Using Your Genetic Resources
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In today’s world, we expect resources to be easily accessed and user friendly. In the previous discussion this morning, I’ve included the key to the hardcopy Performance Summaries put out by ADGA. The workshop will be using the resources available on the internet which meet our expectations of current, easy to access and easy to use.

I’ll be spending most of the time on what is offered at the adgagenetics.org website, but there are a couple of other resources with some slightly different offerings at other websites.

The general ADGA WEBSITE contains a variety of articles to help with the various genetic programs available to dairy goat breeders. How to put your herd on test, Top Ten qualifying levels, preparing for linear appraisal, schedules, elite doe and sire lists, Top Ten lists, FAQ on superior genetics, PTI articles, DNA and Casein testing articles, and Somatic Cell information are some of the topics covered. In addition, there are links to other places where information can be found, such as how to read the ADGA performance pedigree.

The member area of the website also has a look up feature that provides the current genetic snapshot as well as lifetime totals, *M recognition, final category scores and show championship designation.

The ADGA member portion does require a personal identification number (PIN) in order to access the information.

A few suggested ADGA links:
- http://adga.org/dna.htm
- http://adga.org/sg_faq.html
- http://adga.org/as1_casein_announcment.html
- http://www.caldairygoats.com/readperfped.htm

THE VETERINARY GENETICS LABORATORY (VGL) provides animal parentage verification, identification, forensics services, genetic diagnostics and genetic disease research as a self-supporting unit of the School of Veterinary Medicine at the University of California, Davis. VGL is internationally recognized as a pioneer and expert in DNA based animal testing. VGL also offers an extensive animal forensics service program, diagnostic tests for genetic diseases, and support for genetic research in domestic species, primates and wildlife.

Web link: http://www.vgl.ucdavis.edu/services/faqservices.php for FAQ
THE ANIMAL IMPROVEMENT PROGRAMS LABORATORY is the lab that houses the section that ADGA works with on genetic and pedigree information and is in the Animal Research Service. ARS has about 1,200 research projects. The National Agricultural Library and the National Arboretum are also part of ARS. ARS is devoted to research implementation and information delivery. Regulatory function was removed from ARS 30+ years ago.

As an ADGA partner in providing genetic evaluation information pedigree information (not one bit of ownership information) and linear scores are provided to AIPL. In return, genetic information on milk production and type traits are provided using the laboratory resources to provide this complex statistical information as all known relatives are taken into account when determining the predicted transmitting abilities of these qualities. Accuracy of pedigree relationship is critical.

Pedigrees and a variety of other queries are available. The following menu appears describing the various queries.

As you can see from this menus, pedigree information, progeny information, genetic evaluation information and milk test information is available.

Of assistance to those on production testing, there are queries to help find if there are errors in the data being provided to AIPL. This can be looked up by animal ID or by herdcode.

In addition, there are queries that provide the same information only using name information rather than ID.

A limitation of AIPL is that it is for the most part, individual snapshots of each animal’s information. Ways to compare animal information or to look up based on desired goats is not part of this website’s offerings.

We’ll go through a couple of the more popular queries.

Pedigree and Yield is probably the most used feature. Information on pedigree is provided along with test day information on all monitored lactations. For those on test, the data collection rating is tracked on this query.
Evaluations are updated as they become available and both the yield and type information are supplied on a single page as follows:

**Output from “Get doe yield and type evaluations”**

**Doe Yield Evaluation**

*Information shown is from the 0811 run.*

0811  
ENUSA000001261835

<table>
<thead>
<tr>
<th>Doe</th>
<th>Sire</th>
<th>Dam</th>
<th>Birth Date</th>
<th>DRPC</th>
<th>Ctrl #</th>
<th>Herd</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN001261835</td>
<td>EN001065862</td>
<td>EN000930291</td>
<td>2003/04/11</td>
<td>10</td>
<td>301 93100624</td>
<td>93100624</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kidding DIM MFP$ Pctile Inbred %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/02/23 248 +24 89 4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trait</th>
<th>PTA</th>
<th>Rel Herds</th>
<th>Lact</th>
<th>PTA %</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>+213</td>
<td>.50</td>
<td>1</td>
<td>4</td>
<td>3566</td>
</tr>
<tr>
<td>Fat</td>
<td>+8.0</td>
<td></td>
<td></td>
<td></td>
<td>136</td>
</tr>
<tr>
<td>Protein</td>
<td>+5.0</td>
<td>.50</td>
<td>1</td>
<td>4</td>
<td>.06</td>
</tr>
</tbody>
</table>
Doe Type Evaluation

Information shown is from the 0711 run.

<table>
<thead>
<tr>
<th>Doe</th>
<th>Appraisals</th>
<th>Eval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENUSA000001261835</td>
<td>1</td>
<td>0711</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trait</th>
<th>PTA</th>
<th>Rel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Score</td>
<td>+0.5</td>
<td>.40</td>
</tr>
<tr>
<td>Stature</td>
<td>+1.1</td>
<td>.60</td>
</tr>
<tr>
<td>Strength</td>
<td>+0.8</td>
<td>.43</td>
</tr>
<tr>
<td>Dairyness</td>
<td>-0.1</td>
<td>.39</td>
</tr>
<tr>
<td>Teat diameter</td>
<td>+0.1</td>
<td>.49</td>
</tr>
<tr>
<td>Rear Legs</td>
<td>-0.5</td>
<td>.36</td>
</tr>
<tr>
<td>Rump Angle</td>
<td>+0.1</td>
<td>.45</td>
</tr>
<tr>
<td>Rump Width</td>
<td>+1.1</td>
<td>.47</td>
</tr>
<tr>
<td>Fore Udder Att</td>
<td>+0.6</td>
<td>.39</td>
</tr>
<tr>
<td>Rear Udder Ht</td>
<td>-0.4</td>
<td>.41</td>
</tr>
<tr>
<td>Rear Udder Arch</td>
<td>+0.1</td>
<td>.35</td>
</tr>
<tr>
<td>Udder Depth</td>
<td>-1.6</td>
<td>.41</td>
</tr>
<tr>
<td>Susp Lig</td>
<td>+0.2</td>
<td>.46</td>
</tr>
<tr>
<td>Teat Placement</td>
<td>+0.3</td>
<td>.48</td>
</tr>
</tbody>
</table>

Various other queries are useful, especially to those on test. We’ll look through those during the workshop, but they can assist with making sure records are being sent, records are accurate, and that test day characteristics are accurately represented.

Goat lactation curves, genetic trends, presentations and articles can also be found at this site.

In summary, USDA-AIPL calculates annual genetic evaluations of dairy goats from yield data collected through the National Cooperative DHI Program and from type and pedigree data supplied by the American Dairy Goat Association (ADGA). Evaluations for type have been calculated since 1986 for final score and since 1989 for linear type traits.

Evaluations are computed for Alpines, Experimentals, LaManchas, Nubians, Oberhaslis, Saanens, and Toggenburgs and for crossbred animals from these breeds. Only animals with registered sires are evaluated.

Web links:
http://aipl.arsusda.gov/reference/goat/goatsfs.html
http://aipl.arsusda.gov/reference/goat/laccurv.htm
http://aipl.arsusda.gov/eval/summary/goats.cfm

But the website that has generated the most excitement is the ADGA GENETICS web application.

ADGA provides this same pedigree information on this site as is given to AIPL along with additional registry known information such as SG designation, polled, black, DNA on file and buck collection on file. ADGA provides the production/type index numbers as well from their own formulas for this calculation.
COI is a built-in function on the website. Genetic evaluation information as provided by AIPL is included on the site as well as being provided on the AIPL site.

The site is the product of a cooperative effort between the ADGA, AIPL-USDA and Gene Dershewitz as a public service to the dairy goat world.

The web application provides tools to help dairy goat owners make informed herd management decisions. The application combines registry data from ADGA and production and type evaluation data from USDA.

The site is organized into several sections.

**Pedigrees**  
Search for individual animals registered with the American Dairy Goat Association (ADGA). This can be done by herdname, full registered name, partial name or registration number. The registration database is updated at the beginning of each month.

**Planning**  
“Try out” breedings electronically before really doing the deed. Planned pedigree, Estimated Transmitting Ability (ETA) and coefficient of inbreeding are calculated based on your choice of Sire and Dam.

**PTI/ETA**  
Search for top animals based on 2 calculated indices: Production Type Index (PTI) and Estimated Transmitting Ability (ETA).

**Production**  
Search through Predicted Transmitting Ability (PTA) data modeled by AIPL USDA from years of DHI production test records for dairy goats. Want to improve milk production? This is the tool to use.

**Type**  
AIPL USDA has distilled years of ADGA linear appraisal data into Predicted Transmitting Ability (PTA) values for each trait. Use this tool to find sires that have shown to make linear trait improvements.

Unlike the AIPL or member site, information can be searched, sorted and viewed in many different ways.

Filters appear directly below the page header when necessary. From the help section, Filters have the following features:

- They are made up of a combination of drop-down lists, textboxes and buttons that allow you to set search criteria for the current page.
- Some filters may automatically refresh results when a new value is selected.
- They are by default set to the least restrictive values (return the most results). You can narrow your search and number of results returned by changing the filter values.
- Filter values, once set, are remembered across different pages for your current browser session.

Search Results generally appear in tables in the Content Area just below any filters that may be present. Here are some features that are common to most results tables:

- All columns are sortable by clicking any column heading. Clicking the same column a second time will sort results in the opposite direction based on the column clicked.
- A registered name can be clicked to take you to the Goat Details page for that animal.
- Results are displayed up to 20 records per page. If more than 20 records are returned for your filter settings, a page navigation control will be visible just under your results.

Several views are available, including pedigree, inbreeding, linebreeding, progeny, linear history, USDA Data, Production and Type evaluations. The one used most often is the goat detail page which includes information on polled and black animals in Oberhasli and Toggenburg as well as pedigree information and any genetic rankings.
Web Link: www.adgagenetics.org