



## The power

to manage inbreeding one mating at a time, based on eight generations of ancestry

to select any bull you want, regardless of where his semen is marketed

of three sire recommendations for each cow and heifer, designed for different mating goals

and of results that can now be produced online, in a matter of minutes.

## A New Level of Service

exactly when you need it most.



**I**s it too much to ask a mating service to increase production, improve functional type traits, and control inbreeding—*all at the same time*? Not if that program is JerseyMate™. . . the new standard in mating services for Jersey breeders and available now from the American Jersey Cattle Association.

The reason for using a mating program has always been to develop a herd that’s going to be better tomorrow than it is today. That means a herd in which each generation is more productive, has better conformation, and lives longer—in short, one that can be more profitable.

But there’s a new hurdle in maximizing profitability: *inbreeding*. At a cost of \$20 or more per 1% inbreeding, inbreeding can control your profits. You need the greatest accuracy in calculating inbreeding levels in order to be able to make the most profitable matings.

**Anything less than JerseyMate™ is just a guess.**

The one or two generations of ancestors used by most commercial mating programs isn’t enough to control inbreeding losses. That’s underestimating the true level of inbreeding by an average of 5.5%, says University of Wisconsin geneticist Kent Weigel.

JerseyMate™ uses eight generations (*510 ancestors*) to calculate the inbreeding level of every mating. No other mating program can even come close to the power of JerseyMate™.

Simply knowing the level of inbreeding, though, isn’t enough to continue improving profitability. The solution, according to Dr. Weigel, is to discount the expected loss due to inbreeding from the expected Lifetime Net Profit of every mating, then to select the most profitable mating. Here’s an example of how that is done in JerseyMate™.

In the table at right, matings of Cow 1 to three bulls of different genetic merit are calculated. The inbreeding level of the future calf varies from under 3% to 20%. Each mating is then discounted by \$20 for each 1% inbreeding (from -\$46 for Sire A, and up to -\$400 for Sire C, who is closely related to Cow 1).

This extreme example shows the impact of the inbreeding adjustment. Sire A had the calf with the lowest Mating Index before adjustment, but the highest after adjustment.

JerseyMate™ would recommend Sire A as the mating sire for this cow. Says Dr. Ronald E. Pearson of Virginia Tech, “Inbreeding may cost so much that optimum matings may come from use of bulls with ‘less profitable’ daughters if they result in lower inbreeding.”

**You get more mating options to choose from with JerseyMate™.**

JerseyMate™ gives you mate suggestions under three different options for each cow and heifer, within the constraints placed upon the program (for example, limits you set on use of particular bulls). These options are called *Balance*, *Inbreeding Control*, and *Corrective Mating*.

Each one is tailored to a different goal or need.

The *Balance* mating suggestion maximizes herd profit by *optimizing* inbreeding. That means that expected lifetime profit is weighed against losses due to inbreeding. The highest profit mating is selected, even if the

inbreeding percentage is slightly elevated.

The second set of recommendations does one thing. The *Inbreeding Control* option minimizes inbreeding across all matings.

The third set is the *Corrective Mating* recommendation. These recommendations focus more directly on improving the physical traits that allow the future calves to stay in the herd longer, based upon the parents’ genetic information.

**How do I start using JerseyMate™?**

Tell us which cows and/or heifers you want to mate and the bulls you want to use. Send your lists—which must include registration numbers (bulls can have NAAB stud codes)—to [JerseyMate@USJersey.com](mailto:JerseyMate@USJersey.com). Or, fax the list to us at 614/861-8040, or call us at 614/861-3636.

JerseyMate™ online has just been activated. If you use the AJCA’s website at [www.infoJersey.com](http://www.infoJersey.com), log on and select “Herd Options” to open the program.

**“Many commercial mating programs consider only one or two recent generations of pedigree data [and] incomplete pedigrees for service sires can lead to ridiculous results.”**  
*Kent Weigel, University of Wisconsin geneticist*

**Effect of three levels of inbreeding upon calculation of Adjusted Mating Index by JerseyMate™ program.**

Cow 1 x	Mating Index (PA for milk value and type traits)	Inbreeding percentage of calf	Discount for Inbreeding	Adjusted Mating Index
Sire A	\$ 847	2.3%	-\$ 46	\$ 801
Sire B	905	12.8%	- 256	649
Sire C	1,002	20.0%	- 400	602

## How do I determine which females to mate?

The program needs the inventory of the cows and/or heifers you want to be mated. That inventory must have a registration number for each animal.

We can mate the cows from your DRPC herd inventory obtained prior to your most recent appraisal, if your herd is enrolled on REAP, TPE or STEP. If this herd inventory is over three (3) months old, a fresh herd inventory can be requested, but it may take a week to be received.

Getting a list of heifers is just as easy, if your registrations are current. All heifers in the ownership of customer numbers associated with your herd can be sorted from the AJCA database, and then selected according to birthdates. The default is to select heifers between nine (9) and 18 months of age. Again, you can change the age ranges as you want to.

If you are using JerseyMate™ online, you specify the cows and/or heifers to be mated in this menu.

Female selection menu in JerseyMate™ Online

## How do I specify the bulls I want to use?

There are three basic starting points. The first is to simply draw up your list of desired bulls. Just be sure that you have the registration numbers and/or NAAB stud code of each bull. If there are definite amounts of semen to be used, then make a note of that. For example, you may have 25 units of one bull. If you specify that, no more than 25 units will be used.

Another way is to use the default list, which is the top 50 active A.I. sires ranked by Production Type Index (PTI). The other way built into JerseyMate™ is to select the top 50 bulls ranked by Cheese Merit dollars, or Net Merit dollars, or Fluid Merit dollars. Even if you start with one of these list options, you can revise it. For example, you might decide to delete one or two specific bulls, and add a bull that's not in A.I. to the list.

For online users, the menu for selecting bulls is illustrated at the top of the next column. Once a list has been created (as illustrated in the top half of this screen), you can remove a

Bull selection menu in JerseyMate™ Online

bull from the list or change a bull's level of use.

## After the program is run, what reports do I get?

You will receive two reports. One is the semen purchase plan. It will also list the mating averages for each option. The other report will list the actual mating suggestions, with Parent Averages, the inbreeding level of each mating, and the lifetime profit estimate.

Printed reports will be available the next business day. Electronic results, if you use JerseyMate™ online, could be available in a matter of minutes (depending upon Internet traffic and the number of matings you are making).

## What if I don't think the results are what I want?

We're here to help you get the results you do want. JerseyMate™ is a herd mating program, and sometimes the recommendations do not seem "quite right." Here's a common example.

Cow 2 x	Inbreeding percentage	Adjusted Mating Index of calf
Balance: Bull T	4.58%	\$1,274.15
Inbreeding: Bull V	5.33%	1,094.46
Corrective: Bull U	6.31%	1,143.34

You notice right away that the Inbreeding Control recommendation has an inbreeding level *greater* than the inbreeding level for the Balance suggestion. Your question is, "Why wasn't Bull T recommended for both the Balance and Inbreeding matings?"

The answer to a question like this often has to do with the way semen allocations are being made. The program produces recommendations for each option on separate runs. In other words, the Balance suggestions are produced on one run. Then the computer goes back and produces the Corrective Mating suggestions and finally the Inbreeding Control suggestions. The program doesn't "remember" what recommendations were made for a previous set.



The most likely answer to your question, then, is that the semen allocation had been used up for Bull T when the Inbreeding Control recommendation was made for this one cow. The program had to select the second lowest inbreeding mating as the mating recommendation.

The most important point is this. The factors that are combining to constrain the mating recommendations are not obvious just by looking at the print-out. Keep in mind that many factors are influencing the final result. Depending upon what they are, some may be mutually exclusive.

If you have questions and/or comments about your JerseyMate™ results, don't hesitate to give us a call. Your feedback will be extremely important in improving the overall program and designing enhancements for the online service.

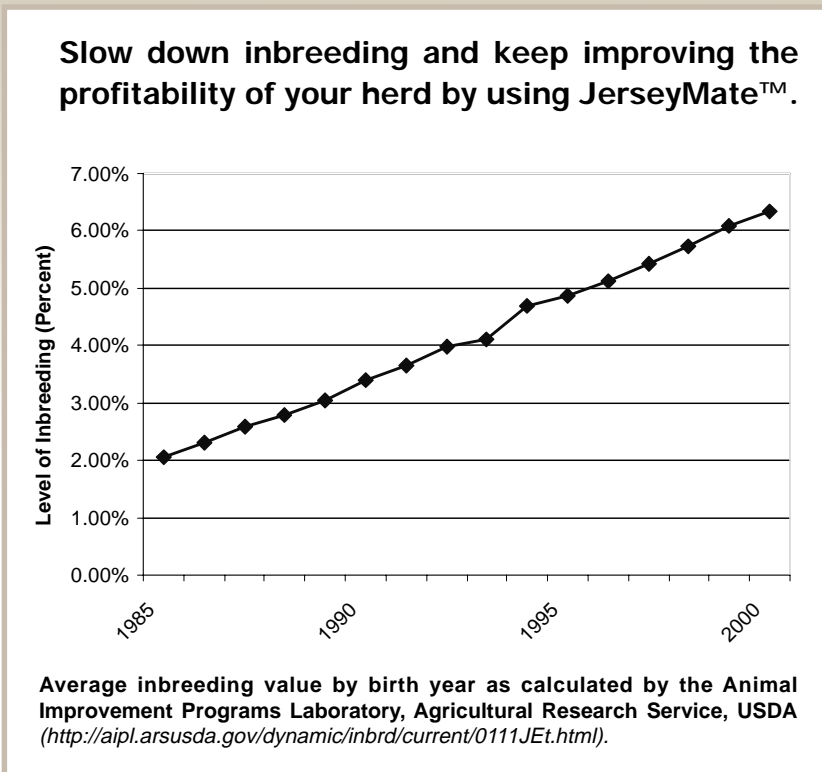
### *But if I'm using it online, I can re-run my results right away?*

Absolutely. All you have to do is "tweak" the bulls you have specified to get new results. Getting a finalized set of recommendations quickly is one of the most valuable features of JerseyMate™ online.

### *Is JerseyMate™ included in REAP?*

Yes. There is no extra charge for using the mating service up to four times a year.

If you currently have access to infoJersey, you can go online anytime to begin using JerseyMate™. If you have Internet access, but are not already using the AJCA's online services, send a request to [webmaster@USJersey.com](mailto:webmaster@USJersey.com).



### *I'm not enrolled on REAP. Can I use JerseyMate™?*

Certainly. JerseyMate™ is offered by subscription to other herds. Herds enrolled on TPE and STEP will be charged a \$2.00 per-cow fee. All others will be charged a herd set-up fee of \$25, plus \$2.00 per cow or heifer mated.

If you are not enrolled on REAP, this may be a good time to consider it. Anyone wanting the full benefits of JerseyMate™ must

have their Jerseys registered and have them on production test and scored for type. The most cost-effective way to register, evaluate production and functional type, and mate Jerseys is to enroll in the REAP program. Ask us for complete details.

### *How much return can I expect from using JerseyMate™?*

It is a highly cost-effective service. For an investment of \$2 per mating, the Net Present Value is \$20 per heifer calf, assuming a 9% interest rate and three lactations in your herd.

Call the Herd Services Department at 614/861-3636 to take control of your mating program.

Email us at [JerseyMate@USJersey.com](mailto:JerseyMate@USJersey.com).

### **American Jersey Cattle Association**

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