

Table 1. Rating of Establishments Visited During the Spring 1984 Field Trip.

Establishments Visited	-----Rating Scale-----				
	1 Very Poor	2 Poor	3 Good	4 Excellent	5 Very Excellent
Goerhing Meats Company			X		X
Simplot Chemical Plant				X	
Crocker Bank, Fresno				X	
Visit Dalry - Steve Maddox					X
Market News Service				X	
Harris Feedlot					X
Field Station - Five Points			X		
Riverbend Products, Inc.				X	
Sun Maid Raisins	X				
Kearney Field Station			X		
Wente Brothers				X	
S.F. Produce Exchange			X		
Federal Reserve B. S.F.				X	
Acres of Orchids		X			

receive a high rating. However, a tour of an agribusiness firm such as Acres and Orchids was rated lower because students on this tour were unfamiliar with business opportunities in horticulture. A goal of the agribusiness tour is to expose students to unfamiliar agribusiness firms such as Acres of Orchids. Later in their careers students will appreciate the visit.

After rating the agribusiness firms visited, students were asked to comment on certain aspects of the field trip. Their replies will be used to improve the field trip. Students unanimously said they much preferred an owner-operator giving a tour rather than a public relations person. Because owners and operators are close to the daily operations of the firm, they are most likely to give more informative tours and answer questions. As to preferences of an alumnus giving the tour, students were indifferent. However, some believed that the students and tour guide are more at ease if the tour guide is an alumnus. They also believed that the alumnus would more completely answer difficult questions and be less inhibited.

Students did have a preference for medium- and small-sized farms. They believed these firms would more likely have tour guides that were owners or operators of the firm rather than public relations people. Many students requested more pre-trip classes so that questions could be formulated before the trip started. This suggestion will be incorporated into the field trip next year. Some of the students would have liked the field trip to last longer, but this request must be weighed against higher costs. A longer trip with no additional agribusiness firms means students could visit an establishment longer, which was requested numerous times. As to the most enjoyable part of the field trip, replies ranged from enjoying seeing an alumnus with a job, learning what loan officers look for in a loan application, and the most prevalent comment was the ability to learn from a complete stranger.

Summary

Agribusiness and agricultural economics students enjoy seeing the complex tools and theories learned in their courses being used in the business world. The agribusiness field trip gives these students an avenue to observe successful agribusiness operations and question successful agribusiness owners and operators. Many components are necessary for a successful field trip, including an enthusiastic faculty tour leader, the possibilities of using an alumnus of your department in the field trip, and having only owner-operators lead tours of their facilities. The students in a post-trip questionnaire expressed their desire for owner-operator tours rather than public relations canned tours. Also, many students expressed surprise and enjoyment at learning from complete strangers. In addition, students requested a more intense pre-trip segment of the field trip. This will be initiated so that potential questions can be developed before the tour begins. Those enrolled for two credits may be required to do their paper prior to the trip. Given adequate pre-trip preparations, the tour becomes very enjoyable and fruitful.

References

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Financial Value Estimation As An Analogy to Breeding Value Estimation

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Breeding estimation for a single trait can be based on different sources of phenotypic information. This concept can be illustrated in diagram form as follows:

COLLATERAL RELATIVES

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ANCESTORS ↔ INDIVIDUAL ↔ PROGENY

where INDIVIDUAL has reference to the INDIVIDUAL whose breeding value is being estimated for a specific trait. In addition to information on the INDIVIDUAL, phenotypic information on relatives of

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the INDIVIDUAL can be used separately or in combination with the INDIVIDUAL to estimate breeding value for certain traits. An accuracy of selection value, which can vary from 0 to 1.0 and measures the correlation between breeding value and the phenotypic information used to estimate this breeding value, is associated with each phenotypic source of information or combination of phenotypic sources.

Considerable time is devoted to the concept of breeding value estimation and corresponding accuracy of selection in the undergraduate Animal breeding course taught within the Animal Sciences Department at the University of Kentucky. Some of the specific phenotypic sources of information examined for breeding value estimation are as follows:

1. INDIVIDUAL
2. INDIVIDUAL + SIRE
3. INDIVIDUAL + SIRE + DAM
4. INDIVIDUAL + SIRE + GRANDSIRE + GREAT GRANDSIRE
5. COLLATERAL RELATIVES (HALF OR FULL SIBS)
6. PROGENY
7. INDIVIDUAL + COLLATERAL RELATIVES + PROGENY

To arrive at breeding value estimates and corresponding accuracy of selection values for the above situations, equations are developed from which regression coefficients are derived. Although an attempt is made to make the mathematical techniques relatively uncomplicated whereby selection differential information is weighed by the appropriate regression coefficients to estimate breeding value, many students have difficulty grasping the overall concept of breeding value estimation because of their so-called "fear" of mathematics.

After completion of the overall breeding value estimation concept, this material is summarized through utilization of a series of slides. Immediately after this review, an additional set of slides is utilized to relate the entire concept of breeding value estimation to people. This extra set of slides was developed with the idea that many of the students probably would not remember all of the mathematics associated with breeding value and accuracy of selection estimation. However, it was felt that the students would perhaps retain more of the general subject matter associated with breeding value estimation if the concept could be related to something familiar — namely selection of a potential husband or wife.

Since the breeding value concept is now directed towards selection of a potential husband or wife, the breeding value estimation terminology is replaced with that of financial value estimation. Specifically, the following question is asked regarding the INDIVIDUAL (potential husband or wife): "Is the INDIVIDUAL financially secure enough to support me in the manner in which I would like to be supported?"

With this question in mind, the problem becomes one of evaluating not only the financial status of the INDIVIDUAL but also the financial status of the INDIVIDUAL'S relatives (ANCESTORS, COLLATERAL RELATIVES, PROGENY).

With the stage set for financial value estimation, the problem now becomes one of evaluating the different sources of information (INDIVIDUAL, ANCESTORS, COLLATERAL RELATIVES, PROGENY) in terms of financial value estimation. Also, accuracy is evaluated first for the situation in which financial value estimation is based solely on the INDIVIDUAL'S phenotype. Then the increase in this accuracy is evaluated as financial information is assessed on the INDIVIDUAL'S relatives.

An overview of some of the material contained in the slides to illustrate the financial value estimation concept based on the different sources of information follows:

- A. **INDIVIDUAL.** Two individuals are depicted together — one male and one female. The stage is set for financial value estimation by suggesting to the girls in class that the male illustrated is the INDIVIDUAL of interest; whereas, for the boys in class, the female is the INDIVIDUAL of interest. On the basis of phenotype of the INDIVIDUAL of interest, financial status is assessed. Primarily on basis of dress, it is ascertained that financial status is estimated with an accuracy of .50 (both INDIVIDUALS illustrated have a look of affluence); however, the accuracy can be improved by considering other information as follows:
 - B. **SIRE.** In addition to phenotype of the INDIVIDUAL, financial status of the INDIVIDUAL is assessed further by considering
 - a. Fact that INDIVIDUAL'S FATHER owns controlling interest in the local bank.
 - b. Number of acres (35,000) and number of cattle (5,000) owned by INDIVIDUAL'S FATHER. (This entire concept of financial value estimation is developed assuming cattle is the livestock species of primary interest).
 - c. Methods utilized by INDIVIDUAL'S FATHER to work cattle (dozen cowboys plus latest in cattle handling equipment as well as privately owned helicopter for penning cattle).By considering simultaneously information on the INDIVIDUAL plus information on the INDIVIDUAL'S FATHER, accuracy of financial value estimation is increased to .60.
 - C. **DAM.** In addition to phenotype of INDIVIDUAL plus information evaluated on the INDIVIDUAL'S FATHER, financial status of individual is assessed further by considering
 - a. Type of jewelry (diamond clusters) worn by INDIVIDUAL'S MOTHER.

- b. Kind (very expensive) and number (2) of cars parked in MOTHER'S driveway.
- c. Fact that in northwest corner of 40 somewhat desolate acres owned by the INDIVIDUAL'S MOTHER is a very productive oil well.

By considering simultaneously information on the INDIVIDUAL plus the INDIVIDUAL'S FATHER and MOTHER, accuracy of financial value estimation is increased to .90. (As expected, this accuracy value is influenced rather dramatically by item c. above.) At this point because of the relatively high accuracy value, it is emphasized that the financial status of the INDIVIDUAL looks very promising.

D. COLLATERAL RELATIVES (FULL SIB). Two individuals are depicted together — one male and one female. The male illustrated is a full brother to the male referred to in item A above; whereas, the female illustrated is a full sister to the female referred to in item A above. So in addition to phenotype of INDIVIDUAL plus information evaluated on the INDIVIDUAL'S FATHER and MOTHER, financial status of INDIVIDUAL is assessed further by considering:

- a. Fact that the INDIVIDUAL'S FULL SIB also has an oil well currently producing 500 barrels per day of high grade crude.

By considering simultaneously information on the INDIVIDUAL as well as the INDIVIDUAL'S FATHER, MOTHER and one FULL SIB, accuracy of financial value estimation of the INDIVIDUAL is increased to .95.

E. PROGENY. If the INDIVIDUAL, whose financial status is being assessed has one or more progeny, then the PROGENY may be available for evaluation. If the PROGENY are relatively young, information on the PROGENY probably will not make much of a contribution to financial value estimation of the INDIVIDUAL; however, since the financial value estimation concept is approached from the standpoint that cattle is the livestock species of interest, the PROGENY are evaluated in terms of their potential to develop into top notch cattle people since this may have a direct influence on financial status of any future beef cattle endeavors. Finally by considering simultaneously information on the INDIVIDUAL as well as the INDIVIDUAL'S FATHER, MOTHER, FULL SIB and PROGENY, accuracy of financial value estimation of the INDIVIDUAL is increased to .96.

Concluding Comments

The technique described herein of relating the concept of breeding value estimation to that of financial value estimation is simply an attempt, through use of a series of well developed slides to take a concept

that can be mathematically challenging to some students and present it in a manner so that the overall concept can be related rather easily to a situation either already familiar or easily grasped by most students. This approach, which has been well received by students is simply an extension of some of the concepts presented by Kuhns (1977) in his general discussion of teaching for permanent learning.

Literature Cited

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CASE REPORT

Micro-Teaching Provides Realistic Learning

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For the Cooperative Extension agent, clientele groups vary greatly. Rarely does teaching an "intact" group occur, as it does in the traditional classroom. Analysis of behaviors by Hampton (1980) revealed that planning, execution, and evaluation are the major role phases critical to an Extension agent's position. Therefore, prospective Extension agents must be competent in designing learning activities and evaluating their outcomes.

Micro-teaching has been a commonly used teaching technique for on-campus training of prospective high school teachers (Peters and Moore, 1983). Research has not only supported the general effectiveness of such an experience for learning, but it also has suggested that the effectiveness is enhanced when they actually teach high school pupils rather than college peers, as reported by Scanlon, Williams, and Seamans (1983). It could be concluded that to provide effective teaching experiences for prospective Extension agents, training could be enhanced by using appropriate clientele audiences. Therefore, to provide a more realistic on-campus teaching experience, a teaching activity was designed for training prospective Extension agents. This activity was developed to enable students to apply the four components of program development and select the appropriate teaching methodologies to fulfill needs of clientele.

The four components of program development exemplified by the activity were needs assessment, program planning, implementation, and evaluation. Within this framework, each student enrolled in the

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