

Database Application for a Youth Market Livestock Production Education Program

Marc R. Horney

Assistant Professor

Department of Animal Sciences

California Polytechnic State University

San Luis Obispo, California

mhorney@calpoly.edu

Abstract: *This article offers an example of a database designed to support teaching animal production and husbandry skills in county youth livestock programs. The system was used to manage production goals, animal growth and carcass data, photos and other imagery, and participant records. These were used to produce a variety of customized reports to help guide leaders and members through the project animal selection and management process and evaluate progress over time. The chief advantage of the system is in its utility in reducing the effort required to perform the many communication and information-sharing tasks that were necessary for success.*

Introduction

Many youth livestock programs have adopted ultrasound measurement of fat and muscle characteristics in market project animals to bring more elements of commercial food animal selection, production, and care into livestock exhibitions (Nash, 2007). Agricultural education programs vary in how they use this information, and many could likely make more effective use of it than they presently do.

Shurson and Lattner (1991) offered evidence that more focus on biology and animal care skills in 4-H livestock projects is needed. This may still be true in many places. When integrated by an educational strategy, this information can help improve the market quality of animals exhibited at youth shows (Nash, 2007). Carol Smith (2009) described how good management software can reduce the labor required to accomplish tasks, reduce the amount of prep time required, and increase accuracy.

That can be extended to educational outreach as well. Williams and Raper's (2011) example of a Microsoft (MS) Excel application for automatically organizing and disseminating information is a good one. While Excel is more familiar to most users and can emulate some database functions, a dedicated database system can offer substantial advantages as the processing and distribution of data becomes more complex.

Background

Main elements of the application described here were originally developed during the course of a pilot youth livestock education project conducted in El Paso County, Colorado, in 1997-1999 for the Colorado State University 4-H Youth Development Program. The goal was to improve how animal husbandry and production skills were taught to 4-H food animal project members. Much of this was inspired by Gene and Chad Gibson (UI Cooperative Extension) and their livestock "Systems Approach" youth education and animal evaluation program. Measurable animal production "targets" were established for the market animal projects and reinforced through the evaluation of these in animals at the fair exhibition. Leaders and members were provided these targets before purchasing their animals and provided guidelines to aid them in choosing appropriate animals. They were given additional feedback about their animals at a pre-fair weigh-in and a final evaluation at the exhibition itself. A MS Access database was developed to handle the increase in communication between the Extension office, project leaders, and members/parents. The database has continued its development in California and continues to evolve.

Database Design

Figure 1 shows the data tables and how they are connected through "key" fields to pull information from each other. Nearly any detail can be obtained for an exhibitor or their animal(s), given an exhibitor ID or animal ear tag #. This educational focus was on the "Targets"

While individual tasks that made up this program can all quite readily be accomplished without a comprehensive management system, tying them all together in a coherent and efficient way requires one. The many related tasks that were automated together in this case would have exceeded the time and energy of Extension staff and volunteers without it. A chief weakness of current database applications is that they do require some skill to design properly and manage. Successful implementation depends on the persistent availability of people with those skills. Where staff or volunteers are capable of designing even basic database applications, however, such investments can help shift time and creative energy back into pushing outreach and education efforts forward.

References

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