46.4	2.3	9.48	10.55	1.07	2.31	----	6.08	4.47

Experiment IV continued

Starch

Oyster number	Weekly Underwater Weights (g) 10/19	10/29	11/4	11/11	11/19	12/6	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
21	6.68	7.14	7.35	7.65	8.11	8.47	1.79	16.14	19.58	3.44
22	8.69	9.17	9.36	9.64	10.10	10.50	1.81	20.01	23.42	3.41
23	7.68	8.24	8.49	8.87	9.49	10.29	2.61	19.14	23.98	4.84
24	5.36	5.69	5.90	6.19	6.70	7.25	1.89	13.45	17.49	4.04
25	5.72	6.14	6.25	6.35	6.42	6.39	0.67	13.28	14.28	1.00
26	9.68	9.69	9.89	10.10	10.50	10.81	1.13	20.72	23.90	3.18
27	5.37	5.50	5.58	5.74	6.10	6.43	1.06	13.58	15.68	2.10
28	5.79	6.15	6.33	6.55	6.91	7.27	1.48	13.64	16.32	2.68
29	7.89	8.35	8.60	8.87	9.27	9.72	1.83	18.19	21.51	3.32
30	6.97	7.88	8.09	8.32	8.69	8.96	1.99	16.90	19.59	2.69
31	8.80	9.06	9.19	9.30	9.51	9.62	0.82	20.00	21.26	1.26
32	5.66	6.03	6.19	6.39	6.69	6.90	1.24	12.39	14.59	2.20
33	7.07	7.45	7.53	7.65	7.90	7.91	0.84	16.28	17.81	1.53
34	7.80	8.41	8.70	9.08	9.68	10.24	2.44	16.87	21.50	4.63
35	6.41	6.75	6.92	7.11	7.48	7.85	1.44	14.90	17.05	2.15
36	9.81	10.31	10.52	10.80	11.20	11.59	1.78	20.58	23.90	3.32
37	7.00	7.48	7.66	7.90	8.35	8.74	1.74	18.20	21.12	2.92
38	5.32	5.55	5.70	5.87	6.15	6.38	1.06	12.12	14.10	1.98
39	5.71	6.13	6.31	6.58	6.98	7.35	1.64	13.68	16.71	3.03
40	4.90	5.21	5.35	5.49	5.74	5.87	0.97	10.96	12.60	1.64
$\bar{x}$	6.92	7.32	7.50	7.72	8.10	8.43	1.51	16.05	18.82	2.77
$\bar{x}$ weekly gain		0.40	0.18	0.22	0.38	0.33		1.51 = Total		

Experiment IV continued

Starch

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
21	43	47	4	10.2	11.8	1.6	3.77	----	6.6	5.2
22	46	48	2	11.8	13.1	1.3	4.95	----	7.5	5.6
23	45	53	8	11.8	14.1	2.3	4.47	----	7.4	6.7
24	49	53	4	8.5	10.6	2.1	3.33	----	5.5	5.1
25	40	41	1	7.7	8.1	0.4	1.89	----	4.7	3.4
26	45	46	1	11.7	13.4	1.7	3.69	----	7.8	5.6
27	45	46	1	9.0	9.5	0.5	3.16	----	5.0	4.5
28	46	48	2	8.2	9.4	1.2	2.84	----	5.2	4.2
29	51	52	1	10.6	12.3	1.7	3.84	----	6.6	5.7
30	45	47	2	9.8	10.8	1.0	2.54	----	6.4	4.4
31	49	49	0	11.5	12.0	0.5	2.80	----	7.0	5.0
32	37	40	3	7.0	8.0	1.0	2.38	----	4.8	3.2
33	45	46	1	9.6	10.0	0.4	2.16	----	6.2	3.8
34	44	49	5	9.2	11.9	2.7	3.06	----	7.5	4.4
35	43	44	1	8.8	10.0	1.2	2.61	----	5.7	4.3
36	47	51	4	11.2	12.7	1.5	3.14	----	7.8	4.9
37	43	46	3	11.4	12.7	1.3	4.59	----	6.5	6.1
38	38	39	1	8.0	8.2	0.2	1.97	----	5.0	3.2
39	44	47	3	8.4	9.9	1.5	2.83	----	5.3	4.6
40	39	40	1	6.5	7.3	0.8	1.91	----	4.5	2.8
$\bar{x}$	44.2	46.6	2.4	9.54	10.79	1.25	3.10	----	6.15	4.64

Experiment IV continued

Vanillin

Oyster number	Weekly Underwater Weights (g) 10/19	10/29	11/4	11/11	11/19	12/6	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
81	8.33	8.52	8.64	8.76	9.12	9.52	1.19	18.39	20.98	2.59
82	6.56	7.00	7.13	7.29	7.58	7.95	1.39	16.40	19.11	2.71
83	4.89	5.06	5.12	5.23	5.50	5.71	0.82	11.04	12.75	1.71
84	4.30	4.51	4.63	4.81	5.06	5.29	0.99	12.52	14.01	1.49
85	7.73	8.00	8.09	8.19	8.39	8.65	0.92	17.10	18.87	1.77
86	8.41	8.90	9.00	9.09	9.30	9.58	1.17	19.01	20.93	1.92
87	6.74	7.21	7.40	7.62	7.96	8.38	1.64	16.48	19.48	3.00
88	5.41	5.73	5.85	5.97	6.18	6.38	0.97	15.21	16.60	1.39
89	6.50	6.81	6.89	7.00	7.21	7.43	0.93	14.32	16.20	1.88
90	8.05	8.30	8.40	8.53	8.73	8.93	0.88	16.65	18.50	1.85
91	7.30	7.79	7.91	8.20	8.42	9.30	2.00	18.24	22.20	3.96
92	6.85	7.19	7.25	7.38	7.55	7.90	1.05	15.75	17.68	1.93
93	8.19	8.50	8.60	8.77	9.01	9.31	1.12	19.15	21.38	2.23
94	6.03	6.25	6.31	6.44	6.70	7.00	0.97	13.80	15.62	1.82
95	8.60	8.97	9.12	9.35	9.67	9.99	1.39	19.58	22.27	2.69
96	6.50	6.80	6.91	7.05	7.38	7.70	1.20	15.08	17.20	2.12
97	6.22	6.63	6.80	7.10	7.61	8.27	2.05	14.22	17.91	3.69
98	7.15	7.46	7.57	7.70	7.91	8.25	1.10	15.49	17.75	2.26
99	8.39	8.77	8.88	8.99	9.58	10.00	1.61	18.60	22.28	3.68
100	7.08	7.47	7.60	7.88	8.28	8.76	1.68	16.59	19.81	3.22
$\bar{x}$	6.96	7.29	7.41	7.57	7.86	8.21	1.25	16.18	18.58	2.40
$\bar{x}$ weekly gain		0.33	0.12	0.16	0.29	0.35	1.25 = Total			

Experiment IV continued

Vanillin

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
81	47	50	3	10.7	10.9	0.2	2.59	----	7.7	3.2
82	46	48	2	10.2	11.5	1.3	2.46	----	6.0	5.5
83	40	40	0	6.5	7.6	1.1	1.53	----	4.4	3.2
84	48	51	3	8.6	9.2	0.6	1.76	----	4.5	4.7
85	49	49	0	9.8	10.5	0.7	1.79	----	6.0	4.5
86	47	49	2	10.7	11.7	1.0	2.21	----	6.4	5.3
87	50	50	0	10.0	11.4	1.4	2.34	----	7.0	4.4
88	48	50	2	10.2	10.7	0.5	2.64	----	5.7	5.0
89	39	42	3	8.0	9.0	1.0	2.04	----	5.4	3.6
90	40	42	2	9.1	10.0	0.9	1.66	----	6.2	3.8
91	47	50	3	11.1	13.3	2.2	3.68	----	6.6	6.7
92	43	44	1	9.6	10.0	0.4	1.94	----	6.0	4.0
93	48	49	1	11.6	12.5	0.9	2.43	----	6.8	5.7
94	39	41	2	8.2	9.0	0.8	2.21	----	4.8	4.2
95	45	47	2	11.3	12.7	1.4	2.45	----	7.2	5.5
96	42	44	2	9.0	9.7	0.7	1.73	----	5.8	3.9
97	44	48	4	8.4	9.9	1.5	2.12	----	6.0	3.9
98	41	43	2	8.7	9.9	1.2	2.40	----	7.0	5.8
100	50	53	3	9.9	11.4	1.5	2.53	----	6.2	5.2
$\bar{x}$	44.9	47.0	2.1	9.61	10.69	1.08	2.29	----	6.09	4.60

Experiment IV continued

Dextrose

Oyster number	Weekly Underwater Weights (g) 10/19	10/29	11/4	11/11	11/19	12/6	Total gain (g)	Air Weight Initial (g)	Final (g)	Gain (g)
101	5.50	5.74	5.82	6.05	6.36	6.72	1.22	12.35	14.83	2.48
102	7.58	7.98	8.10	8.33	8.60	8.99	1.41	18.71	21.42	2.71
103	7.03	7.40	7.58	7.82	8.22	8.80	1.77	15.49	18.66	3.17
104	6.48	6.88	6.99	7.20	7.39	7.41	0.93	14.58	16.20	1.62
105	4.10	4.21	4.30	4.38	4.53	4.75	0.65	10.65	11.61	0.96
106	8.55	8.91	9.10	9.40	9.81	10.37	1.82	18.83	22.35	3.52
107	.72	7.97	8.20	8.43	8.78	9.10	1.38	17.15	19.93	2.78
108	5.99	6.31	6.45	6.72	7.10	7.61	1.62	13.00	16.02	3.02
109	3.60	4.32	4.36	4.49	4.67	4.90	1.30	10.60	11.80	1.20
110	8.12	8.55	8.69	8.88	9.17	9.42	1.30	17.29	19.92	2.63
111	7.90	8.29	8.39	8.60	8.82	9.21	1.31	18.80	20.93	2.13
112	9.62	10.01	10.18	10.43	10.87	11.39	1.77	20.88	24.20	3.32
113	6.36	6.50	6.58	6.75	6.93	7.18	0.82	14.05	15.67	1.62
114	7.45	7.70	7.83	8.04	8.40	8.86	1.41	17.58	20.07	2.49
115	6.17	6.48	6.53	6.62	6.81	7.01	0.84	16.49	17.80	1.31
116	7.74	8.01	8.16	8.37	8.68	9.05	1.31	17.33	19.69	2.36
117	4.56	4.80	4.91	5.14	5.50	6.00	1.44	11.50	14.09	2.59
118	8.85	9.20	9.32	9.48	9.78	10.12	1.25	18.42	20.89	2.47
119	7.39	7.78	7.97	8.20	8.60	8.97	1.58	16.73	19.40	2.67
120	5.43	5.89	6.06	6.29	6.53	6.73	1.30	13.42	15.80	2.38
$\bar{x}$	6.81	7.15	7.28	7.48	7.78	8.13	1.32	15.69	18.06	2.37
$\bar{x}$ weekly gain		0.34	0.13	0.20	0.30	0.35		1.32 = Total		

Experiment IV continued

Dextrose

Oyster number	Length (mm)			Volume (cc)			Wet meat wt. (g)	Dry meat wt. (g)	Shell volume (cc)	Cavity volume (cc)
	Initial	Final	Gain	Initial	Final	Gain				
101	41	44	3	7.6	9.0	1.4	1.98	----	5.3	3.7
102	50	51	1	11.7	13.0	1.3	2.76	----	6.6	6.4
103	42	44	2	9.0	10.5	1.5	2.19	----	6.2	5.3
104	49	50	1	8.3	9.3	1.0	2.59	----	5.2	4.1
105	41	40	-1	7.1	7.4	0.3	1.50	----	3.8	3.6
106	42	48	6	10.6	12.4	1.8	3.12	----	7.2	4.2
107	45	48	3	9.8	11.2	1.4	2.55	----	6.2	5.0
108	40	43	3	7.5	8.9	1.4	1.85	----	5.4	3.5
109	42	43	1	6.8	7.4	0.6	1.73	----	3.7	3.7
110	44	49	5	9.5	10.8	1.3	2.29	----	6.8	4.0
111	49	50	1	11.2	12.3	1.1	3.41	----	6.4	5.9
112	48	50	2	11.6	13.3	1.7	3.47	----	8.4	4.9
113	42	42	0	8.0	8.9	0.9	2.55	----	5.0	3.9
114	47	49	2	10.8	11.6	0.8	3.20	----	6.3	5.3
115	46	48	2	10.8	11.1	0.3	2.72	----	5.2	5.9
116	46	47	1	10.0	11.2	1.2	2.48	----	6.3	4.9
117	41	42	1	7.3	8.5	1.2	2.60	----	4.4	4.1
118	47	48	1	10.0	11.2	1.2	2.56	----	7.0	4.2
119	44	45	1	9.7	10.9	1.2	2.14	----	6.7	4.2
120	43	45	2	8.4	9.6	1.2	2.16	----	5.0	4.6
$\bar{x}$	44.5	46.3	1.8	9.29	10.43	1.14	2.49	----	5.86	4.57