2011 National FFA Dairy Cattle Career Development Event

Official answers for Management Exercise:

1.	D	11.	C	21.	C	31.	E	41.	C
2.	B	12.	B	22.	A	32.	E	42.	E
3.	D	13.	B	23.	E	33.	B	43.	A
4.	A	14.	D	24.	B	34.	E	44.	B
5.	C	15.	B	25.	C	35.	A	45.	D
6.	D	16.	D	26.	A	36.	C	46.	E
7.	B	17.	B	27.	B	37.	B	47.	A
8.	C	18.	E	28.	D	38.	C	48.	B
9.	B	19.	A	29.	A	39.	B	49.	A
10.	E	20.	C	30.	C	40.	D	50.	E

Official placing/cuts for Pedigree Class:
4-3-1-2
with cuts of 2 - 6 - 5

Official placing/cuts for Sire Selection Problem No. 1:
3 - 1 - 4 - 2
with cuts of 3 - 5 - 4

Official placing/cuts for Sire Selection Problem No. 2:
2 - 3 - 1 – 4
with cuts of 2- 3- 3

ANSWER KEY for HERD RECORD EVALUATION Collaborative Team Exercise

Cow Number	A	B	C	D	E	F	G
100	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0
102	0	0	6	0	0	0	0
103	0	0	0	0	0	0	0
104	0	0	0	0	0	2	0
105	0	0	0	0	0	6	0
106	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0
108	0	0	0	0	3	0	0
109	0	0	0	0	0	6	0
110	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0
112	0	0	0	0	3	0	0
113	0	0	0	0	0	0	0
114	0	0	0	0	0	0	0
115	0	0	0	0	0	0	6
116	0	0	0	0	0	0	0
117	0	0	0	0	0	0	0
118	6	0	0	0	0	0	0
119	0	0	0	0	6	6	0
120	0	0	0	0	0	0	0
121	0	0	0	0	0	0	2
122	0	0	0	0	0	0	0
123	0	3	0	0	0	0	0
124	0	0	0	6	0	0	0
125	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0
127	0	0	2	0	0	0	0
128	0	6	0	0	0	0	0
129	0	0	0	0	0	0	0
130	0	3	0	0	0	0	0
131	3	0	0	0	0	0	0

Cow Number	A	B	C	D	E	F	G
132	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0
134	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0
136	0	0	3	0	0	0	0
137	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0
139	0	0	0	0	0	0	0
140	0	6	0	0	0	0	0
141	3	0	0	0	0	0	0
142	0	0	0	0	0	0	0
143	0	0	4	0	0	0	0
144	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0
146	0	0	0	0	0	0	0
147	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0
150	0	0	0	6	0	0	0
151	0	0	0	0	0	5	0
152	0	0	0	0	0	0	0
153	0	0	0	0	0	0	0
154	0	0	0	0	0	0	6
155	0	0	0	0	0	0	0
156	0	0	0	0	0	0	0
157	6	0	0	0	0	0	0
158	0	0	0	0	0	0	0
159	6	0	0	0	0	0	0
160	0	0	0	0	0	0	0
161	0	0	0	0	0	0	0
162	0	0	0	0	0	0	0

Cow Number	A	B	C	D	E	F	G
163	0	0	0	0	0	6	0
164	0	0	6	0	0	0	0
165	0	0	0	0	3	0	0
166	0	6	0	0	0	0	0
167	0	0	0	0	0	0	1
168	0	0	0	0	0	0	0
169	0	0	0	0	0	0	0
170	0	6	0	0	0	0	0
171	0	0	0	0	0	0	0
172	0	0	0	0	0	0	0
173	0	0	0	0	0	0	0
174	0	0	6	0	0	0	0
175	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0
177	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0
179	0	0	0	0	6	0	0
180	0	0	0	0	0	0	0
181	6	0	0	0	0	0	0
182	0	0	0	0	0	0	0
183	6	0	0	0	0	0	0
184	0	0	0	0	0	0	0
185	0	0	0	0	0	0	0
186	0	0	0	0	0	0	0
187	0	0	0	0	0	0	0
188	0	6	0	0	0	0	0
189	0	0	0	0	0	0	0
190	0	0	0	0	6	0	6
191	0	0	0	0	0	0	0
192	0	0	0	0	0	0	0
193	0	0	0	0	0	0	0

Official reasons for placing <u>pedigree</u> class:
This class of pedigrees for high quality, Holstein heifers is placed 4-3-1-2, with cuts of 2 - 6 – 5

In the first pair, #4 in a very close placing, places over #3. #4 has the most complete pedigree in the class. Noting that index information is missing for the maternal granddam of #3. #4 has a higher genetic value and overall type for her dam than #3. In addition the maternal grandsire also has a higher genetic value for #4 than #3. What makes this placing extremely close is the difference among the sires. #3's sire does have a higher genetic index value but it has a very low reliability. These genetic values can change greatly as the reliability would be extremely low for these indexes. The sire of #4 has a definite advantage in having a much more reliable genetic proof than does #3. It is this difference in reliability that helps to place #4 in a close placing over #3.

In evaluating the middle pair in this class, it follows that #3 with a higher average genetic value for all categories easily places over #1. #3 has a dam that has a higher PTA for milk mated to sire with a higher overall PTI. The dam of #3 has an advantage in having a higher GTPI value although the dam of number #1 does have an slight advantage in type. The placing is closer because #4 has an advantage in being higher type and production.

In the final pair, #1 places over #2. #1 has a definite advantage in having a sire and dam with a higher GTPI. The maternal granddam of #1 has an advantage in having higher type and much higher milk production. #2 does have an advantage in having much higher milk production when comparing the 2 year old records. However, it still is not enough to place her above #1. Because of these differences #2 places over #1 in the bottom pair.

Official reasons for placing <u>sire selection</u> classes:

PROBLEM # 1: From the scenario, it is determined that the breeder is concerned primarily with creating a profitable daughter in his milk market which includes component pricing, which is high producing but functionally sound to support that producing ability that can remain in the herd for several lactations.

The cow to be mated is slightly above the herd's lactation averages for milk yield and at herd average for fat and protein yield. According to her linear information she is average for stature, strength, and body depth. Her foot angle is too low. The udder attachments are all below average except for teat placement and length.

Considering the available bulls, they can be ranked first on their Net Merit $ since this criterion reflects perfectly the selections goals of the herd owner and take into consideration the market to which the milk is shipped. This should lead one to rank the bulls 1-3 which are exactly the same and 4 & 2. For type traits #1 & #3 are very similar with 1 having the advantage in feet & legs over 3 and 3 being stronger in udder traits. Because of the slight advantage in udder traits 3 places over 1 in a close placing.

In the middle pair 1 has definite advantage in net merit over the other two bulls although the other two bulls have an advantage in udder traits.

In placing the bottom pair, 4 places over 2 based on having a higher net merit. Type traits are very similar between the two bulls with both improving the traits for udder. While 2 has the best type traits in the class, 2 does not have a high enough net merit to place any higher in this class.

For these reasons, the best placing for this class of sires is 3-1-4-2, with cuts of 3-5-4.

PROBLEM # 2: In the scenario, it is indicated that the dairyman is primarily concerned with production, type and fitness traits which are economically weighted in the Jersey Performance Index (JPI). His milk market pays on cheese yield.

The cow to be mated is well above average for milk and protein yields and just slightly below on fat yield. According to her linear traits, the cow is above average in stature, strength and dairy form with desirable rump characteristics. Her legs are a little straight and foot angle is just slightly low but not of any major concern. Her fore udder is just below average on strength but is high and wide. She has a weak cleft and the udder is a little deep with no problems in teat placement or length.

When ranking the available bulls, JPI values are virtually the same with only 7 index points separating the bulls. In order to further separate these bulls, ranking on cheese merit $$ assist more strongly in the determination since the milk is shipped to a cheese plant. There are major differences in the bulls in cheese yield dollars. When ranked on cheese merit $$, the ranking is #2, #3, #1, and then #4.

In the type components for udder depth, all bulls except #4 show that daughters will be improved for udder depth. All bulls will improve fore udder attachments. There are slight advantages for udder cleft for #2 and #4 but not enough to change the overall ranking of the bulls from their cheese merit $$. Furthermore, when comparing improvement in foot angle, #4 has the lowest foot angle among the 4 bulls.

The final ranking can be determined by combining the results of these rankings. Since there is virtually no difference among JPI for these bulls, it follows that the placing should be made on the cheese merit $ because the milk market is paid on cheese yield and there is very little difference among the top 3 bulls in type traits.

Considering these points, the official placing for these sires is 2-3-1-4 with cuts of 2-3-3.

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2012 National FFA Dairy Cattle Career Development Event

Official answers for Dairy Management Exercise:

1.	D	21.	E
2.	E	22.	A
3.	D	23.	C
4.	D	24.	B
5.	A	25.	C
6.	B	26.	B
7.	C	27.	B
8.	D	28.	E
9.	E	29.	D
10.	B	30.	C
11.	C	31.	A
12.	B	32.	E
13.	E	33.	D
14.	E	34.	C
15.	A	35.	A
16.	E	36.	E
17.	B	37.	B
18.	E	38.	C
19.	D	39.	B
20.	E	40.	B

Official answers for Dairy Management Exercise:

1.	D	21.	C
2.	C	22.	B
3.	B	23.	B
4.	D	24.	D
5.	E	25.	D
6.	A	26.	C
7.	A	27.	A
8.	C	28.	B
9.	C	29.	D
10.	D	30.	E
11.	B	31.	A
12.	A	32.	C
13.	A	33.	A
14.	C	34.	D
15.	D	35.	D
16.	E	36.	E
17.	E	37.	A
18.	C	38.	C
19.	A	39.	A
20.	E	40.	B

Official answers for Dairy Management Exercise:

1.	D		21.	C
2.	A		22.	B
3.	E		23.	A
4.	D		24.	E
5.	A		25.	B
6.	B		26.	C
7.	E		27.	E
8.	B		28.	A
9.	C		29.	C
10.	D		30.	A
11.	B		31.	B
12.	A		32.	B
13.	C		33.	C
14.	A		34.	A
15.	D		35.	C
16.	A		36.	E
17.	B		37.	A
18.	A		38.	A
19.	D		39.	C
20.	E		40.	E

Official answers for Dairy Management Exercise:

1.	C	21.	B
2.	A	22.	E
3.	B	23.	D
4.	A	24.	B
5.	E	25.	C
6.	C	26.	E
7.	D	27.	B
8.	B	28.	D
9.	A	29.	A
10.	A	30.	A
11.	C	31.	A
12.	B	32.	D
13.	D	33.	D
14.	D	34.	A
15.	C	35.	B
16.	C	36.	D
17.	A	37.	A
18.	A	38.	B
19.	C	39.	C
20.	A	40.	A