Harvest LIS Flexes for Tufts University Veterinary Laboratory

When a veterinary laboratory looks for an LIS, it has unique requirements, including species-specific reference ranges, defining the sex of an animal, and identifying breeds within a species. Along with these requirements, the lab must have a system that is supported with responsive customer service and attentive account managers who will meet specialized requests. After evaluating competitors in both the veterinary and human LIS markets, Tufts selected Orchard® Harvest™ LIS because it fit their specific veterinary needs, was extremely flexible, and could be easily maintained.

Founded in 1978, the Cummings School of Veterinary Medicine at Tufts University was created to serve as a primary veterinary research and academic institution. Tufts has graduated over 1,500 doctors in veterinary medicine and is still the only veterinary medical school in New England. The lab currently services the large and small animal hospitals on campus, as well as a wildlife clinic and a satellite clinic (Tufts Veterinary Specialists) in Walpole, Massachusetts, with seven pathologists, four residents, six medical technologists, and two histologists.

Dr. Joyce Knoll, Clinical Pathology Laboratory Director at Tufts, explains, "We are not a full-service laboratory." The basic test menu includes complete blood counts (CBC), urinalysis, fluid analysis, coagulation, blood-typing and cross-matching, biopsies, and necropsies. Due to cost of business and staffing concerns, microbiology testing is performed by an outside veterinary diagnostic lab. Even with the limited testing menu and limited patient population, Tufts manages a volume of 20 to 30 CBC

Tufts University School of Veterinary Medicine's laboratory staff.

tests a day along with 40 chemistry tests, plus additional miscellaneous testing. The current laboratory was established eleven years ago in order to provide in-house veterinary clinicians with rapid turnaround for standard clinical pathology testing in the support of exceptional tertiary care.

The original lab, started over two decades ago, was a full-service laboratory providing a comprehensive testing menu to all of New England and beyond. An expanded technical and supportive staff completed two shifts of testing per day, and offered service six days per week. While most of the labwork at the time came from domestic animals, exotic species samples were not uncommon and included samples from local zoos, aquariums, and private collections. Tuna fish samples for CBCs and chemistry testing became routine, as the lab also worked for local fisheries performing specialty projects. The combined business assets and well-trained staff caught the eye of Idexx Laboratories, and led to a large part of their reference laboratory being sold to that global veterinary reference laboratory. The school rearranged its lab setup to its scaled-down process, and they have remained as an in-house laboratory for the veterinary school for the last eleven years.

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Tufts University

Prior to utilizing Harvest LIS with the integrated Orchard Pathology system, Tufts had a DOS-based system created in-house. The program was very advanced for its time in the veterinary laboratory world (being implemented originally in the late 1980s and then modified and improved through the 1990s), but demand for interfaces to instruments and electronic medical record systems made Tufts realize it needed to look into another system. After researching some trade publications, Tufts found Orchard and was impressed by Orchard's ability to modify its system from human laboratory needs to veterinary laboratory needs. "Many human laboratory systems we looked into couldn't manage to modify their system the way Orchard could."

Species-specific reference ranges were an important modification to the Harvest LIS system. Dr. Knoll comments, "Orchard allowed us to put specific reference intervals for variations in species. For example, we could further define bird as either a parrot or penguin. We could put in very specific reference intervals for different types of animals."

This wasn't the only modification Orchard made for Tufts. Harvest LIS made changes to modify its descriptions of type of sex and breed. Cheryl Stockman, Laboratory Supervisor, adds, "We needed to have sex types such as neutered and spayed, which are not very common in the human laboratory workflow." For the veterinary database, adjustments to the race and ethnicity fields became the perfect way to handle species and breeds. Modifications like these have given Orchard the opportunity to be selected as the LIS for a number of other veterinary laboratory environments.

On top of providing customizations to aid Tufts with the use of their system, Orchard provides superb customer support. This customer support was most evident on their midday go-live date with their customized Harvest LIS. Cheryl Stockman remembers, "The day we went live on Harvest was scheduled for a noon-time start. Orchard's systems engineers were there to assist. When we began, I took the time to watch people interact with the new system, and I noticed that there was not any stress on anyone's face. It was very intuitive. The laboratory staff used the system like they had been using it for the last ten years. It was a thing of beauty." Besides the support during go-live, Dr. Knoll and Cheryl agreed that they love the on-going service they receive from the technical support center and from their account manager. "They always respond so quickly to any issue or question we may have!"

Both Dr. Knoll and Cheryl have made ample use of the very powerful, flexible browsers, using the Result Browser to collect data for retrospective studies. An interface with a key instrument in the emergency/critical care unit has resulted in easily retrievable and searchable electronic data that could previously only be found by searching through paper medical records. While Dr. Knoll doesn't relish the task of being a "bean counter," she has found the Specimen/Order Choice Browser to be an invaluable aid when it comes time to pull together the numbers needed for a budget projection. In addition, Orchard developed interfaces with a "home grown" hospital accounting program, allowing the hospital to more efficiently capture the revenue from lab testing.

The staff at Tufts believes there are certain aspects to their laboratory that make them particularly unique. The laboratory runs lab tests on a wide range of animals, from common domestic species, such as dogs, cats, horses, goats, and alpacas, to exotic patients like giraffes, water dragons (lizards), chinchillas, hedgehogs, pot bellied pigs, camels, polar bears, tigers, and anything else owners can get to the hospital. Some of the patients who have provided samples for testing have included a goose with bone cancer and a lizard with leukemia—both being treated with chemotherapy, as well as a koi fish treated with radiation therapy. Along with their unique patients comes a unique sense of community. Dr. Knoll remarks that, "Many veterinary doctors and students feel like they are a part of a family. The students realize early on that becoming a veterinary doctor is not going to make them wealthy, but they know they are entering a group of professionals who are close knit."

After 26 years of laboratory service to the New England area, the Cummings School of Veterinary Medicine at Tufts University appreciates the versatility and service of Harvest LIS. Their ability to utilize the flexibility of the system provides tools for any unique test or experience that Tufts will see. 🍎

Tufts University School of Veterinary Medicine's students in action with microscopes.

Where in the World is Orchy?

Orchard's unofficial mascot, Orchy, continues to travel. Here, Orchy is again using his passport to visit a castle that was used as inside cover art for a famous rock album of the 70s. If you can identify where Orchy is visiting, send your answer to **news@orchardsoft.com** by November 15 to be eligible to win an Orchard prize package. Our last newsletter received the highest number of entries yet. Aldo Rossi of Hopedale Medical Complex in Hopedale, Illinois, sent in one of the correct responses that Orchy was at the famous Corn Palace in Mitchell, South Dakota. Sign in to the Orchard website to see where in the world Orchy has been lately! 🍒

employee spotlight

Christine Stalcup
Marketing Media Specialist

When the housing market began its decline in 2004, Christine Stalcup, former IT support for a title insurance company, found herself in search of a new job after company downsizing. In what she considers to be a very lucky twist of fate, she found herself interviewing for Orchard's Technical Support department, and she's been fortunate enough to work at Orchard ever since. After eight months in Technical Support specializing in HL7 and Copia, Christine accepted an offer to move to the Sales & Marketing department to fill the position of Marketing Media Specialist, which was more in line with her studies and career aspirations. In this role, Christine designs, writes, and publishes all printed marketing materials for Orchard. In addition to her main role, she also provides IT support to the sales staff and completes all Requests for Proposals on behalf of Orchard.

Christine studied New Media at Indiana University-Purdue University Indianapolis (IUPUI) and graduated with a BS in Media Arts and Science. She has been married to her husband, Corry, for 10 years, and together they have two children, Brayden and Avery. Some of you may recognize Corry as Orchard's Northeast Regional Account Representative. In 2005, Christine had spread her enthusiasm about working for Orchard and convinced Corry to apply. After 18 months in Technical Support, he transferred to Sales, where he currently works.

Christine enjoys spending her free time hanging out with her children and her friends and family. Christine enjoys watching Brayden and Avery spread their wings and discover life. Many evenings and weekends are spent on the sidelines of a baseball, softball, or soccer game or at another school function. When time allows, Christine enjoys amateur photography by shooting weddings and designing wedding invitations. 🍒

Christine and Corry Stalcup's family visiting the Great Smokey Mountain Stalcional Park in July 2011.

Feature Focus: Orchard Establishes Mirror Server Redundancy Features in Harvest LIS and Orchard Pathology

At Orchard, we understand the importance of maximizing uptime and minimizing the impact of routine maintenance tasks. The need to maintain data integrity, in the form of daily backups, has historically imposed a daily downtime interval. No matter how robust or efficient, backup-related downtime is still an inconvenience in high volume "round-the-clock" environments, including hospitals and reference labs.

In Information Technology terms, mirroring is defined as making an exact copy of a data set. It describes the concept of synchronizing data in two or more locations, as a precaution against data loss or corruption.

This synchronization provides protection against unscheduled downtime. Mirroring is a common practice in web-based business models. Internet giants like Google, Amazon, and eBay all employ the practice of mirroring in order to maximize their uptime, and to provide the best possible experience for their customers.
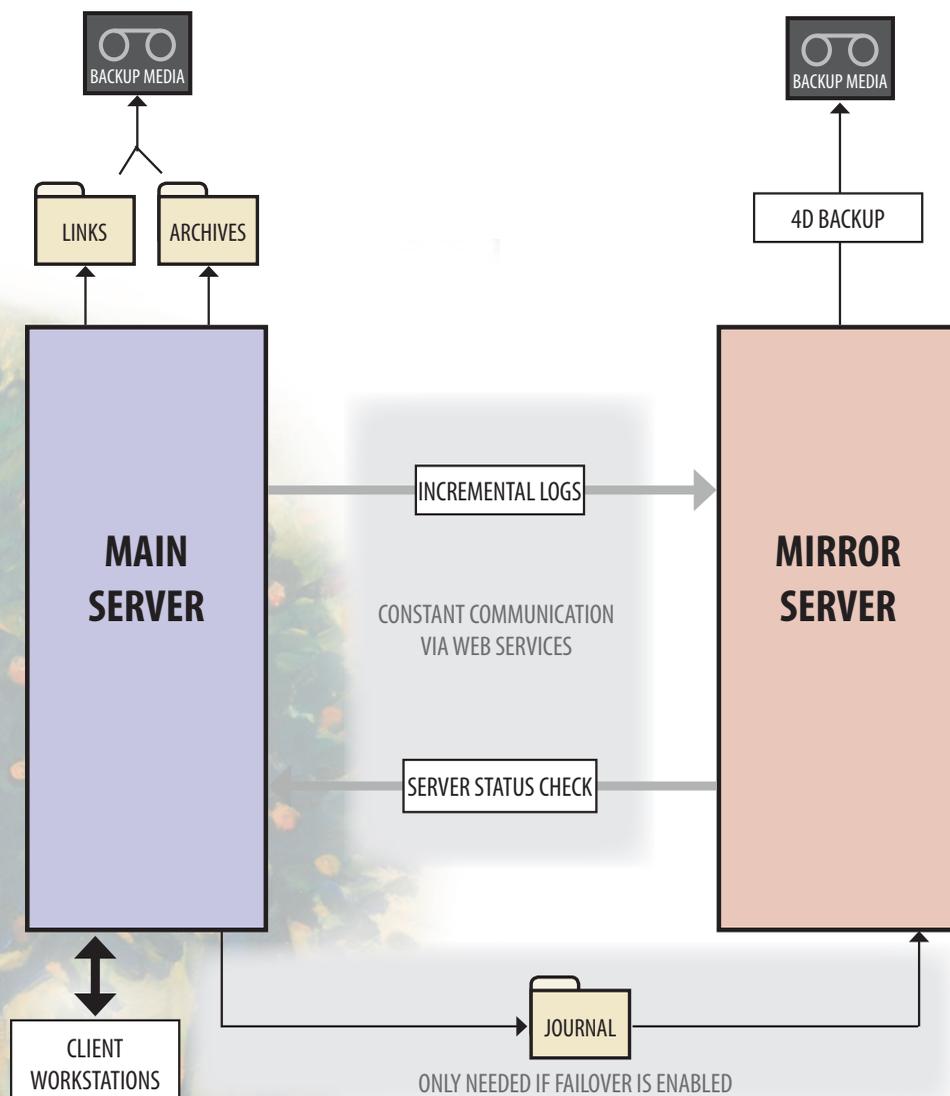
The mirroring feature is now available in Harvest LIS 8.5 and Orchard Pathology. This setup requires a separate server that is capable of running the system on the Local Area Network. At the time of installation, a backup of the data file is performed, and a copy of that data file is copied to the mirror server. During this scheduled

downtime event, the system configuration is changed to inform the production server that a mirror server is present, and that the mirror server will own the task of nightly data backups. The setup and initial testing of this technology is provided by Orchard Software technical support representatives.

As illustrated in the diagram below, the production server provides connectivity for the client workstations, just as it does in a non-mirrored environment. In the mirrored environment, scheduled backups of the 4D data file are performed by the mirror server, permitting the main production server to manage client connections uninterrupted. The backup of supplemental files continue to be managed by the primary production server.

The primary benefit of mirror server configuration is the absence of nightly downtime due to backup activities. Additionally, a failover option may be enabled. Failover refers to a system's ability to rapidly recover from a catastrophic event, such as hardware damage, power failure, or facility-related emergencies. In catastrophic situations, system functionality can be restored in hours, rather than days. A call to Orchard's Technical Support department is all that is needed to begin the recovery process. A few minor configuration changes to the mirror server will promote it to the role of production server, and clients will be able to reconnect to the system while recovery of the primary server hardware takes place.

If you are interested in implementing the mirror server feature of Harvest LIS 8.5 and Orchard Pathology, contact Technical Support at **(800) 571-5835** for more information.

BACKUP MEDIA

LINKS

ARCHIVES

BACKUP MEDIA

4D BACKUP

MAIN SERVER

INCREMENTAL LOGS

CONSTANT COMMUNICATION VIA WEB SERVICES

MIRROR SERVER

SERVER STATUS CHECK

CLIENT WORKSTATIONS

JOURNAL

ONLY NEEDED IF FAILOVER IS ENABLED

Tech Tip: Pivot Tables in the Result Browser

Introduced in version 8.5.101104 of Orchard Harvest LIS, the pivot table feature provides users with a new tool for viewing patient results in the Result Browser. Pivot tables can streamline the amount of data shown at a time, which is particularly useful when summarizing large quantities of data. Perhaps you'd like to view all test results in a CBC. Normally, the Result Browser would list each result on a separate line. With the pivot table feature, you can view all of the results for a patient order on the same line.

To use this feature, mark the "Pivot table" checkbox on the Result Browser Options window. This enables the accompanying "View" drop-down, which contains a list of Result Browser Pivot column views. You may configure Result Browser Pivot column view layouts in the Column Views table and select columns such as Patient Name, Patient ID, Draw Date, Sample ID, DOB, Sex, and Age. All test result columns will follow after your column selections.

Click the **Select Tests** button to open the Select Tests window and specify the tests you wish to include on the report. Harvest LIS can include a maximum of 50 tests. When all results are part of a single order choice, Harvest LIS will display the tests on the pivot table report in the order in which they appear within that order choice. Where results are part of many order choices, tests will appear in the order used in the largest order choices to the smallest order choices, finally appearing in alphabetical order when the test was not originally associated with the order choice in the Order Choices table. For example, if HGB and HCT appear in H&H but also in CBC, they will appear in the order used in CBC since it is the larger of the two order choices (i.e., it contains more tests).

Like the standard Result Browser format, you may print and export the pivot table format on demand. You may also click the **Edit Schedule & Options** button on the Result Browser Options window to create a saved schedule for printing or exporting.

Note that there are some limitations to this feature. Since each row contains multiple results, Harvest LIS disables the **Comments**, **Add Bulk Comments**, **Graph**, and **Levey-Jennings** buttons. Optional columns are also not available in this mode.

Advanced Configuration Options

The test result columns are not available fields in the column view and therefore cannot be set to a specific column width in the Column Views table. You will need to use the

New Releases Are Coming in 2012!

Be on the lookout in the coming year for new releases of our three software products. Orchard Software is pleased to announce that Orchard Harvest LIS and Orchard Pathology, both version 9.0, and Orchard Copia version 5.0 will be released during the first quarter of 2012!

Orchard is committed to developing, installing, and supporting the very best laboratory information systems, and regular software upgrades are part of this commitment. In January of 2012, please stay tuned to our website, online user forums, and our winter newsletter for more detailed announcements surrounding the 2012 release date of Orchard Harvest LIS 9.0, Orchard Pathology 9.0, and Orchard Copia 5.0. Information on the upgrade process will also be given. Don't hesitate contacting your Account Manager with specific questions regarding your lab. You may reach them by calling **(800) 856-1948**. 🐞

2012 Training Classes: Reserve Your Seat Today

Orchard Software has recently released the 2012 training class schedule for Harvest LIS Advanced User Training class as well as our Microbiology Module Training class. We invite you to join us at Orchard Software's corporate office in Carmel, Indiana, to familiarize yourself with the newest features and functionality being incorporated into the Orchard family of products. Orchard's Account Management Team (Amanda McGibbon, Andy Tolle, Derek Ades, Emily Daniels, and Tim Higgins) would be happy to provide you with additional information, including a budgetary proposal to assist in planning for one of the upcoming training classes.

The Account Management Team can also answer questions regarding Orchard's add-on modules; additional licensing; instrument interfaces; host interfaces; reference laboratory interfaces; plus hardware upgrades, expansions, and replacements. It's never too early to start planning for the future.

The classes come highly regarded and according to Sherri Kopko, the Clinical Database Administrator at ITxM Diagnostics, "That week spent at Orchard was the most beneficial training I've ever received. I recommend it for all Harvest users." We encourage you to contact your facility's Account Manager at **(800) 856-1948** with any 2012 budgetary needs or questions, and we look forward to welcoming first time and veteran attendees alike during our 2012 training classes. 🐞

2012 Training Classes

Advanced User Training
- January 16
- March 19
- May 14
- July 16
- September 17
- November 5

Microbiology Module Training
- January 23
- March 26
- May 21
- July 23
- September 24
- November 12

Be on the lookout for the 2012 Orchard calendar!

Pivot Tables

following ACOs if you wish to specify result column widths:

```
[Browser]
PivotTableResultColumnDisplayWidth=<Num Pixels>
PivotTableResultColumnPrintWidth=<Num Pixels>
```

The default value for both settings is 0, which means Harvest LIS automatically sizes the column to the width needed to display the data and/or header. Set `PivotTableResultColumnDisplayWidth` to the number of pixels to use as a width on the window (72 pixels in an inch), and set `PivotTableResultColumnPrintWidth` to a width to use on the printout to ensure that all selected test results will fit on a landscape-oriented printed report.

If you wish to specify the order test result columns appear on the pivot table report, add the following ACO:

```
[Browser]
PivotTableUseTestSelectionOrder=true
```

Harvest LIS will display the text "Drag and drop tests for pivot table display" just below the Selected Tests list in the Select Tests window. Drag and drop the tests into the order you'd like them to appear on the report.

Should you require additional assistance configuring the pivot table feature, please reach Technical Support by calling **(800) 571-5835**, accessing our website at **www.orchardsoft.com**, or by emailing us at **support@orchardsoft.com**. 🐞

Orchard's 4Q Online Tutorials Are Available

The fourth quarter schedule for our Online Tutorials has been posted, and you may now register for them. Sign in to the client-only portion of our website, go to Training, and click on Online Tutorials. These tutorials are held almost every week on Wednesdays and Fridays. Below are the 11 tutorials offered:

- Introduction to Orchard Harvest LIS
- Using Order Patient Samples
- Using Review Results
- Using Release Stored Orders
- Using Find a Patient
- Using Quality Control
- Rule Basics in Harvest LIS
- Using Order Entry Rules
- Using Result Evaluation Rules
- Using CPT Code Rules
- Using Data Browsers

Orchard's online tutorials are web-based sessions that augment our hands-on training classes at our corporate offices. By the end of each session (averaging 45 minutes), users should gain sufficient familiarity to more effectively execute the functions presented.

Orchard knows that the better trained you are on your lab system, the more you can take advantage of each feature to help your laboratory be more productive and efficient. For basic training and easy access, Orchard's online tutorials touch on eleven key topics. These online tutorials are great for new lab employees or as a refresher for seasoned employees. For more in-depth training, we suggest our week-long training classes held multiple times throughout the year at our headquarters in Carmel, Indiana. 🍎

What's Going on the Orchard Software Blog: *colLABoration*

Orchard Software is reminding everyone about our extensive blog, *colLABoration*, regarding laboratory news and information. The blog is one of the best ways to learn about what is going on in the laboratory world, with topics such as ICD-10 questions, meaningful use updates, LOINC information, general laboratory information, and physician signature issues. Here are a few short previews of what has happened recently on *colLABoration*:

- The most recent posts regard the IVD Industry Connectivity Consortium (IICC) and how the IICC is using LOINC as the connectivity language for laboratories. The posts deliver valuable information on learning more about the IICC's goals and mission, as well as helpful hints on implementing LOINC at your facility.
- Another recent post covers Orchard's ONC-ATCB 2011/2012 Certification of our Orchard Harvest LIS as an EHR Module. This post also helped define the difference between inpatient and ambulatory modules to confused individuals.
- ICD-10 is one of the most-read topics in the laboratory industry recently, and *colLABoration* has been a great source for information regarding what a lab can do to prepare. It also served as a great source of information for current Orchard clients who were interested in seeing Orchard's preparations for the transition.
- Earlier this year, Orchard had a four-part series featuring LOINC. Each part had a different focus, such as the history of LOINC, why laboratories need LOINC, understanding LOINC, and populating your LIS with LOINC.
- General laboratory management information most recently included topics about what exactly electronic laboratory reporting (ELR) is. This post answered questions that included the relationship between public surveillance data and ELR, the standards of ELR, and HI-TECH's impact on ELR.
- Since November of 2010, the physician signature issue has been highly contested and debated in the laboratory industry. Orchard's blog has delivered timely results, and offered its own outlook on how issues were to unfold.

Orchard's blog writers have varied since the blog started, but the principle of Orchard's blog, *colLABoration*, as being a significant place for sharing of insights for enhancing laboratories and laboratory informatics, has stayed the same. Please visit the blog at **www. orchardsoft.com/blog**. 🍎

Orchard will be closed on the following holidays, and during these days, Orchard Technical Support Representatives will be on-call 24/7 for emergencies at **(800) 571-5835**.

Thanksgiving
- Thursday, November 24, 2011
- Friday, November 25, 2011

Christmas
- Friday, December 23, 2011
- Monday, December 26, 2011

New Year's Day
- Friday, December 30, 2011
- Monday, January 2, 2012
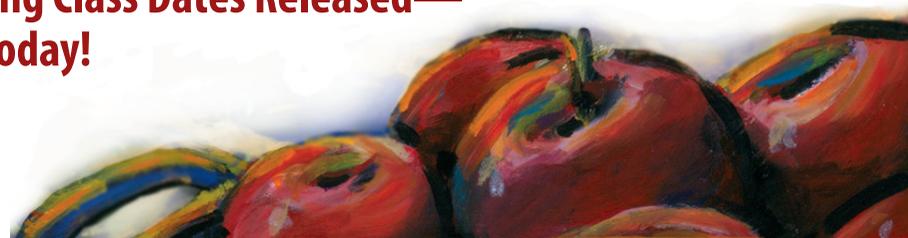
Orchard 2012 Training Class Dates Released—Reserve Your Seat Today!

The New ABN Form Template in Harvest LIS

Earlier this year, Medicare made changes to the ABN form. While these changes are fairly minor edits to capitalization, spacing, and wording, Medicare mandates the use of the new ABN as of November 2011. The good news is that Orchard Software's products already support the revised form.

For Harvest LIS 8.5 users: The new ABN form has already been included in the current update to 8.5 (build 110726). If you are on this build or newer, you already have the revised ABN and don't need to do anything further.

If you have not updated your Harvest LIS software recently, you may download from our website's Download Center and install the update anytime prior to the November implementation date.

For Harvest LIS 8.0 users: We are no longer doing further development of Harvest LIS 8.0, so we have supplied an ABN template that 8.0 users can download from our website and import into the layout templates table. Once you've imported the revised ABN into layout templates, you must configure your preferences to use the layout template as the default ABN.

Should you need assistance with updates or layout templates, feel free to give Orchard Technical Support a call at **(800) 571-5838**. 🍎

Orchard's 2011-2012 Trade Show Calendar

Date	Name	Location
10/19-10/21/11	G-2 Lab Institute	Arlington, VA
10/19-10/22/11	Symposium for Clinical Labs/COLA	Dallas, TX
10/19-10/23/11	ASCP Annual Meeting	Las Vegas, NV
10/30-11/2/11	Pathology Visions 2011	San Diego, CA
11/4-11/8/11	American Society of Cytopathology	Baltimore, MD
11/10-11/11/11	Central New York CLMA	Verona, NY
12/3-12/6/11	ACVP Annual Meeting	Nashville, TN
12/8-12/10/11	G-2 LabCompete*	Las Vegas, NV
1/13-1/14/12	Texas Society of Pathologists*	Dallas, TX
1/18-1/19/12	Winter Health IT Summit*	Phoenix, AZ

Orchard is not exhibiting