

RED BOOK *Plus*

A Tour of the Powerful Red Book Plus Bull Search

Use Red Book Plus to find bulls who meet your breeding goals

In past issues of the *Pulse*, we have outlined different features of the Association's Red Book Plus/MultiMate software. In this issue, we will focus on a versatile tool that allows you to search the complete database of bulls to find those who meet your genetic parameters. This custom search can be a great compliment to the various bull lists that are available on the Holstein Association USA web site with each genetic update, free for Red Book and Red Book Plus/MultiMate subscribers.

To do a custom search, begin by opening the Red Book Plus/MultiMate software program, and then choose the Sire Selection option from the menu on the left side of the screen. There are several sections that you can navigate through in this area of the program, but we will focus on "Reports," "Criteria" and "Fields" for the purposes of this article.

Step 1: Define the Bull Population to Search

Click on the Criteria button to be taken to the screen that will allow you to define the parameters you would like to search by. While Red Book Plus does offer some Default Criteria to select from, most likely you are using the program because you want to do some exploring of your own. The first step is to select the population of bulls that you want the program to include in your search. The options are:

- **Available Bulls:** Checked by default, this group contains all proven AI bulls with a semen status of Active, Limited or Foreign
- **Genomic Young Bulls:** These bulls have no daughters included in their production or type proofs, but have been coded as being marketed by NAAB
- **Sire Dictionary:** This selection includes all bulls in Red Book Plus, including the Available Bulls, Genomic Young Bulls, all progeny-tested AI bulls born since 1978, and all genomic AI bulls that are not coded as currently being marketed.

You may select all or just one or two of these categories, depending on the group of bulls you are interested in.

Step 2: Select Your Criteria

Once you have decided the group of bulls you want to search from, it's time to specify the criteria you want to search for. On the left of the screen is a column of Available Items, a list that includes over 200 traits. You may do a basic search that includes only one or two traits, or make it as specific as you want. To add an item to your criteria, simply double-click on it to add it to the Selected Items list. Double-click on the center

column to specify the operator to use (the program defaults to the most common operator), and then double-click on the Value column to enter in your desired value for that item. To remove an item as a Selected Value, double-click on it again.

There are two basic categories of traits to choose from:

- **Pedigree:** These traits allow you to use the "=" or "NOT" operators to include or exclude bulls with specific pedigree variables. For example, you could exclude bulls with certain popular sires in their pedigrees to find more of an outcross bull for your herd.

TIP: You do not need to know a bull's registration number to add him to your criteria. Just double-click on the Value column, a prompt will come up where you can search for a bull by his short name, and the program will fill in the registration number for you.

- **Genetic:** A plethora of genetic values are available for you to select from, including: PTAs and STAs for the bull, his sire, dam and maternal granddam; reliabilities; number of daughters; number of herds; actual performance of dam and maternal granddam; haplotypes and genetic codes; and user-defined indexes. Most of these traits use the "greater than or equal to," "less than or equal to," "equal to" and "TOP" operators to define the set of bulls you would like to look at.

TIP: The "TOP" operator allows you to look at bulls that are in the upper percentiles of the population, without having to know what specific genetic value cut-offs you would need to use to see them. Select the "TOP" operator and you will be prompted to enter the percent of bulls you are interested in looking at. For example, if you want to select bulls who are in the top 10% of the population for TPI, you will see that is a value of greater than or equal to 2048.

To view the number of bulls that meet your criteria, click the Run button, and the number will be displayed in the lower left, next to the Bulls Found field.

Red Book Plus allows users to save different criteria lists for future use. To do so, click Save Setup in the upper right of the screen and your criteria will be available under the User Criteria dropdown menu.

Step 3: Define Fields to Include in Report

Before viewing the report of bulls that meet your criteria, it is helpful to make sure all the fields you are interested in looking at will be included in your report. Click on the Fields button to go to the page that will allow you to define the column headings that will appear on your reports.

There are several commonly used fields pre-defined for users. To add items to this list, double-click on them in the Available Items column, just like defining criteria. To remove items from the list, double-click on them in the Selected Items column. As long as you are in the Red Book Plus program, these fields will remain as you have selected them; you can do subsequent searches with different criteria and not have to re-define your fields each time.

If you think of additional fields you want to view after looking at your report, you can always go back to the Fields tab and add them, and they will immediately appear on your report. Like the Criteria section, you may save your set of fields for future use by clicking the Save Setup button in the upper right of your screen. The setup will then be available under the User Setup dropdown menu.

Step 4: Evaluate Your Results

Now comes the fun part – looking at the list of bulls that you have developed. To see the list of bulls that meet your criteria, click on the Reports button.

To sort the list by the values for a certain trait, click the column heading for that trait; to sort in the reverse order, simply click the column heading again. At the bottom of the list you will find a section that details the number of bulls meeting your criteria, as well as the average, minimum and maximum values for the group.

Four buttons along the top of the report allow further manipulation of the list:

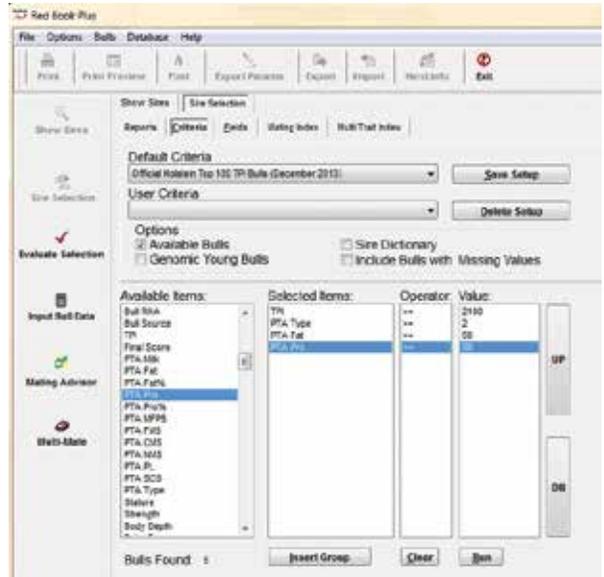
- **Manual** allows you to manually add or remove bulls from your list to narrow your selection.
- **Save Bulls** allows you to save the list of bulls for later use without having to re-run the list.
- **Load Bulls** allows you to load previously saved bulls lists.
- **Highlight** can be used to highlight certain columns of information for extra emphasis. You may select a number of columns in your report to have them highlighted in different colors.

Along the very top of the screen are some additional options that allow you to work with your list in a different format. Of note is the ability to print your list, as well as export it, which creates a file with comma-separated values that can be opened in any popular spreadsheet software, such as Microsoft Excel.

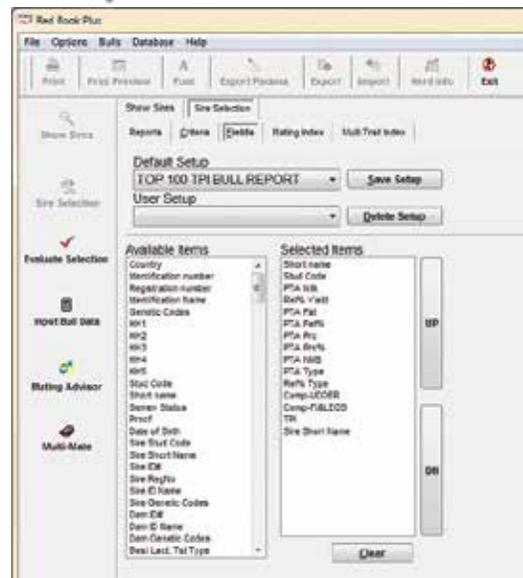
TIP: Especially if you have added several columns to the report, view a Print Preview to ensure that the list will print as you expect.

Red Book Plus/MultiMate is included as a part of Holstein COMPLETE, as an alternative to the traditional Red Book, or is available as a paid download from the Holstein Association USA web site, under the Software section. Visit the Software page of the web site to view instructional videos about Red Book Plus/MultiMate. To learn more or sign up to receive Red Book Plus/MultiMate after each national genetic evaluation, call 800.952.5200, or contact your regional representative.

REDBOOK+ Plus Criteria Selection Screen



REDBOOK+ Plus Field Definition Screen



REDBOOK+ Plus Report Screen

Shortname	Code#	S. Short name	HDG Short	PTA#	PTA%	PTA% (UP)	PTA% (DN)	PTA% (MS)	PTA% (T)	LDC	PLS	PPI				
ALTAETA	19H00647	O MAN	ITD	1136	99	85	6.54	0.07	617	3.23	86	1.8	1.71	2314		
PAHGMALL	19H00429	O MAN	ALTAARON	1326	99	89	0.1	83	0.11	585	2.09	39	1.76	1.72	2389	
GELLEPY	29H014602	BOLTON	SHUTTLE	2396	94	86	-0.05	33	-0.04	549	2.91	30	2.02	2.0	2129	
CAWSON	29H014615	PLAMET	SHUTTLE	1517	95	82	6.52	81	0.02	544	2.74	91	2.03	1.95	2138	
CHAGE	29H014344	BOLTER	O MAN	1643	97	81	0	50	0	533	2.14	93	2.09	1.95	2119	
TR - Bulls																
Average					183.40	96.80	67.80	0.34	54.40	0.03	564.40	3.42	34.40	2.08	1.69	2169.80
Minimum					128.00	94.00	61.00	-0.05	30.00	-0.04	333.00	2.89	9.00	1.76	1.35	2130.00
Maximum					2396.00	99.00	89.00	0.34	63.00	0.11	617.00	2.91	95.00	2.02	2.00	2214.00