



JerseyMate, the American Jersey Cattle Association's comprehensive mating program, has been enhanced in three meaningful ways. First, recommended matings now consider the economic impact of the undesirable genetic trait Jersey Neuropathy and Splayed Forelimbs (JNS). As well, matings now incorporate inbreeding levels based on both genetic evaluations and pedigree. And finally, users can now set both maximums and minimums for semen units for each bull in the sire inventory.

JerseyMate is available free-of-charge and 'round the clock to herd owners enrolled on REAP. The program is a herd management tool, designed to optimize profitability on a whole-herd basis. JerseyMate is highly customizable and useful for evaluating genetic levels of the herd over time.

In this month's Jersey Jargon, we will explain each new JerseyMate enhancement. If you would like to use the program, log in to infoJersey at <http://infojersey.usjersey.com> and choose "JerseyMate" under the "Tools" tab at the top of your dashboard.

### **JNS**

When JNS was initially discovered in late 2020, JerseyMate was revised to eliminate matings of designated JNS-carrier bulls to designated JNS-carrier females. With the recent update, the economic impact of a calf that inherits two copies of the JNS haplotype has now been factored into mating recommendations as well. JerseyMate estimates the economic loss of these matings to be \$225.

JerseyMate also estimates impact of JNS based on presence of the haplotype in a mating. For example, a 20% risk of inheriting two copies of the JNS in a recommendation is assessed a penalty of \$45 ( $\$225 \times 20\% = \$45$ ).

Because of the economic impact of JNS, high-risk mating recommendations are highly unlikely in JerseyMate.

### **Inbreeding**

Though JerseyMate has always factored extended pedigree in its algorithm, the latest version of the program considers genomic inbreeding when both the sire and dam are genotyped. The impact of inbreeding in the Predicted Transmitting Abilities (PTAs) of the parents is removed from a mating recommendation before it

is made. Thus, the inbreeding of the calf is better predicted because the PTA reflects inbreeding of the mating itself rather than an estimate of the mating related to the rest of the population.

### **Semen Usage**

JerseyMate now allows users to set both maximums and minimums for the number of semen units of bulls in the sire inventory, JerseyMate's semen tank of sorts. This allows them to better use semen that has already been purchased or will be purchased.

As always, JerseyMate allows users to choose a set of default sires or to import their own bulls-of-choice. If the user chooses the default sires option, risk is reduced by setting a maximum use of bulls with lower PTA Reliabilities. The JerseyMate default is 5% bulls with Reliabilities under 70%, 10% bulls with Reliabilities 70-79% and 15% bulls with reliabilities 80% and over.

### **More Information**

For more information on JerseyMate, contact Cari Wolfe, Director Research and Genetic Program Development, by phone at 614-322-4453 or email at [cwolfe@usjersey.com](mailto:cwolfe@usjersey.com).

To view a video on using JerseyMate, visit the Jersey Learning Center at <https://jerseylearningcenter.usjerseyjournal.com/jerseybate/>.