Official placing/cuts for Pedigree Class:

1-2-4-3, with cuts of 7 - 2 - 2

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

4 - 1 - 3 - 2, with cuts of 6 - 4 - 3

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

3 - 1 - 2 - 4, with cuts of 6 - 3 - 4

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Official reasons for placing pedigree class:

This class of pedigrees for high quality, Guernsey heifers is placed 1- 2 - 4 - 3, with cuts of 7 - 2 – 2

In the first pair, #1 easily places over #2. #1 has a highest average genetic value, when using TPI & CTPI index values for the sire and dam, respectively compared to the other three in the class. #1 leads the class in all index values despite missing information on the maternal grandsire. The pedigree of #1 is far superior to any other pedigree in the class. For these reasons #1 starts the class.

In evaluating the closer middle pair in this class, it follows that #2 with a higher average genetic value places over #4. #2 has a dam that has a higher PTA for milk mated to sire with a higher reliability and higher overall PTI. The maternal granddam of #2 has an advantage in having higher type and CPI value. The placing is closer because #4 has an advantage in being higher type and production.

In the final pair, #4 places closely over #3. #4 has a definite advantage in having a sire with a much higher reliability as the sire of #3 just has parent averages only. These genetic values can change greatly as the reliability would be extremely low for these indexes. #4 does have an advantage in having much higher milk production and type values. The dam of #3 also is missing any kind of production information and pedigree values. #3 does have a slight advantage in having a granddam with higher type values, index, and milk production than #4. However, it still is not enough to place her above #4. Because of these differences #4 places over #3 in the bottom pair.

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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 fluid milk market, high producing but functionally sound to support that producing ability.

The cow to be mated is significantly below the herd's lactation averages for fat, milk and protein yield, giving stronger emphasis to the productive ability of the sires' daughters. According to the linear information, she is about average in stature, strength, depth and dairyness. She is bit high in the pins and only slightly off in legs and foot angle. Her udder is soundly attached with a strong cleft and is shallow. There are no apparent, major type problems to be corrected. The emphasis remains on the production values for the sires.

Considering the available bulls, all bulls have similar PTA's for protein yield, with a slight advantage for bull #1, however protein does not drive the market. The characteristic that best relates to this market is the "Fluid Merit $$" which does vary significantly. #4 is significantly above the other three bulls with #1 being higher than #2 & #3 and with #3 having a slight advantage over #2.

The only type problem of concern in this mating is with rump angle. #3 & #4 would help to lower the high pins of this cow to be mated. #1 has the worst ability to correct the rump of the four bulls but it is not enough to put him on the bottom in this class. Between #2 & #3, #3 has the ability to improve the rump angle in this mating.

For these reasons, the best placing for this class of sires is 4-1-3-2, with cuts of 6-4-3.

PROBLEM # 2:

In the scenario, it is indicated that the dairyman is primarily concerned with producing a daughter with functional type traits while selling his milk to a market that pays on cheese yield. The second goal is to keep inbreeding at a minimum.

The cow to be mated is well above average for milk, fat, and protein yields. According to her linear traits, the cow is below average in stature, strength and dairy form with desirable rump characteristics. Her legs are sickled and foot angle is somewhat low. Her fore udder is strong and the rear udder attachment is above average and wide. She has a good cleft but the udder is deep and the teat placement is wide.

When ranking the available bulls, the cheese merit $ are very important to the success of the operation. Ranking on this criteria provides a result of, 3-1-2-4.

All bulls will help accomplish the breeder meet the goal of creating a cow with functional type. The main type traits to improve are leg set, foot angle, udder depth, and teat placement. Bull #3 leads the way in improving all of these traits except for teat placement and is slightly wide. When comparing the other three bulls #1 improves foot angle, udder depth, and teat placement the best but still provides too much set to the leg. The placing becomes much closer between #2 & #4 on type. #4 has a slight advantage in leg set and foot angle while #2 has an advantage in improving teat placement and a very slight advantage in improving udder depth.

Also of concern in this mating is the inbreeding of each bull which ranks the bulls as 3-2-1-4 for this mating.

The final ranking can be determined by combining the results of these rankings. Since cheese production is still the number one goal of the operation and the differences in type and inbreeding for the areas of concern are slight, it follows that the placing should be made on the cheese merit $. However, because of differences in type improvement despite have the higher inbreeding value #1 places over #2 in the middle pair.

Considering these points, the official placing for these sires is 3-1-2-4 with cuts of 6-3-4.

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