Table 3
Enrollment Data

	Fall Term				
Enrollment	69	70	71	72	73
Course total	145	138	204	306	404
Outside College of Agriculture and Natural Resources					
Number	11	23	31	53	81
Percent	8	17	15	17	20
Colleges represented	4	8	9	12	12
Percent recommended by another student		13	15	36	34

Summary

Providing students with learning objectives, opportunities to master the objectives, and evaluation based on individual achievement resulted in more learning. In addition, the students responded more favorably to the course in terms of opinionaire response and course enrollment.

In discussing the effective consequences of school achievement, Bloom states that "each individual seeks desperately for some positive signs of his own adequacy and worth" (1). I believe the mastery program provided students an opportunity to foster their self-concept by providing an opportunity for high achievement relative to an absolute standard and increased competence in Soil Science. Fostering the student's self-concept, likely, provided the motivation for greater learning. It appears that mastery learning programs can create a complimentary relationship between two of the most important aspects of education, namely, learning subject matter and development of an adequate self-concept.

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AN EVALUATION OF THE AGRICULTURAL HONORS PROGRAM AT THE UNIVERSITY OF NEBRASKA

Vernon Williams and Franklin Eldridge

Honors Programs were established on a wide scale in American colleges and universities after the Second World War. Even now, three decades later, an honors program in a College of Agriculture is still more the exception than the rule. Almost equally rare is the evaluation of Honors Programs (Nunnally, 1959; Pilisuk, 1959; Graf, 1962; Ellis and Marquis, 1964; Rochford, 1964). MacLeod (1964) and Tyler (1964) have outlined an approach to Honors evaluation which involves: 1) a search for criteria, beginning with frankly subjective goal statements; 2) a comparison of stated purposes with observation of the program in operation; and 3) increasingly objective evaluation techniques used over increasing spans of time. The evaluation reported here sought to employ the steps outlined by MacLeod and Tyler.

This study poses a question concerning the extent to which one Agricultural Honors Program is achieving its goals. The goals of any educational program are complex, of course, and not all of them are explicit. Thus identifying the full range of goals associated with the program necessitated using a variety of techniques. The goals stated in the college catalog pertain primarily to actions students carry out in the process of completing the program. Some means was needed, then, to pinpoint the less clearly articulated goals of the program.

In 1966-67 the first author interviewed a large number of students and faculty associated with the Honors Program. He also attended several discussions regarding the Program. This procedure resulted in development of a set of expectations for Program outcomes, as seen by its participants. The goals are that a student who has completed the program should:

1) value the scientific method, particularly in its application to the field of agriculture;
2) view agriculture as a profession;
3) have become involved with his academic pursuits;
4) place importance upon intellectual activity;
5) be able to bring knowledge from diverse areas of agriculture to bear on problems in the field;
6) possess the capability of applying scientific methodology to agricultural problems;
7) have established sound relationships with at least a small number of faculty members;
8) be capable of interaction with a range of faculty; and
9) enter graduate school more frequently than his non-Honors counterpart, and particularly a graduate school other than the University of Nebraska.

Some additional goals, agreed to less generally, were identified tentatively for purposes of this investigation. The ancillary objectives specify that the Honors Program should increase: 1) a student's ability to think realistically about his occupational and educational future; 2) the preference for independent work, as opposed to more highly structured and more closely supervised work; and 3) the efficiency and effectiveness of the student's work habits. Of course it seemed desirable also to know how the students felt about the program.

Still further, the area of student-faculty relationship quality was divided into three sub-areas on the basis of the companion study of attitudes in the College as a whole. The three sub-areas involve the extent to which: 1) the relationship resembled an ideal human relationship (patterned after the ideal relationship between a psychotherapist and his client); 2) the advisor was seen as rigid, authoritarian, and distant; and 3) faculty were seen as unavailable and unhelpful.

The degree of accomplishment of two Honors Program objectives could not be assessed in this investigation. The student's ability to think scientifically and to bring knowledge from diverse areas to bear upon problems in agriculture are to be included in future reports, encompassing all the major objectives and using data collected from Honors students (and their non-Honors matched group), who were seniors in 1971, as well as those who were seniors during the present year, 1972. These data should help to answer the question of the extent to which the results reported here will hold up over time and with another group of students.

The objectives in the four preceding paragraphs focus on outcomes of the Program rather than on processes. If no results of student participation can be shown, the events which occur in a student's experience with the Program can have only limited significance.

Procedure

General Design

After the Program goals had been identified by means of the process described in the second paragraph of this report, items were generated to assess each of them. The items were submitted to high ability seniors in the College in the spring of 1967. Those items which elicited judgments of ambiguity or other difficulty were eliminated. A few items were rewritten. Evaluations were solicited also from faculty judges. Further adjustments were made as a result of this process.

The instrument developed by means of the procedure outlined above was used first in a group administration to freshman Honors and non-Honors students in February of 1968. Two follow-up letters to those who were absent contributed to a total response from 11 of 12 Honors, and from 11 of 13 non-Honors students. In February of 1969 students from all four classes were administered the inventory in a group setting with two follow-up letters and telephone calls to absentees. Despite this persistence 11 Honors and 13 non-Honors students did not respond. The table below shows the number who did not respond listed by class in each of the two Honors categories. Another administration took place in the spring of 1971 when the initial group who completed the instrument were seniors. These most recent data have not yet been analysed. For this reason these data have not been included in the present report. Seniors in both 1971 and 1972 were interviewed also to assess their general reaction to the Honors Program and to the College's offerings for high ability students generally.

Table 1
Numbers Sampled and Numbers Replying in Each Honors Category and Each Year in School – 1968 Data Collection

	Freshmen		Sophomores	
	Number Sampled	Number Responding	Number Sampled	Number Responding
Honors	15	12	12	12
Non-Honors	18	12	16	8
	Juniors		**Seniors**	
	Number Sampled	Number Responding	Number Sampled	Number Responding
Honors	13	12	13	8
Non-Honors	11	9	13	11

The rationale for the design described above is implicit in the picture of the Honors Program presented earlier. If the Honors Program has an effect, that effect must be evident most immediately after he has completed the two seminars, or at the end of one and one-half years of college. Furthermore, if changes that occur as a result of the Honors Program are to be lasting changes, they must exist at least as late as the senior year. As indicated above, each of the Honors groups involved in the present study was matched with a group of control students comparable to the Honors group in terms of academic ability and high school achievement.

Sample

All students in the four Honors classes; 1969, 1970, 1971, and 1972; and their controls, matched in terms of academic ability test score and high school performance, were included in the original sample.

Data and Instrumentation

The data obtained from students included sets of responses relevant to each of the objectives presented in the earlier section. Data relevant to the last major goal, pertaining to graduate enrollment, were obtained from records maintained by the Director of Resident Instruction.

As stated above, the instruments used to obtain data from students were derived from a variety of sources. Most items were drawn from existing inventories. Some items were modified from their original form and some were written originally for use in this study.

Interviews with Honors students and their non-Honors counterparts provided the basis for assessment of attitudes toward the Program itself. Interview responses were catalogued according to their apparent bearing on the Program.

Analysis

An analysis of variance was performed to test each relevant comparison between Honors and non-Honors students and across time. The several comparisons detailed below were included. Each Honors group was compared to its control and each class was compared to each other to determine whether or not students changed differentially as they progressed through the College program. If the Honors Program affects students in the ways designated here, freshmen Honors students should not differ from controls, but the two groups should begin to differ as sophomores and maintain or widen the difference as juniors and seniors. This analysis, then, will provide two different perspectives on the same data: 1) a longitudinal comparison of one class with itself as it progresses through the four college years (though only two are included here), and 2) a cross-sectional comparison of four different classes with each other at the same point in time.

Several scales were divided into two parts for purposes of difference analysis. For the quality of advising relationship goal, separate scales involving positive and negative statements, respectively, were analyzed. For involvement with ideas and appreciation of science the scales were divided into items dealing with specific actions and those focusing on broader attitudes. For the latter items, the lower the score, the more positive the student's attitude was judged to be. A chi square was performed on the data pertaining to graduate school enrollment. Data derived from the interviews were simply presented in tabular form and counted.

Rationale for the Comparison

The present study was designed to make comparisons at two points in time across the four years of college for two groups of Honors (and comparison groups of non-Honors) students (longitudinal comparison) and at the same point in time for four different classes of Honor students and their non-Honors counterparts (cross-sectional comparison). Thus, if differences occurred between the two longitudinal Honors samples and their controls, but not between the cross-sectional Honors, non-Honors groups, then the differences might be unique to the particular groups chosen. If the opposite result occurred, that differences existed across classes at the same point in time, but not between different points in time for the longitudinal samples, then the differences might be attributable to simple differences in age among the four college classes. Therefore, in order to stand as an almost unassailable conclusion, a result must be found in both longitudinal samples and in the cross-sectional comparisons. While anything less than this degree of unanimity is inconclusive, it can suggest possibilities for further investigation.

Results

Longitudinal Comparisons

The first set of comparisons to be examined are those occurring over time: i.e., that involving results for the 1967-68 entering class against its results in 1968-69. In this group of comparisons all meaningful matches were tested: freshman Honors with freshman non-Honors students, sophomore Honors with sophomore non-Honors, freshman non-Honors with sophomore non-Honors, and freshman Honors with sophomore Honors.

No differences occurred on the scales involving agriculture as a profession, the value placed on academic and intellectual activities, the perceived availability and helpfulness of faculty, realism of thinking about occupational and educational plans, and preference for independent work. Freshman non-Honors students' reported work habits were superior to those of freshman

Honors students', as well as the non-Honors students' own habits as sophomores. A positive view of the advisor and an inclination to interact with faculty characterized Honors students more than non-Honors students during the freshman year.

Table 2
Freshman Honors – Non-Honors Comparison

Scale: Academic Work Habits

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	21	100.59			
BETWEEN	1	16.41	16.41	3.90	1-16.00
WITHIN	20	84.18	4.21	t=1.97	2-17.23

Scale: Amount of Interaction with Instructors

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	21	441.27			
BETWEEN	1	80.18	80.18	4.44	1-33.09
WITHIN	20	361.09	18.05	t=2.11	2-29.27

Scale: Idealness of Relationship with Advisor

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	21	44.36			
BETWEEN	1	11.64	11.64	7.11	1-10.54
WITHIN	20	32.73	1.64	t=2.67	2-12.00

Table 3
Freshman Non-Honors – Sophomore Non-Honors Comparisons

Scale: Academic Work Habits

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	18	73.68			
BETWEEN	1	25.63	25.63	9.07	1-17.73
WITHIN	17	48.06	2.83	t=3.01	2-15.38

Scale: Appreciation of Science

(General Attitudes, Lower Score=Greater Appreciation)

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	18	752.74			
BETWEEN	1	132.68	132.68	3.64	1-24.27
WITHIN	17	620.06	36.47	t=1.91	2-29.63

The latter difference was maintained in the sophomore year. Sophomore Honors students also saw advisors as less rigid, authoritarian, and distant than did their peers who were not in Honors. No difference existed in this characteristic between the two freshman groups.

Table 4
Sophomore Honors – Non-Honors Comparisons

Scale: Amount of Interaction with Instructors

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	19	767.80			
BETWEEN	1	177.63	177.63	5.42	1-36.33
WITHIN	18	590.17	32.79	t=2.33	2-30.25

Scale: Distance, Rigidity, Authoritarian Quality of Advising Relationship

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	19	40.55			
BETWEEN	1	8.01	8.01	4.430	1-6.67
WITHIN	18	32.54	1.81	t=2.10	2-5.38

Cross-Sectional Comparisons

In this set of comparisons several tests were performed. First, responses among the four classes were examined. Second, inter-class comparisons were made within each of the two Honors classifications. Third, all Honors students were compared to all students not in Honors.

These comparisons yielded no differences with respect to the students' work habits, perceived availability of faculty or quality of the advising relationship. As one moves from the beginning of the college years to the end, he finds that both Honors and non-Honors students: 1) became more realistic in their occupational and educational planning until their senior year (when a slight decrease occurred); 2) saw faculty as less rigid, authoritarian, and distant (particularly between freshman and sophomore years); and 3) reported more interaction with faculty.

Table 5
Comparisons Among the Four Years in School for the Combined Sample

Scale: Realistic Thinking About Educational and Occupational Plans

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	83	520.95			
BETWEEN	3	69.17	23.06	4.08	1-25.38 2-26.45 3-27.86
WITHIN	80	451.78	5.65		4-26.58

Scale: Amount of Interaction with Instructors

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	83	4458.57			
BETWEEN	3	398.23	132.74	2.62	1-31.62 2-33.90 3-35.29
WITHIN	80	4060.35	50.75		4-37.58

Scale: Distance, Rigidity, Authoritarian Quality of Advising Relationship

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	83	146.00			
BETWEEN	3	19.37	6.46	4.08	1- 5.38 2- 6.15 3- 6.67
WITHIN	80	126.63	1.58		4- 5.89

Honors and non-Honors groups, considered separately, manifested differences in the extent to which they viewed the faculty as rigid, authoritarian, and distant. Students not in Honors reported interaction with faculty more frequently from freshman through senior year. No such differentiation occurred among the Honors group; and, in fact, a difference showed up between all four Honors classes as a group and the combined non-Honors classes. It is interesting to note, however, that the level of interaction reported by non-Honors seniors is approximately that of the combined Honors sample. Thus one could say that students not in Honors caught up to Honors students by the senior year.

While senior students not in the Honors Program were more involved with ideas than were non-Honors freshmen, the entire non-Honors group was not as highly involved (at least in terms of broad attitudes) as were Honors students as a group. While students not in Honors apparently develop increased involvement with increased time in school, the difference between freshman and senior years brings seniors approximately to the level of the entire Honors group. Since the Honors sample, as a whole, preferred independent work more frequently than the combined non-Honors sample, this preference cannot be attributed to participation in the Honors Program.

Upperclassmen who were not Honors students placed more value than did lower classmen on science (as judged by specific acts), on the professional view of agriculture, and on academic work.

Seniors in the first three Honors classes included in this study entered graduate school more often than did their non-Honors counterparts. And more Honors students, compared to non-Honors students, who did enter graduate school did so elsewhere than at the University of Nebraska. In each class the number of Honors students entering graduate school and the number pursuing their graduate studies at a university other than Nebraska was as great as or greater than the comparable number for non-Honors students. None of these differences reaches the acceptable

Table 6
Comparisons Across Year in School for Non-Honors Students: Findings Common to Other Samples

Scale: Involvement with Ideas

(General Attitudes, Lower Score=Greater Involvement)

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	39	1875.50			
BETWEEN	3	422.89	140.89	3.49	1-41.83 2-40.88 3-35.78
WITHIN	36	1452.83	40.36		4-34.45

Scale: Appreciation of Science

(Specific Acts)

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	39	1043.98			
BETWEEN	3	232.65	77.55	3.44	1- 8.08 2-12.00 3-14.56
WITHIN	36	811.32	22.54		4-12.27

Scale: Amount of Interaction with Instructors

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	39	1746.00			
BETWEEN	3	681.29	227.10	7.68	1-27.33 2-30.25 3-36.33
WITHIN	36	1064.71	29.58		4-36.64

Scale: Distance, Rigidity, Authoritarian Quality of Advising Relationships

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	39	69.60			
BETWEEN	3	20.52	6.84	5.02	1- 5.08 2- 5.38 3- 6.78
WITHIN	36	49.08	1.36		4- 6.45

Table 7
Comparisons Across Year in School for Honors Students

Scale: Realistic Thinking About Educational and Occupational Plans

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	43	285.64			
BETWEEN	3	66.51	22.17	4.05	1-25.67 2-26.58 3-28.82
WITHIN	40	219.12	5.48		4-26.38

Scale: Distance, Rigidity, Authoritarian Quality of Advising Relationships

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	43	75.64			
BETWEEN	3	16.51	5.50	3.72	1- 5.67 2- 6.67 3- 6.58
WITHIN	40	59.12	1.48		4- 5.12

Table 8
Comparison between Combined Honors Sample and Combined Non-Honors Sample

Scale: Involvement with Ideas

(General Attitudes, Lower Score = Greater Involvement)

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	83	4689.29			
BETWEEN	1	273.60	273.60	5.08	1-34.61
WITHIN	82	4415.68	53.85	t=2.25	2-38.25

Scale: Independent Work Preference

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	83	3023.00			
BETWEEN	1	195.49	195.49	5.67	1-13.95
WITHIN	82	2827.51	34.48	t=2.38	2-10.90

Scale: Amount of Interaction with Instructors

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	83	4458.57			
BETWEEN	1	284.02	282.02	5.58	1-36.18
WITHIN	82	4174.55	50.91	t=2.36	2-32.50

Table 9
Comparisons Across Year in School for Non-Honors Students: Specific Findings

Scale: Agriculture as a Profession

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	39	1418.38			
BETWEEN	3	275.73	91.91	2.90	1-24.00 2-29.62 3-30.56
WITHIN	36	1142.64	31.74		4-28.64

Scale: Valuing Academic Work

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	39	184.40			
BETWEEN	3	34.79	11.60	2.79	1- 8.08 2- 7.75 3-10.22
WITHIN	36	149.61	4.16		4- 9.18

Scale: Involvement with Ideas

(Specific Acts)

SOURCE	DF	SUM OF SQUARES	MEAN SQUARES	F-RATIO	MEAN
TOTAL	39	1681.10			
BETWEEN	3	333.42	11.14	2.97	1- 7.08 2-10.38 3-14.89
WITHIN	36	1347.00	37.44		4-12.00

Table 10
Graduate School Attendance

Year	Honors Classification	Total Number	Entered Graduate School	Entered Graduate School Other Than Nebraska
1969	Honors	11	4	2
	Non-Honors	12	4	0
1970	Honors	11	6	1
	Non-Honors	11	4	1
1971	Honors	9	5	4
	Non-Honors	8	2	2
Totals	Honors	31	15	7
	Non-Honors	31	10	3

level of significance. The consistency of the differences suggests a real effect, but this suggestion cannot be verified satisfactorily at this point in time.

The interviews indicated an overwhelming agreement among Honors students concerning the value of the program. While different students focused on different aspects of the program, only one failed to endorse heartily the value of some aspect. Non-participants almost universally mentioned some quality of the Honors Program as a desired aspect of their own college experience. Half of this group indicated that they did not know enough about the Program to comment on it. The most commonly mentioned attribute of the Honors Program was the facilitation of relationships, mentioned by more than half of the participants in connection with both faculty and student (peer) interaction. Recognition or the honor of being included in the Program was mentioned by half of the participants also, but this quality was asked about explicitly. More than a third of the participants noted the ability to set up one's program independently and exposure to the breadth of the areas included in Agriculture as desirable features of Honors. All results are summarized in the final table.

Discussion

Having examined individually the results of the several comparisons, let us look at the cumulative results with respect to each goal investigated in this study. The quality of availability and helpfulness of faculty was involved in none of the observed differences. Thus this perception seems unlikely to be a consequence of the Honors Program.

Table 11
Reactions to Honors-Relevant Experiences

Category	Total Number	General Positive Feelings	Not Challenged Sufficiently	Don't Know Enough About Program to Comment	Question Value of Program
Honors	16	15	0	0	0
		Would Have Liked Elements of Honors Program			
Non-Honors	16	13	2	8	5

Table 12
Items Valued in the Honors Program
Classes of 1971 and 1972

Category	Association with Peers	Association with Faculty	Recommendation, Honor	Encouragement to Areas in Agriculture	Set up Program and work independently	Greater Freedom; Flexibility; Options	Forces Examination of Future Plans	Accelerated Program; Faster Pace	Intellectual Development	Misc.
Honors (n=16)	5	6	8	6	4	4	1	1	4	4
Non-Honors (n=16)	1	3	1	2	3	3	1	1	1	1

Table 13
Summary of Differences Found in All Comparisons

Differences more closely related to year-to-year variations in Non-Honors than in Honors students	Differences possibly related to participation in the Honors Program	An apparent change in Non-Honors students	Instances in which Non-Honors students seem to catch up with Honors students by the senior year	Differences between Honors and Non-Honors students apparently existing prior to college entrance
Value Placed On:				
1) science	1) realism about occupational and educational plans	Academic work habits	1) Amount of interaction between students and faculty	1) Independent work preference.
2) academic work, and	2) Distance, etc. of advising relationship		2) Involvement with ideas	2) Ideal advising relationship.
3) agriculture as a profession	3) Entry into graduate school, especially not at University of Nebraska.			

While placing a high value on science (by virtue of specific actions) and on academic work and viewing agriculture as a profession may be enhanced by some aspects of the curriculum not associated with Honors, these three orientations cannot be judged to be affected by the Program, insofar as can be determined on the basis of the present data.

The change in scientific outlook from freshman to sophomore year among Honors students is actually in the opposite direction from the difference observed among non-Honors classes. One might speculate, then, that as they gain sophistication, Honors students may become less enamored of, or even cynical toward, the establishment view regarding appropriate scientific attitudes. In a somewhat similar fashion non-Honors students may relax their urgent sense of concern about studying between the freshman and sophomore years, so that by the sophomore year they are no longer distinguishable in this regard from their Honors counterparts.

It appears, then, that non-Honors students are sufficiently concerned about the prospect of not doing well during their freshman year that they may work harder than their more confident Honors counterparts. Once they have reassured themselves that they can do acceptable work during the freshman year, the non-Honors group can relax and study in much the same fashion that their Honors peers do.

Both the independent work preference and involvement with ideas items differentiated between all Honors and all non-Honors students. Thus these inclinations seem to have existed when students began their programs, as well as later.

Since the only difference involving the quality of the advising relationship occurred at the freshman level, students' view of advising quality cannot be said to be improved by participation in the Honors Program. The amount of interaction between student and faculty was seen differently by the groups involved in almost every test made here. Since Honors students apparently begin the Program with a greater inclination to interact with faculty than is true of their non-Honors counterparts, participation in Honors seems unlikely to create such an inclination. Even though the initial difference between the two groups is maintained in the sophomore year, such a difference cannot be attributed to the Program. The differences among year in school within the non-Honors samples suggest that interaction increases with added college experience for this group. No comparable change occurs among Honors students. The differences in intellectual involvement, as well as in amount of interaction with faculty, among non-Honors students suggest that those who do not participate in the Program do eventually reach the levels their Honors contemporaries manifest in these areas even at the beginning of the Program.

The difference in realism of educational-vocational planning among classes for the combined Honors and non-Honors sample seems to be contributed primarily by the Honors students. This quality, then, may be affected by Honors Program participation. The major reservation with respect to this conclusion rests on the fact that the Honors students who were sampled in both the freshman and sophomore year failed to exhibit a similar difference. The present results cannot rule out the possibility that what accounts for the observed difference is an external factor, such as a change in conditions affecting the job market for the class graduating in 1970 (since that class appears to be most different from the others).

The degree to which the advisor is seen as rigid, authoritarian, and distant also may be affected by Honors participation. This perception was different among classes in both comparisons within the Honors group. While a difference occurred between non-Honors sophomores and juniors, the differences observed among Honors students remain unique.

Since there is no way to check directly the probability existing prior to entering college that the student would have attended graduate school, the cross-sectional comparison is the only one possible. This comparison suggests that the Honors Program makes more likely the student's doing graduate work and attending a graduate college other than the University of Nebraska. The interview responses suggest that students perceive the Honors Program quite positively, particularly if they have participated in it.

One general observation may be made about all the instances in which differences occurred among year in school for non-Honors students. In each case there is an initial difference between Honors and non-Honors students (i.e., between freshmen). Thus, as has been noted earlier, the differences within the non-Honors samples may be viewed as simply a matter of their catching up with the Honors group. There is a measurement phenome-

non which can cause this sort of apparent change. The phenomenon involves a tendency for measurements of human characteristics, being only partially reliable, to regress to the average of all such measurements. Therefore, if non-Honors students are, indeed, comparable to Honors students, the former group's scores may simply be depressed during the freshman year and may gradually rise, then, to the level of their Honors counterparts.

As the writer has cautioned previously, additional comparisons should be made before the present results are acted upon. The results do raise some questions concerning the extent to which this Honors Program is accomplishing a number of the goals attributed to it. By the same token, three goals have been identified whose accomplishment seems to be affected by the Program. The value placed upon reaching these goals, openness in the advising relationship, realism in occupational thinking, and, possibly graduate school attendance, especially away from the University of Nebraska, will have to be determined by the individual member of this academic community, and, perhaps ultimately, by the College collectively. Perhaps even more important, the present report has stimulated some discussion of the desirability of achieving the goals whose attainment appears questionable and of the means which are being used and which might be used to attain such goals. In any event, the participants' positive feelings about the Program provide the bedrock upon which the Honors Program is built. If students and faculty felt the Program to be unimportant, attempts to improve it would seem wasted.

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A THEORETICAL UNDERGRADUATE ANIMAL SCIENCE CURRICULUM

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Possibly the most pressing dilemma in developing an undergraduate animal science curriculum is to provide for a broad, general education and yet enable students to be specialists in their knowledge of animal science. This situation is further aggravated by the fact that the preparation must be limited to an undergraduate period of four years. A balance between these two components of an education (breadth and depth) is essential lest we produce either a generation of technicians without technical knowledge, or a generation of technicians without imagination. When the diverse occupations within the field of animal science is also considered, an undergraduate curriculum must retain a great amount of flexibility in order to be relevant to individual student needs and desires. Therefore, a well designed program must contain significant areas of

1) liberal or "general education" courses, 2) general agriculture or "preprofessional" courses, 3) agriculture science or "foundation" courses, 4) livestock management or "production" courses, and 5) free or guided "electives."

An undergraduate college education, even in a vocationally oriented area such as animal science, must reward the student by better preparing him to search for a better quality of life. Urbanization, increased leisure time, improved communication and increase emphasis of aesthetics, have all contributed to the importance of a liberal education. The farmer, the feed salesman, as well as the university professor should be able to appreciate a good book, understand the workings of our political system, apply the principles of psychology in dealing with people and develop and follow a satisfying philosophy of life. It must be remembered that the students in colleges and universities today are not going to live in the 1950's or 1960's as their professors have, but will be living in the future. Their university training must give them the skills and tools to live during the next half century. Will young men and women of today reach their maximum potential in the year 2000, using the knowledge, ideas and methods that are considered adequate for today?

Technical animal science training is important and necessary to maintain and increase the production of food and fiber for future needs. The content of courses to impart this knowledge is often debated and is constantly changing as new knowledge becomes available and teaching methods are improved. Nevertheless, the job still remains to acquaint the student with a general agricultural background, the physiological basis of animal production, present cultural and management practices as well as future trends of the industry. The primary objective of this technical training should be to develop the background that will foster new ideas and enable the students to discriminate between productive and unproductive new developments in the animal science industry.

One of the greatest pitfalls of undergraduate animal science education is to create over specialization. Geneticists have long upheld the idea that a broad genetic diversity is valuable for adaptation to change. Likewise, a broad agricultural background will be valuable for animal scientists to adapt to changes that are sure to come with time. This foundation of knowledge should not only include animal science, but the entire agriculture industry, since changes in crop production, economic conditions or mechanization may have tremendous impact on animal production. It is true that specialization must be developed in some students that will be leading the industry in research and development of new ideas, but this specialization should be reserved for graduate education and not at the expense of undergraduate diversity. A general overall plan for a four-year undergraduate animal science curriculum is presented in figure 1.

THE FIRST TWO YEARS:

With the recent advent of two-year or junior colleges, an attempt to define their responsibility has resulted in breaking the curriculum plan of students into two distinct areas: 1) preprofessional and general education courses during the first two years, and 2) professional and elective courses during the last two years. In order to maintain interest of future animal science students as well as to begin a sequence of background material for advanced professional courses, junior colleges have begun widespread offerings of a first course in several academic areas of agriculture. The most efficient utilization of junior college resources will probably dictate that they offer mostly general education courses and a limited number of introductory or preprofessional agriculture courses. A sample curriculum that would provide this general background is given in table 1.

Among the general education courses offered should be courses in written and oral communication, courses in social and