SENIOR PROJECT APPROVAL PAGE

TITLE:	Selecting, Marketing and Rebuilding a Herd of Genetically Superior Animals
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DATE SUBMITTED:	December 2, 2009

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Selecting, Marketing and Rebuilding a Herd of Genetically Superior Animals

by

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2009

ACKNOWLEGDEMENT

The author wishes to express sincere appreciation to her family for their endless support and love. Much appreciation is extended to her parents, Benny and Janice Rector for their encouragement as well as financial support which allowed her to attend college. In addition, the author would like to thank the California Polytechnic State University department of dairy science faculty for an amazing education experience as well as the direct application of the “Learn by Doing” motto which has allowed this author to excel beyond her imagination.

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INTRODUCTION

The dairy industry is in the middle of dire times due to high feed costs and low milk prices which in turn forcing many dairy producers to sell their herds or reduce herd size to viable numbers. If the dairyman has to make the choice to reduce cow numbers what does he or she sell, how does he or she sell them and what plans could be available to rebuild their herd in the future? The selection process for registered dairy cattle is not an easy task; dairymen will be required to evaluate their herd on current criteria. The Cal Poly Corporation dairy is facing these times currently with the plans of down sizing its 150 cow operation.

The objective of this project is to select genetically adequate animals to sell; the marketing of those animals and give ideas on how to replace those animals with the plan of restoring or expanding herd size. The selection criteria for genetically superior or inferior animals which will be used on this particular operation are: the evaluation of their Jersey Performance index (JPI) and Total Performance Index (TPI) for the Jerseys and Holsteins, respectively. Also, each animal will be evaluated on their pedigree, appraisal score and visual appearance at time of sale as well as milk production. Examples will be given on how, why and where to market animals that will be leaving the herd to increase demand and profitability for the livestock and doing so in a timely manner. Finally, this report will have plans and ideas to grow the herd after it is financially ready.

LITERATURE REVIEW

Reasons for Downsizing a Dairy Herd

Financial reasons are one of the primary reasons for herd reduction. "Many farmers now say they can't sell their milk for what it costs to produce" (1). Currently the dairy industry is experiencing very economically trying times, due to decreased milk price and increased feed costs. "Dairy farms benefited in recent years from higher milk prices and growing demand in countries such as China, but demand fell off with the economic downturn, and wholesale milk price began plummeting last fall. At the same time, feed and other costs remained high." (1). Therefore, many dairy producers are choosing to reduce heard size to a more viable size with fewer animals.

Dairymen are also trying to reduce the nation's milk supply in hopes that the price of milk will rise again. U.S. Department of Agriculture Secretary Tom Vilsack said "dairy farmers have been selling some cows to help reduce the nation's milk glut and bring production more in line with demand." (1). Figure 1 demonstrates the fall of milk price over the last year. With milk prices low and feed high many dairy farms quickly went into debt without any hope of recovery in the near future.

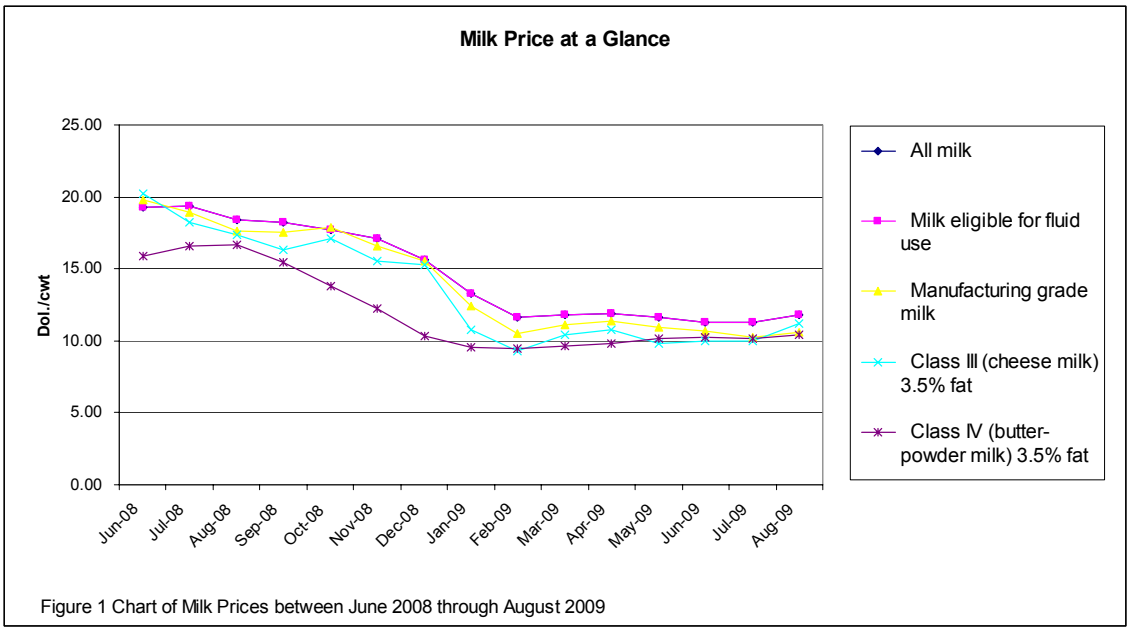


Figure 1 Chart of Milk Prices between June 2008 through August 2009

"An important goal of a commercial dairy farmer is maximization of total profits" (6). The animals which comprise a herd should be the dairy's most profitable and genetically superior animals.

Cooperatives Working Together only way for many to survive. Since its beginning Cooperatives Working Together (CWT) has put together nine herd retirements for the United States dairy industry. The most recent CWT program ended October, 2009, and was the third of this calendar year. During the last round of the program 26,412 cows and 517 million pounds of milk were taken out of the milk supply (11). If you include all previous herd retirements since December 2008, [they] equal a total reduction of milk production capacity of five billion pounds (11). The

total animals removed within the last 12 months in the program are 252,000 (11). Many dairymen do not wish to take this option because of their love of the industry.

Selection Criteria When Selecting Genetically Superior Animals

Total Performance Index, Jersey Performance Index or heifer P values. The programs listed previously are great starting points when evaluating registered animals' records. The Total Performance Index (TPI) and Jersey Performance Index (JPI) are numbers given to an animal by either Holstein Association USA or the American Jersey Cattle Association, respectively, based on genetic merit of that animal, while a P value is a number given to young offspring who have not calved, ranking them among the others within their age group. For Holsteins TPI and P value are determined as follows:

> TPI combines the Predicted Transmitting Ability (PTA) values for Protein, Fat, Type, Productive Life, Somatic Cell Score, Daughter Pregnancy Rate and Daughter Calving Ease. It also includes the Standard Transmitting Ability (STA) for Dairy Form and the Linear Composite indexes for Udder Composite and Feet & Legs Composite into one numeric value. TPI ranks animals on their ability to transmit a balance of these traits. For females, this value is labeled CTPI (Cow TPI). For young animals (and older animals that do not have PTAs), a PTPI (Pedigree TPI) will be provided. Pedigree TPI's are calculated by adding the TPI of the sire and the CTPI of the dam and then dividing in half. PTPI estimates the potential transmitting ability of a young animal. It is preceded by a percentile ranking of P5 through P9 for the top 50% of animals born within a given year of birth. (2)

When selecting the animals to sell or keep in your herd the performance indexes are a great way to start but other consideration should be measured.

Genetics lines. The linage of the animals you are considering keeping should always be considered through production potential and appraisal scores. The traits a sire and dam could pass to offspring influence the decisions being made. High profile cattle and cow families your herd is known for could also be a deciding factor in whether to keep or sell an animal. Cow families that have a track record for having high production is a consideration to be looked at if the future goals of your herd includes having high production records. If an animal has a high appraisal score in addition to dams and grand dams having exceptional scores the animals might be worth keeping.

Profitable Animals. "Preventing premature culling of dairy cows is important to improve the possibilities of breeding selection and the economic performance of milk production" (3). Dairymen should not select the animals which will be staying or leaving the herd without first looking at their potential and current records. For instance "only the oldest cows with low production capacity should be disposed of intentionally" (3). The animals that are making a dairy producers money are the last ones which should be sold when selling many from your herd.

Threshold selection in dairy cattle. When choosing animals to sell one way of selecting them is through the use of threshold selection. Dairymen must have an idea of the desired traits animals must process before using threshold selection. The definition of threshold is, "the point that must be exceeded to begin producing a given

effect or result or to elicit a response" (12). An example of threshold selection criteria for registered dairy cattle would be the TPI or JPI scores of Holsteins and Jerseys, respectively. The dairyman must develop a minimum standard for all the animals in his herd and then cull cows based on that standard. When determining what the threshold for a herd of dairy cattle is dairymen must take into account the current performance of their herd as well as reasonable requirements for the threshold to meet.

Selection of Animals for Downsizing Similar to Culling Practices. "The term culling describes the removal of animals from a herd" (9). When selecting animals to leave the herd they are the animals which aren't producing a profit for the dairymen. "The culling policy adopted on a farm can have a substantial impact on the profitability of the enterprise" (8). When determining the selection of your herd's animals to stay or leave the operation dairymen need to look at each animals individual records.

"A herd record system should allow the collection and analysis of data on the frequency and reasons for cows being culled, promoting the monitoring of culling rates and reasons for removal." (9) When an animal is being removed from the herd then the question becomes market her or sell for beef. Some factors when selecting an animal to leave include, but are not limited to: age, stage of lactation, reproductive efficiency, production, and genetic traits.

When considering animals to leave the age of the animal is essential. Young animals with a long productive life are those which you might want to keep over older animals which might not be in the herd much longer anyway. You want to consider if the animal is pregnant or not because if she is you might not be only selling one but two animals. If you have problem breeders which you cannot get pregnant and this is a reoccurring problem they should be under consideration. Milk production is a very big factor in culling decisions being that if an animal doesn't make milk she is not profitable to you. Also, when evaluating an animal's records you want to look at their predicted productive potential by looking at parent averages for milk yield and components. Dairymen also want to look at the animal's sire and dam to see if they are of importance or have superior production records.

Marketing Animals for Optimal Revenue

Goals. Dairymen want to receive the highest price for there animals when they are down sizing. Before you start selling animals you need to have a goal for the price you want to receive as well as how you get your message out. "Begin goal-setting by realistically evaluating the marketability of your herd. … Place more emphasis on overall production, classification, pedigrees, and predicted transmitting abilities." (10). When evaluating your herd the marketable traits you should put emphasis on are the ones you can provide records to prove the numbers. Coming up with your herd goals require you to understand that "marketing dairy cattle involves

three major steps. First, goals have to be set to improve your herd's marketability. Attaining these goals is the next step. The third step, which is promotion, can begin once your herd's marketability is at a level you are satisfied with." (10). Once you have completed step one and your herd is at a level you feel is marketable the dairy producer can start promoting their cattle.

Marketing Plans. "The marketing of your cattle requires publicizing your entire herd, not just one cow. Three main factors are needed in order to achieve a successful marketing program: reputation, visibility, and a network of potential buyers. All three overlap and need to be established and increased in unison" (10). If the dairyman has created a reputable herd of cattle this will require the animals to be exposed in the public and industry eye for others to see what the herd has achieved and has to offer. The animals you are trying to sell are of high quality from an outstanding herd therefore they need to be seen through the many marketing outlets. By making your herd seen in the industry through showing cattle, attending conferences and/ or being involved in industry you are promoting your herd. If you have the chance to sell a few cattle here and there customer stratification is the most important thing. "Happy customers are your best form of advertising" (10).

TABLE 1. Advertising Rates for the Jersey Journal (15).

Breeder Advertising Rates

as of January 1, 2005

Page Size	Contract Price (12X placement)	Non-Contract Price (less than 12X price)
Full Page	$615	$690
2/3 Page	$465	$530
1/2 Page	$350	$405
1/3 Page	$250	$295
1/4 Page	$200	$220
1/6 Page	$140	$160
By the Inch	1-inch = $35	1-inch = $45

Advertising and Promotions. "Promotion can be achieved by advertising in publications, developing a website, entering the show ring, consigning to sales and selling animals privately"(10). Although advertising and promotions can be very expensive it is always beneficial to your herd and marketability. Whether you create a webpage for your farm or a new sign by the road you are improving the image of your herd. When you are advertising, you always want to make potential buyers interested. You want to place ads in relevant publications such as your breed magazine or dairy related newspapers or magazines. "There are two types of advertisements to put into industry publications: the 'image ad' and the 'cattle for sale ad'. Both advertisements should attract the reader's attention by being simple, direct, unique and clean" (10). People like looking at pictures and their attention is drawn to bold things so by adding these to your ad you are increasing the likelihood of people

looking at the add. The larger the ad usually more attention it can draw. Once you have sold the desired amount of cattle you should keep your promotions up, you do not want to fade out of peoples minds. By running a small farm logo or a "what's going on at the dairy" in dairy publications keeps your name out there. As seen in TABLE 1 the cost of publishing a small ad to keep your name out there is not much. You will be able to use those ties you have developed to help your herd in the future when you potentially might want to buy or sell more animals.

Rebuilding a Genetically Superior Herd

Replacements. Dairy replacement animals from within a herd are the heifers which will be calving to fill the empty slots in the dairy or replace animals which were voluntarily culled. When expanding your herd from within sexed semen is an effective way of producing female offspring which will make it into your herd. While breeding for replacements an "economic breeding goal and for the construction of selection indices, not only genetic parameters, but also economic values for traits are required" (5). Dairymen often try to rebuild herds from within to increase homebred genetics as well as ensuring herd health by not bringing in outside animals. The choice to grow from within or purchase animals also can be decided based on economic position. "The breeding and replacement policy of dairy cows greatly influences the profitability of a dairy herd. Thus, for its economic success it is important that the producer makes optimal breeding and replacement decisions" (7).

Even if a dairyman has the plans for his repopulation in place there are a few more things to consider such as the possibility of problems along the way.

Rebuild and Expansion Pitfalls. "Historically, major expansion projects have experienced shortages in manpower, replacement animals, feed and capital." (4). When preparing plans for your repopulation, or expansion dairymen need to consider everything that could come up and the costs of each. The timing of a rebuild is critical when planning when animals will be coming into production. "Expansion should start with an understanding of what is happening in the industry and what the long-term goals of the owner(s) are" (4). Dairymen need to consider all aspects of a repopulation when determining if they can fiscally go through with the rebuild.

MATERIALS AND METHODS

Selection of Animals For Sale

Comprise a list of all animals eligible for sale based on desired criteria. The animals that were considered for this project were first those of the correct age groups based on their date of birth for class breakdown in the show ring. These animals also were considered based on due dates because the offspring derived from these animals are going to be full aged show calves. Therefore most of the animals selected have birthdates or due dates within the months of March, June, September, and December.

Animals Visual Appearance. Visual examination of each animal is needed to determine if the animal is healthy and of a desirable composite structure. When referencing the dairy unified scorecard the heifer is evaluated for dairy strength, rear feet and legs, and frame in that order. Structurally correct composition is important for longevity and subsequently important for productive life and in turn long term profitability.

In the pictures shown in figures 2 and 3 the two animals were both under consideration for sale but after examining their physical appearances animal A did not have an eye appeal or body fat to make a desirable sale animal. Heifer B has more adequate body fat and sound structural composition and therefore was selected to be sold.

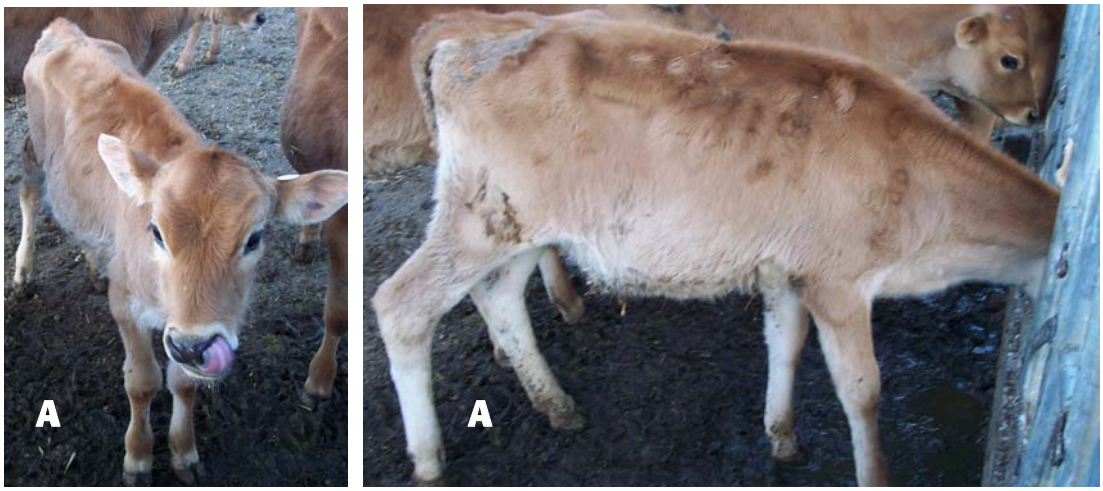


Figure 2. Heifer A had a very low body condition score and looked unhealthy. Both are criteria in selecting animals for sale.

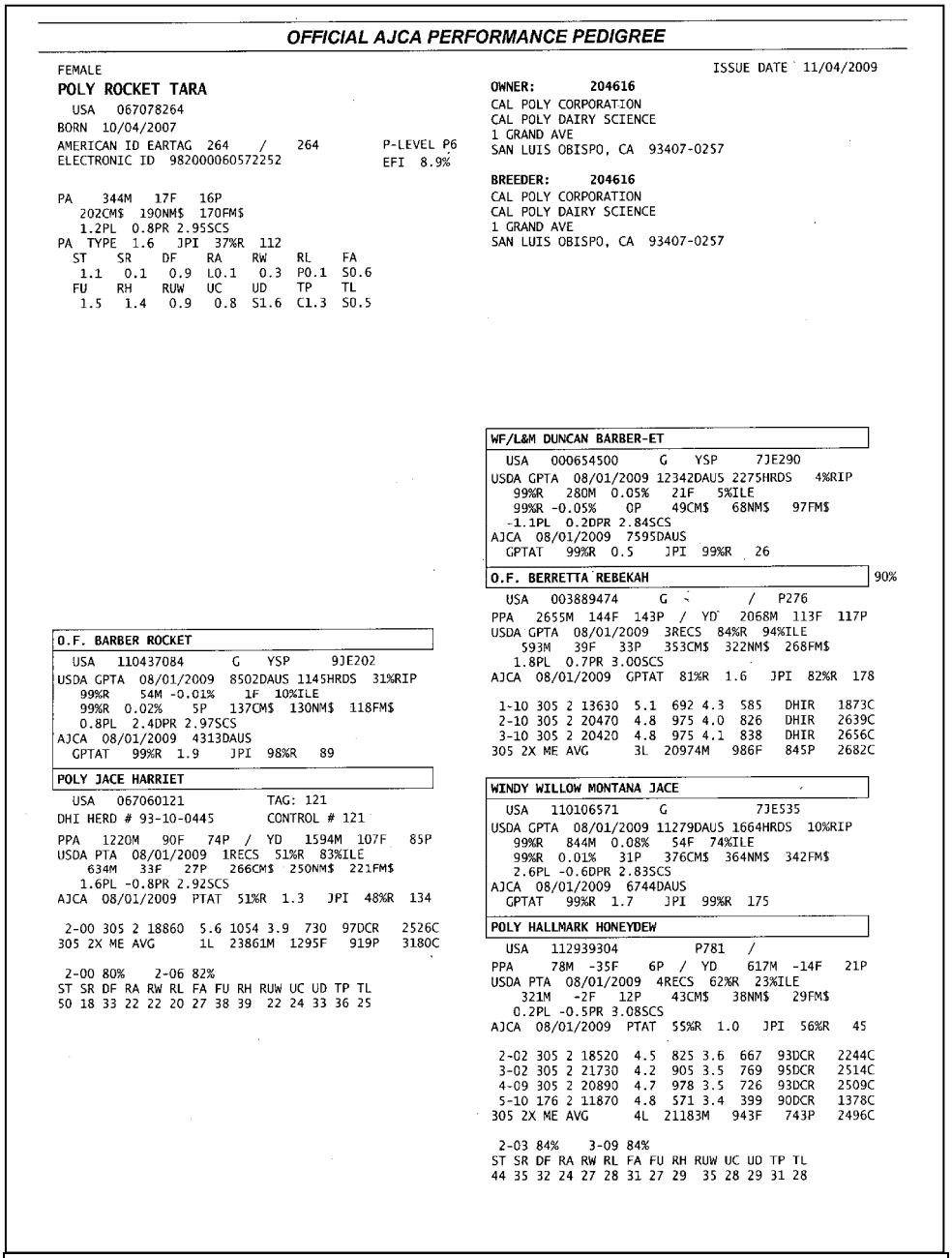
Figure 3. Heifer B had a healthy body condition score and looked healthy.

Evaluation of records. The animals were ranked on P-Values, Parent Averages, and inbreeding coefficients (EFI). The records which were evaluated were an AJCA Heifer Inventory Report and individual heifer pedigrees. These records were closely examined in order to make an educated decision about which animals from the herd were to be selected.

Heifers are ranked on P Values zero through nine, nine being the highest genetically ranked herd for that age group in the breed. Higher P values are more desired in heifers and therefore no animals with a P value of nine were considered. Figure 4 you contains the animal's parent averages (PA) are desirable and acceptable for sale. In addition noting the animal has a dam and grand dam with adequate appraisal scores with 82% and 84% respectively. When looking at Poly CGar Wasima in Figure 5 you will notice the exceptional mature equivalent (ME) of the dam and grand dam as well as production over 20,000lbs. Wasima's grand dam was also an excellent 90% appraised animal.

Other Possible Factors. Health records should be taken into consideration when selecting your animals. An example of this would be an animal that is carrying an embryo transfer calf. Special considerations should be given to heifers that are carrying a calf contracted to a bull stud, or other valuable calves. If the dairy producer feels the offspring being carried by the heifer potentially being sold is too valuable to the herd do not sell the animal. If the calf being carried is not essential to herd

development then it is a good candidate for sale. All of those factors and considerations should be examined before making a final selection.



OFFICIAL AJCA PERFORMANCE PEDIGREE

FEMALE
POLY ROCKET TARA
USA 067078264
BORN 10/04/2007
AMERICAN ID EARTAG 264 / 264 P-LEVEL P6
ELECTRONIC ID 982000060572252 EFI 8.9%

PA 344M 17F 16P
202CM$ 190NM$ 170FM$
1.2PL 0.8PR 2.95SCS
PA TYPE 1.6 JPI 37%R 112
ST SR DF RA RW RL FA
1.1 0.1 0.9 L0.1 0.3 P0.1 S0.6
FU RH RUW UC UD TP TL
1.5 1.4 0.9 0.8 S1.6 C1.3 S0.5

ISSUE DATE 11/04/2009

OWNER: 204616
CAL POLY CORPORATION
CAL POLY DAIRY SCIENCE
1 GRAND AVE
SAN LUIS OBISPO, CA 93407-0257

BREEDER: 204616
CAL POLY CORPORATION
CAL POLY DAIRY SCIENCE
1 GRAND AVE
SAN LUIS OBISPO, CA 93407-0257

WF/L&M DUNCAN BARBER-ET
USA 000654500 G YSP 7JE290
USDA GPTA 08/01/2009 12342DAUS 2275HRDS 4%RIP
99%R 280M 0.05% 21F 5%ILE
99%R -0.05% 0P 49CM$ 68NM$ 97FM$
-1.1PL 0.2DPR 2.84SCS
AJCA 08/01/2009 7595DAUS
GPTAT 99%R 0.5 JPI 99%R 26

O.F. BERRETTA REBEKAH 90%
USA 003889474 G / P276
PPA 2655M 144F 143P / YD 2068M 113F 117P
USDA GPTA 08/01/2009 3RECS 84%R 94%ILE
593M 39F 33P 353CM$ 322NM$ 268FM$
1.8PL 0.7PR 3.00SCS
AJCA 08/01/2009 GPTAT 81%R 1.6 JPI 82%R 178

1-10 305 2 13630 5.1 692 4.3 585 DHIR 1873C
2-10 305 2 20470 4.8 975 4.0 826 DHIR 2639C
3-10 305 2 20420 4.8 975 4.1 838 DHIR 2656C
305 2X ME AVG 3L 20974M 986F 845P 2682C

O.F. BARBER ROCKET
USA 110437084 G YSP 9JE202
USDA GPTA 08/01/2009 8502DAUS 1145HRDS 31%RIP
99%R 54M -0.01% 1F 10%ILE
99%R 0.02% 5P 137CM$ 130NM$ 118FM$
0.8PL 2.4DPR 2.97SCS
AJCA 08/01/2009 4313DAUS
GPTAT 99%R 1.9 JPI 98%R 89

POLY JACE HARRIET
USA 067060121 TAG: 121
DHI HERD # 93-10-0445 CONTROL # 121
PPA 1220M 90F 74P / YD 1594M 107F 85P
USDA PTA 08/01/2009 1RECS 51%R 83%ILE
634M 33F 27P 266CM$ 250NM$ 221FM$
1.6PL -0.8PR 2.92SCS
AJCA 08/01/2009 PTAT 51%R 1.3 JPI 48%R 134

2-00 305 2 18860 5.6 1054 3.9 730 97DCR 2526C
305 2X ME AVG 1L 23861M 1295F 919P 3180C

2-00 80% 2-06 82%
ST SR DF RA RW RL FA FU RH RUW UC UD TP TL
50 18 33 22 22 20 27 38 39 22 24 33 36 25

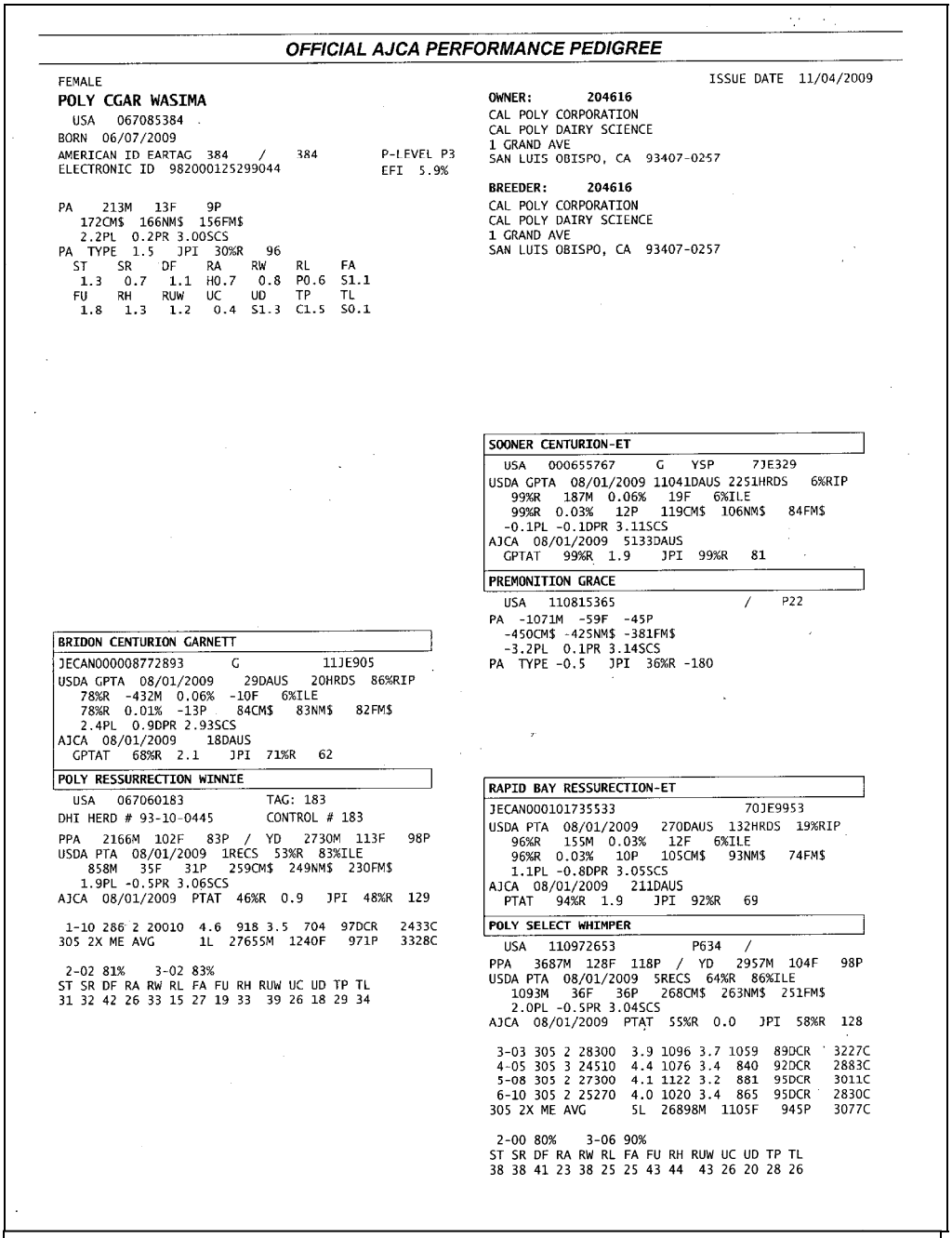
WINDY WILLOW MONTANA JACE
USA 110106571 G 7JE535
USDA GPTA 08/01/2009 11279DAUS 1664HRDS 10%RIP
99%R 844M 0.08% 54F 74%ILE
99%R 0.01% 31P 376CM$ 364NM$ 342FM$
2.6PL -0.6DPR 2.83SCS
AJCA 08/01/2009 6744DAUS
GPTAT 99%R 1.7 JPI 99%R 175

POLY HALLMARK HONEYDEW
USA 112939304 P781 /
PPA 78M -35F 6P / YD 617M -14F 21P
USDA PTA 08/01/2009 4RECS 62%R 23%ILE
321M -2F 12P 43CM$ 38NM$ 29FM$
0.2PL -0.5PR 3.08SCS
AJCA 08/01/2009 PTAT 55%R 1.0 JPI 56%R 45

2-02 305 2 18520 4.5 825 3.6 667 93DCR 2244C
3-02 305 2 21730 4.2 905 3.5 769 95DCR 2514C
4-09 305 2 20890 4.7 978 3.5 726 93DCR 2509C
5-10 176 2 11870 4.8 571 3.4 399 90DCR 1378C
305 2X ME AVG 4L 21183M 943F 743P 2496C

2-03 84% 3-09 84%
ST SR DF RA RW RL FA FU RH RUW UC UD TP TL
44 35 32 24 27 28 31 27 29 35 28 29 31 28

Figure 4. Animal selected for sale because of her acceptable parentage as well as production potential.



OFFICIAL AJCA PERFORMANCE PEDIGREE

FEMALE

POLY CGAR WASIMA

USA 067085384

BORN 06/07/2009

AMERICAN ID EARTAG 384 / 384 P-LEVEL P3

ELECTRONIC ID 982000125299044 EFI 5.9%

PA 213M 13F 9P
172CM$ 166NM$ 156FM$
2.2PL 0.2PR 3.00SCS

PA TYPE 1.5 JPI 30%R 96

ST	SR	DF	RA	RW	RL	FA
1.3	0.7	1.1	H0.7	0.8	P0.6	S1.1

FU	RH	RUW	UC	UD	TP	TL
1.8	1.3	1.2	0.4	S1.3	C1.5	S0.1

ISSUE DATE 11/04/2009

OWNER: 204616

CAL POLY CORPORATION
CAL POLY DAIRY SCIENCE
1 GRAND AVE
SAN LUIS OBISPO, CA 93407-0257

BREEDER: 204616

CAL POLY CORPORATION
CAL POLY DAIRY SCIENCE
1 GRAND AVE
SAN LUIS OBISPO, CA 93407-0257

SOONER CENTURION-ET

USA 000655767 G YSP 7JE329
USDA GPTA 08/01/2009 11041DAUS 2251HRDS 6%RIP
99%R 187M 0.06% 19F 6%ILE
99%R 0.03% 12P 119CM$ 106NM$ 84FM$
-0.1PL -0.1DPR 3.11SCS
AJCA 08/01/2009 5133DAUS
GPTAT 99%R 1.9 JPI 99%R 81

PREMONITION GRACE

USA 110815365 / P22
PA -1071M -59F -45P
-450CM$ -425NM$ -381FM$
-3.2PL 0.1PR 3.14SCS
PA TYPE -0.5 JPI 36%R -180

BRIDON CENTURION GARNETT

JECAN000008772893 G 11JE905
USDA GPTA 08/01/2009 29DAUS 20HRDS 86%RIP
78%R -432M 0.06% -10F 6%ILE
78%R 0.01% -13P 84CM$ 83NM$ 82FM$
2.4PL 0.9DPR 2.93SCS
AJCA 08/01/2009 18DAUS
GPTAT 68%R 2.1 JPI 71%R 62

POLY RESSURRECTION WINNIE

USA 067060183 TAG: 183
DHI HERD # 93-10-0445 CONTROL # 183
PPA 2166M 102F 83P / YD 2730M 113F 98P
USDA PTA 08/01/2009 1RECS 53%R 83%ILE
858M 35F 31P 259CM$ 249NM$ 230FM$
1.9PL -0.5PR 3.06SCS
AJCA 08/01/2009 PTAT 46%R 0.9 JPI 48%R 129

1-10	286	2	20010	4.6	918	3.5	704	97DCR	2433C
305 2X ME AVG			1L	27655M	1240F		971P		3328C

2-02 81% 3-02 83%

ST	SR	DF	RA	RW	RL	FA	FU	RH	RUW	UC	UD	TP	TL
31	32	42	26	33	15	27	19	33	39	26	18	29	34

RAPID BAY RESSURECTION-ET

JECAN000101735533 70JE9953
USDA PTA 08/01/2009 270DAUS 132HRDS 19%RIP
96%R 155M 0.03% 12F 6%ILE
96%R 0.03% 10P 105CM$ 93NM$ 74FM$
1.1PL -0.8DPR 3.05SCS
AJCA 08/01/2009 211DAUS
PTAT 94%R 1.9 JPI 92%R 69

POLY SELECT WHIMPER

USA 110972653 P634 /
PPA 3687M 128F 118P / YD 2957M 104F 98P
USDA PTA 08/01/2009 5RECS 64%R 86%ILE
1093M 36F 36P 268CM$ 263NM$ 251FM$
2.0PL -0.5PR 3.04SCS
AJCA 08/01/2009 PTAT 55%R 0.0 JPI 58%R 128

3-03	305	2	28300	3.9	1096	3.7	1059	89DCR	3227C
4-05	305	3	24510	4.4	1076	3.4	840	92DCR	2883C
5-08	305	2	27300	4.1	1122	3.2	881	95DCR	3011C
6-10	305	2	25270	4.0	1020	3.4	865	95DCR	2830C
305 2X ME AVG			5L	26898M	1105F		945P		3077C

2-00 80% 3-06 90%

ST	SR	DF	RA	RW	RL	FA	FU	RH	RUW	UC	UD	TP	TL
38	38	41	23	38	25	25	43	44	43	26	20	28	26

Figure 5. Pedigree of superior animal noted by Dam and Grand Dam Mature Equivalent (ME) records.

Marketing Jersey Dairy Heifers

Develop a budget for your marketing plan. The averages of the 2009 sales

TABLE 2. JMS Sale Averages for 2009 and totals.

Sale	Sale Average	Lots Sold
48th Kentucky National Sale	$ 1,962.23	47
52nd National Heifer Sale	$ 3,200.00	63
58th New England Spring Sale	$ 1,364.47	318
All American Jersey Sale	$ 4,442.86	49
Dairyland Protein Sale	$ 1,281.27	118
Deep South/Southeast Heifer Growers South Sale	$ 1,642.65	211
Dixie Invitational & Southeast Heifer Growers North Sale	$ 1,392.43	109
Elite 10 Sale	$ 6,225.00	10
Golden Plain Dairy Milking Herd and Bred Heifer Sale	$ 1,769.29	140
Hope Acres Complete Dispersal	$ 1,065.06	265
Illinois Invitational Sale	$ 1,655.00	95
Jersey Stars of the Silent Screen	$ 1,755.36	28
New York Fall Sale	$ 1,014.08	238
New York Spring Sale	$ 1,622.22	162
Ohio Fall Production Sale	$ 1,170.56	124
Ohio Spring Classic	$ 2,428.02	96
Olympic Horned Dorsets Complete Dispersal	$ 1,141.88	210
Pot O'Gold	$ 2,538.71	31
Selection of Excellence Sale from Trinity Farms	$ 1,243.80	133
Selection of Excellence Sale from Trinity Farms	$ 1,474.53	107
Top of the World Sale	$ 2,744.87	39
Vermont State Sale	$ 837.60	331
Average of All Animals Sold	$ 1,998.72	
Total Head Sold		2924

were obtained through Jersey Marketing Service. From those averages, a composite average was obtained (13) to give us an estimate of sale prices to determine an

average of all animals sold through JMS in 2009 as seen in TABLE 2. From this, average estimated revenue was developed by multiplying the average by the nine animals sold. From the estimated revenues of animals sold, commission was extracted as well as an estimated transportation cost which is seen in TABLE 3. A 2% budget for marketing was used in order to maximize final revenues. Based on the time restraints a paper and web based campaign was decided to reach the maximum amount of people, Therefore the only advertising expenses were for printing and postage.

TABLE 3. Proposed budget for advertising.

Marketing Budget for Christmas Sale

Selling 9 head of animals @ $1,998.72	$	17,988.50
Sale commission	$	899.43
Transportation Cost	$	100.00
Estimated Revenue	**$**	**16,989.08**
Advertising Budget (2% of revenue)	**$**	**339.78**
Advertising		
Postage (0.28*125 Postcards)	$	35.00
Supplies	$	40.00
Printing	$	25.00
Total Advertising	**$**	**200.00**
Unused Advertising Expenses	$	279.78
Total Revenue	**$**	**16,929.08**

Determine how you will be marketing the animals. Due to the time constraints, it maked it virtually impossible to advertise in the normal publications therefore this project went for an unconventional way of promoting the animals. Our target audience was persons looking to buy springing heifers and/or show animals. We attracted these people by sending a flyer/postcard directing them to a website (Figure 6) where they viewed pedigrees and information on all the animals Cal Poly Dairy is selling. Heifers are also going to appear in the sale catalog along with all animals being sold.

Figure 6. Postcard sent to FFA chapters in the local area of the sale.

Develop advertisements for sale animals. Advertisements will be promoting the available Cal Poly Jersey heifers which are for sale. These advertisements will be available for pick up at the sale and as well as for persons to download and print off the website. The advertisements focus on the positive aspects of the animals being marketed. The advertisements main goal is to educate the potential buyer of the animal as well as keep with the Cal Poly tradition and reputation.

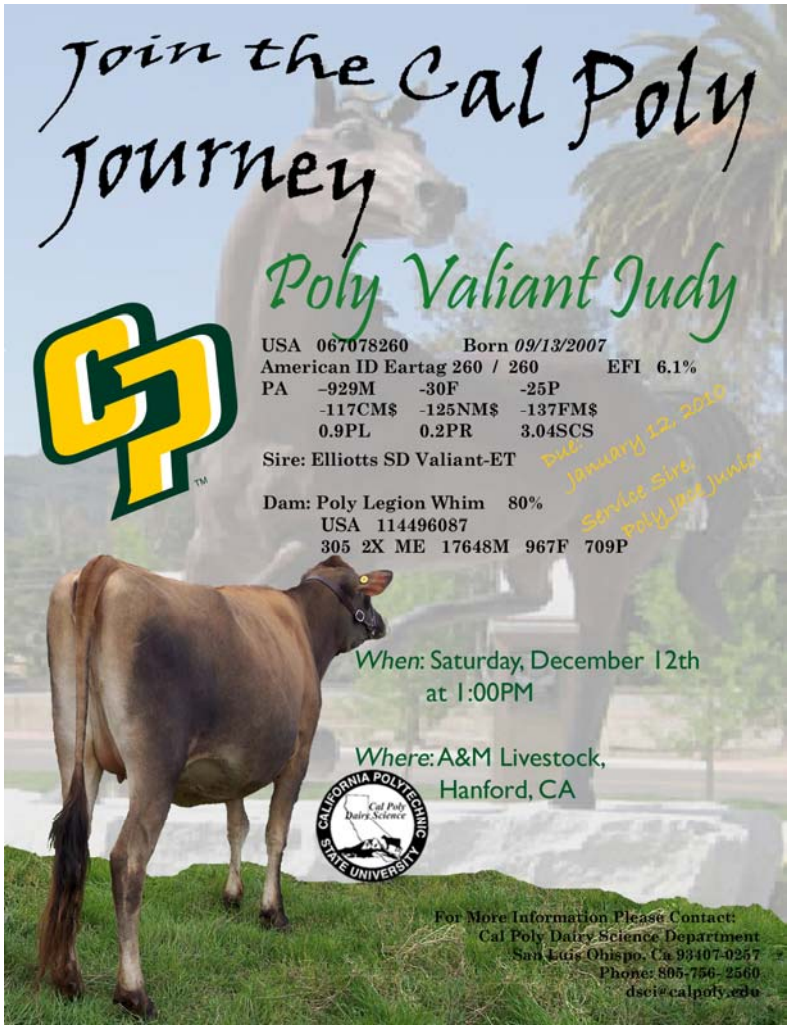


Figure 7. Advertisement for Poly Valiant Judy.

In Figure 7 the advertisement for Poly Valiant Judy is showing this full age Senior 2-year-old due to calve January 12, 2010 and information about the sale. The advertisement in Figure 8 for Poly Iatola Halle is emphasizing the fact she is carrying an embryo. Halle is one of the heifers we choose to sell even though she is carrying an embryo. We choose this heiferto add to the marketability of the heifers being sold. The ad also has all the information about the heifer and the embryo she is carrying. The three springers Poly Rocket Tara, Poly Maximus Jannie, and Poly Rasmus Dipper possibly

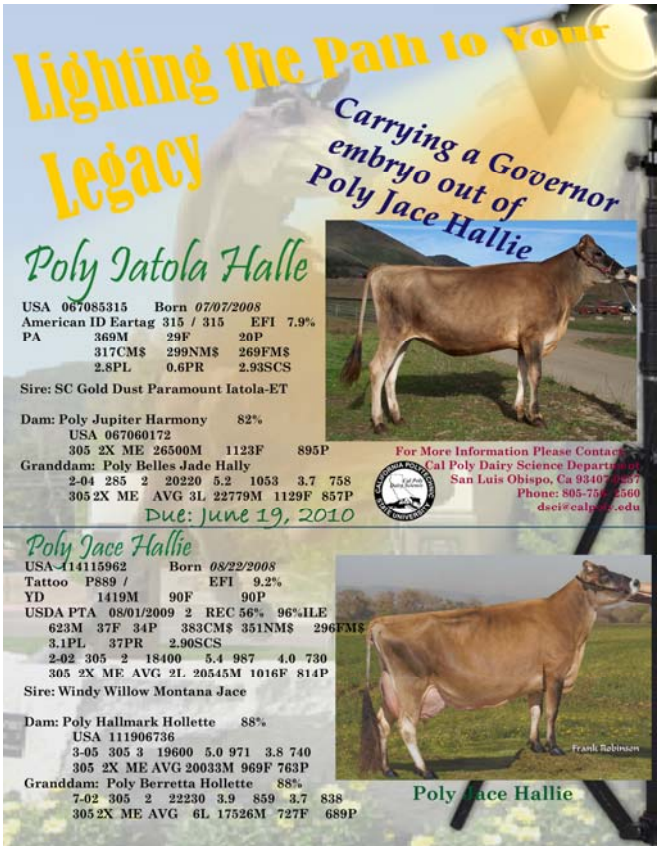


Figure 8. Advertisement for Poly Iatola Halle.

could be sold as a lot of three. This ad (Figure 9) is providing due dates and service sires of all the animals.

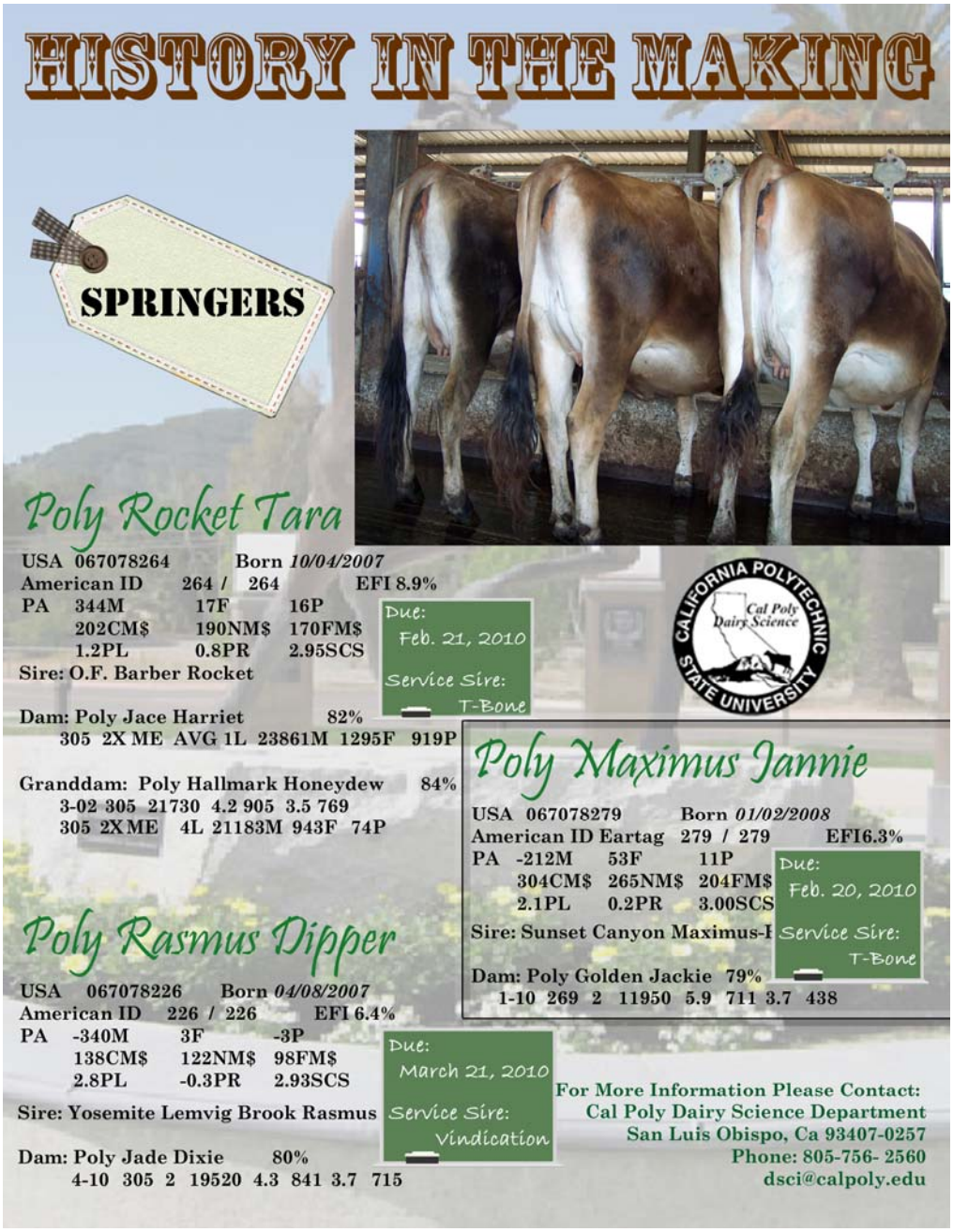


Figure 9. Advertisement for a lot of three springer Jersey Heifers: Poly Rocket Tara, Poly Maximus Jannie, Poly Rasmus Dipper.

The marketing approach used for Poly Excitation Jojo, Poly Maximum Josie, and Poly Governor Jasmine are the fact that all three are full age fall calves being they were born within the first two weeks for September. They would be great for any addition or beginning to a dairy youth project. All three animals' records and

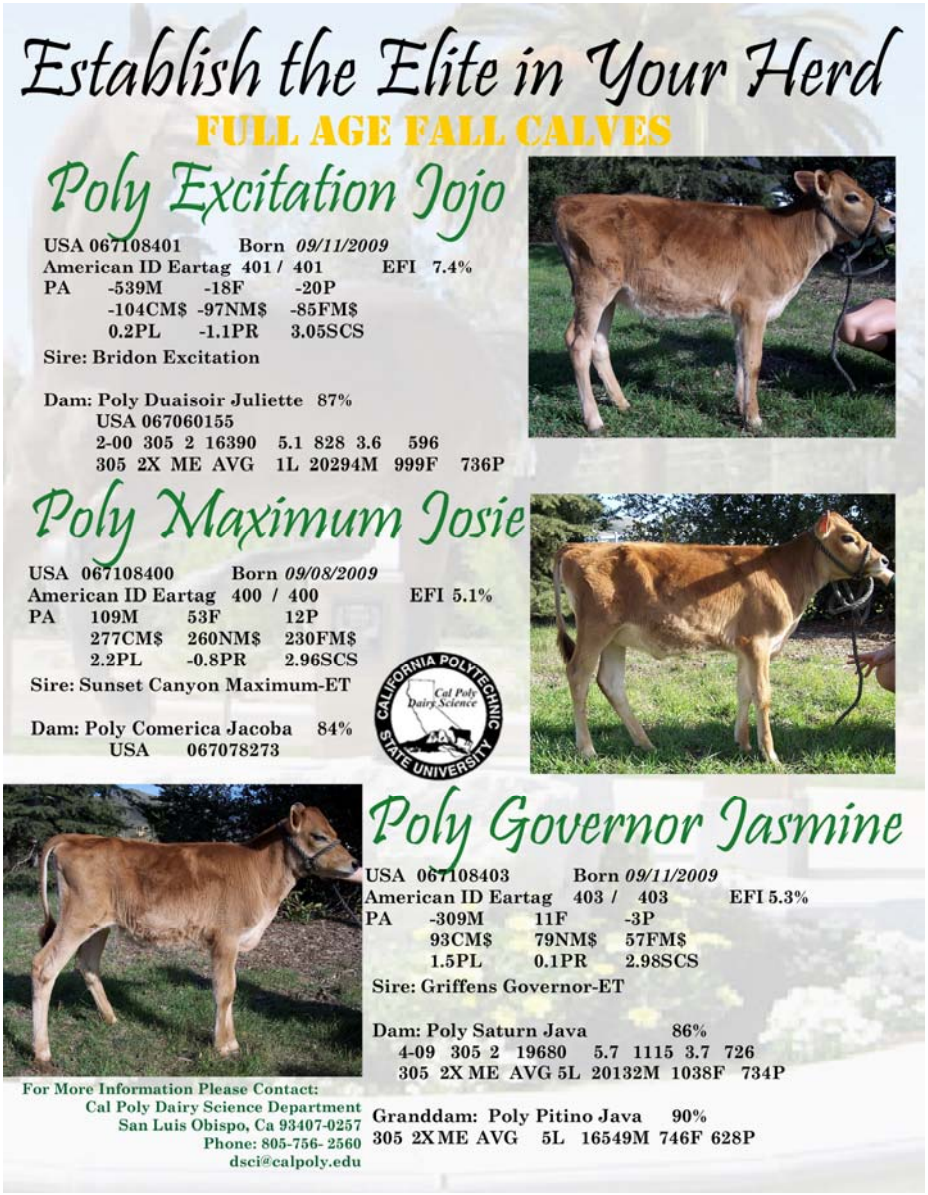


Figure 10. Advertisement for three full age Jersey Fall Calves: Poly Excitation Jojo, Poly Maximum Josie, and Poly Governor Jasmine.

pictures are in Figure 10. A picture and pedigree information is in Figure 11 for Poly Big Show Jacey. Jacey is a full age Spring Yearling; this is bolded on the advertisement as well sale information.

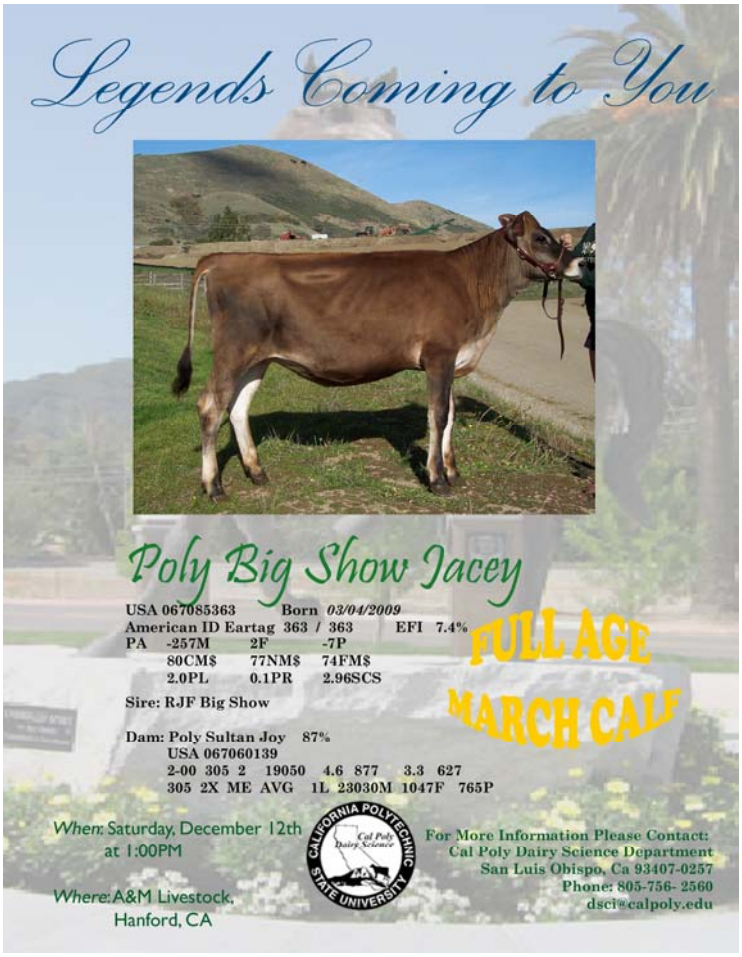


Figure 11. Advertisement for Jersey Spring Yearling Poly Big Show Jacey.

Send information to potential buyers. The selection of whom to send flyers/postcards was determined by considering who would be interested in purchasing springing heifers and or show aged calves. Therefore, the target audience

is Alumni looking to support the program as well as to FFA chapters in the area of the sale. Although that is our target audience that is not our only audience. The sale information will be available on the Cal Poly website that will make it accessible to anyone interested in buying animals.

Rebuilding a Genetically Superior Herd After Selling Replacements

Replacements are important to expanding production. The only way to grow a herd is through the replacement animals purchased or raised. Through replacements genetics can be enhanced and improved towards a progressive and achievable goal. If you decide to purchase replacement animals health considerations must be taken into account. You do not want to risk bringing animals with diseases your herd does not currently have onto your facility. The Cal Poly dairy raises all of its own replacements, which, although having health benefits, limits the amount of genetic milestones achievable in a condensed amount of time. Currently the Cal Poly dairy has an excess of replacements for its Jersey herd therefore a few select animals are being sold for increased revenues.

Embryo transfers. Cal Poly is currently working on an Embryo Transfer program with Ruan Dairy to produce marketable quality embryos, and to enhance the Cal Poly reputation and further Cal Poly genetics. Embryo transfer work is being done on both high production and genetic merit animals in both Jersey and Holstein breeds. These embryo transfers are being sold as well as implanted to again help raise

money for the dairy while some of the embryo transfer calves will be coming back to the facility. The replacement numbers will then increase therefore allowing an expansion of the current 150-cow herd from the resulting offspring of the embryo transfers.

Sexed Semen. To further a herd's growth sexed semen can be considered when wanting to expand female numbers. Research has been developed to sex sperm resulting in 90% female births from conceptions; this is done by using a flow cytometer/cell sorter which sort's sperm stained with specific dyes which is absorbed more by male sperm cells (14). By increasing the percent of heifers born, it increases the number of females that make it into your milk string. Cal Poly currently is using sexed semen on virgin heifers and select cows to increase its replacement rate. If this is allowed to continue the operation will have an excess amount of replacements therefore allowing sale consignments while maintaining the needed replacements rate.

RESULTS AND DISCUSSION

Animals Being Sold

Final Selection. The previously stated criteria are merely guidelines when selecting animals for sale. Of the 49 total possible sales choices based on age, 19 of the animals were removed from the candidate list due to poor physical appearance. Thirteen of the remaining animals were no longer considered due to their lack of genetic quality and eight due to their genetic superiority. Having either too low of a P Value or parent average on their pedigree or those numbers were too high to considered selling the animal. One animal was no longer considered because she was carrying an embryo transfer. The final selection however should also include your personal preference of which animals should remain in the herd and which animals

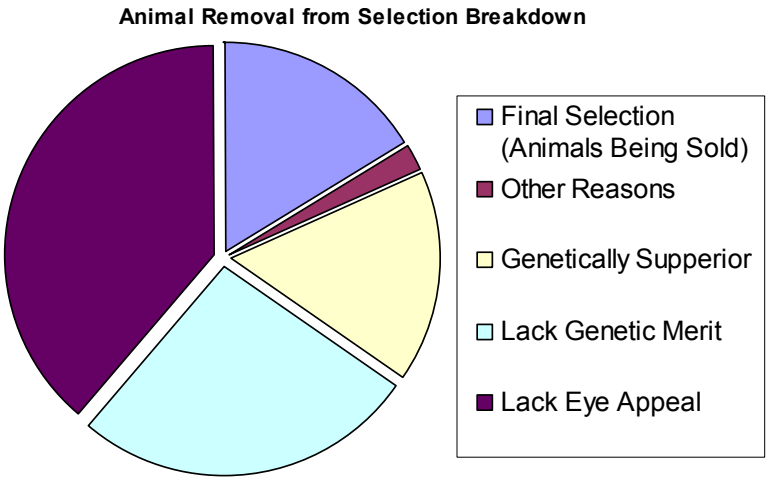


Figure 12. Graph of percents of animals removed at each step of the selection process.

would be good candidates for removal. The nine animals being selected for sale have the desired structural composition as well as the genetic quality to merit their place in the auction.

Revenue from animals being sold. If the heifers sold bring the average for all animals sold through Jersey Marketing Service in 2009, $1998.72, the resulting total revenue would be $16,929.08-- as seen in TABLE 3. This revenue would help the dairy's financial situation substantially.

CONCLUSION

The Cal Poly Dairy is experiencing very hard economic times. Consequently the sale of cattle would increase the revenue of the farm. It was the purpose of this project to develop a list of possible animals to sell at a local sale targeting young persons to begin or increase their dairy show herd. After reviewing the age groups needed for the show ring a list was developed. The animals were then removed from the eligible animals to sell based on the criteria: visual appearance, genetic merit, and other extenuating circumstances. After the final selection of animals was made a marketing plan was developed.

Untraditional means of marketing was required for the animals being sold. Due to the timing of the project and the sale, all advertising was done electronically; except postcards sent out to FFA chapters in the area of the sale. These postcards were directing people interested in more information to request the information from the department by e-mail; they will then be sent an electronic file of the sale ads. The cost of the postcard was derived from a 2% cut in the revenue from the sale of the animals. The animals sold were from a surplus amount of Jersey heifers within the Cal Poly herd. This project also addressed ways to expand the Cal Poly herd through replacements if desired.

Replacement animals are the only way to increase herd size from within a herd. The Cal Poly Dairy is actively participating in sexed semen and embryo transfer work as ways of increasing replacement animals:. These two programs together will increase the number of females possible to make it in to the milking string and replace the animals sold through this project.

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APPENDIX