

***2008 National FFA Dairy Cattle Career Development Event***

**Official answers for Management Exercise:**

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

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**Official placing/cuts for Pedigree Class:**

**2 - 1 - 3 - 4, with cuts of 5 - 4 - 3**

**Official placing/cuts for Sire Selection Problem No. 1:**

**2 - 4 - 1 - 3, with cuts of 5 - 5 - 2**

**Official placing/cuts for Sire Selection Problem No. 2:**

**3 - 2 - 1 - 4, with cuts of 4 - 5 - 3**

## **Official reasons for placing pedigree class:**

**This class of pedigrees for high quality, Jersey heifers is placed 2 - 1 - 3 - 4, with cuts of 5 - 4 - 3**

In the first pair, #2 places over #1. #2 has a higher average genetic value, when using JPI index values for the sire and dam, respectively compared to the other three in the class. The maternal granddam of #2 is superior to the same ancestors in all the other pedigrees and transmits a higher genetic ability to #2. The sire of #2 has the highest JPI value of any sires in this class with a USDA proof with a very high reliability. The dam of #2 has a higher type score and JPI value than #1 but #1 does have a slightly higher genetic value for milk and production. However, from this we can reason that #2 goes to the top of this class with the highest average index value.

In evaluating the middle pair in this class it follows that #1 with a higher average genetic value places over #3. #1 has a definite advantage in having a sire that has a higher reliability and overall JPI index value. This placing is little closer on the dam side. The dam of #3 has the highest value for JPI, the highest milk production in the class and the highest genetic averages. However, #3 was mated to a low reliability bull with the lowest USDA proof in the class and there is some concern for the declining type value of #3. The sire of #1 is far superior to the sire of #3. Because of this mating decision, the pedigree of #1 results in an animal with a higher genetic value and places over #3 in the middle pair.

In the final pair, #3 places over #4. The dam of #3 is far superior to the dam of #4 having a far superior JPI index value, higher USDA PTA values, and higher overall production with higher test values. #4 does have a slight advantage with the dam having a higher type value. The additional difference in this pair is in the sires. The sire of #3 does have a USDA proof with a low reliability while the sire of #4 does not have a USDA proof yet. The information listed is parent average information. While it does appear to be higher than #3, the reliability is unknown for this sire and the actual proof may vary greatly from the parent average. Because of these differences #3 places over #4 in the bottom pair.

## Official reasons for placing sire selection 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 has fluid 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 above the herd's lactation averages for milk yield and fat and protein yield. According to her linear information she is average for stature, strength, and body depth. Her feet and legs are adequate. The udder attachments are all average or higher.

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. This leads to a ranking of 2-4-1-3. Next, consideration should be given to Fluid Merit\$ since milk is marketed to a fluid market with a resulting ranking of 2 over 4 with 1 and 3 being the same. This should lead one to rank the bulls 2-4 in the top pair and 1&3 in the bottom pair. Type traits are similar for all bulls and not a major consideration in this mating since the cow is at average or above in type traits of concern for this mating.

This class can then be easily placed based on the rankings of net merit and fluid merit \$. The top pair is easily #2 over #4 with a closer placing on the bottom pair. Since net merit \$ includes the goals of longevity in the mating for this breeder, #1 with a higher net merit \$ value places over #3 in the bottom pair.

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

### **PROBLEM # 2:**

In the scenario, it is indicated that the dairyman is primarily concerned with production, fertility, and longevity (these traits are economically weighted in the Jersey Performance Index (JPI)), and sire conception rates for the herd. The market pays on cheese yield. The second goal is to put emphasis on type traits for correct feet and legs with functional udders.

The cow to be mated is above average for milk, fat, and protein. According to her linear traits, the cow is below average in udder depth. The cow has adequate strength and dairy form with desirable rump characteristics. Her legs are a correct with a steep foot angle.

When ranking the available bulls, the JPI values show very close values with the following ranking, 2-1-3-4. Since the herd ships to a cheese plant, the Cheese merit\$ should also be considered, with a ranking of 3-2-1-4.

To further determine the ranking of these sires, fertility and sire conception rate must also be considered to meet the goals of the dairyman. When looking at sire conception rates the ranking is 3 the highest and 1 the lowest. When considering fertility with daughter pregnancy rate the ranking is #3 the highest and #4 the lowest. With additional emphasis on longevity, #3 ranks the highest for productive life and #4 the lowest. In the type components for which the dairyman is concerned, udder depth is best improved by bull #3, then #2 followed by #4 and #1.

The final ranking can be determined by combining the results of these rankings. Although #3 is not the highest ranking bull for JPI, he is the highest ranking for cheese yield, productive life, sire conception rate, and daughter pregnancy rate. He also has the highest reliability and the best chance to improve udder depth in this mating. In the middle pair is a closer placing between #1 and #2. #1 has higher reliability and higher productive life. #2 is higher in all the other traits and because of this #2 does place over #1 in the middle pair. In the bottom pair #1 ranks higher than #4 in all traits except udder depth and sire conception rate. However, this is not enough to get #4 over #1 in the bottom pair.

**Considering these points, the official placing for these sires is 3-2-1-4 with cuts of 4-5-3.**

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