Documentation For Insecticide Databases:

Note: The information in the databases is from WSU bulletin EB0419 “2003 Crop Protection Guide for Tree Fruits in Washington”. All data is deemed correct, but the final legal document is always the pesticide label. The interface is similar between the pesticide and disease databases, only the only documentation is for the pesticide ones.

Database Programs

The insecticide databases are currently available for 3 database programs: Filemaker (version 5.52 Mac OS 9.x, OSX, Windoze), Access (Windows only), and thinkDB (now Smart List to Go) (Windows desktop, Palm® Platform). Other database programs will be investigated as they improve or if sufficient demand is available. It is possible that this spring a version of filemaker for Palm will be available, depending on the quality of the filemaker Palm database upgrade that is coming out.

For the desktop, the easiest database to use is Filemaker. It is intuitive and very easy to use. Because of this, the interface and upgrades will likely occur on Filemaker first, followed by the Palm Platform databases. Access is widely available for Windows systems, but is not intuitive and requires more effort and documentation to work with.

Currently, the Palm database is written in SmartList to Go (= thinkDB). This program can be purchased and downloaded off the web from www.dataviz.com - the cost is about $50. The files on the WSU server are the datafiles and format files called “smartlists”. To load them, from your desktop, double-click on them and the install window for the palm platform will appear with them loaded. Just synch your palm and the datafiles will be loaded into the “unfiled” area in your SmartList program (see below for more info).

Use of the Palm Database

If you’ve already installed thinkDB or SmartList, and the database files, you’re ready to start. Tap on the SmartList icon and open the database. The opening screen (left, fig. 1) has 3 columns with the name of the tinyByte in the first column, the number of records in the file in the second column, and the date of modification in the third column. Above the third column is a upside-down triangle with a name next to it (“Pear” in fig. 1). Put the stylus on the triangle and a menu drops down so that you can see some of the file folders that have tinybytes present. **ANYWHERE THERE IS A TRIANGLE, YOU HAVE A POP-UP MENU.** At first, you might have only “All”, “unfiled”, and “Edit Categories”. Edit Categories is to make file folders that are used to organize the different files. For example, I’ve

---

Fig. 1. Startup screen for thinkDB
added an “apple” and “pear” folder to keep the 2 sets of files separate. If you want new categories, touch the “Edit Categories” and you’ll see a screen that allows you to add, edit, sort, or change the order of the categories.

Initially, your files will be in the “unfiled” category. To change that category, look in the first column in the opening page and you’ll notice an upside-down triangle in a grey box next to the name of the tinybyte. Touch this with the stylus and you’ll see a bunch of options. Choose Categorize to change the category of the database. You can also send the database to a friend (“Beam”), open it, rename it, etc.

Choose open and you’ll see the database with several different options. Note that the database is READ-ONLY, primarily so some small changes aren’t accidentally made. But you can still navigate, view records, search, etc.

There are several important features of this screen that help you find and view the correct recommendation.

• In the upper left hand corner, you’ll notice an upside-down triangle with the word “All” next to it. This sets the crop stage you are searching. Put your stylus on the triangle and a menu appears allowing you to choose the various crop stages. For example, dormant, delayed dormant, pre-pink, etc. are choices. Choose the correct crop stage and you’ll notice the number of records drops (the value at the lower left – 94/94 means there are 94 out of 94 records being shown).

• In the top center there is a funnel with an upside-down triangle that says “no filter” in our example. Touch the stylus to this and a menu drops down showing the different pests for which recommendations are available. Choose a pest from the menu and the number of records may drop to “0/94” if there are no recommendations for that pest during that time period. For example, if you chose the crop stage as “dormant” and the pest as CM (codling moth), then there would be no recommendations for that time period.

• To the left of the filter triangle is another triangle that allows you to view the data in different ways. In the example, the view is set to common-trade, but you can change this to other ways (by pest or by trade-common for example).

• If you touch the top of one of the columns, you’ll see two triangles pointing up or down. This sorts the display either ascending (up triangle) or descending (down triangle) or expands the column to full width. You can resize the columns by going to the left edge of the column and...
dragging it either way. The sort button (second from right) works the same way as touching the top of the column.

- The lower right button that looks like a magnifying glass can be used to search for any text in the database.
- The red text shows buttons not necessary for using these databases.
- Once the crop stage and pest are set, you can touch on any of the available pesticides to get more information (rates, toxicity to natural enemies, other pests controlled by the pesticide, any restrictions, warnings, etc.). Touch one of the pesticides and the screen (Fig. 3) will appear.

This screen shows the information on rates, use period, pest, toxicity class etc. To move to the next screen, touch the next tab (“Efficacy”) and the screen changes (bottom left) to show the efficacy on other pests and the effects on beneficial insects and mites. Notice in the Efficacy screen that Grape MB is listed under both High and Moderate Efficacy. This means there is variability in efficacy for that particular insect, depending on location, past treatment history, etc.

The final screen (“Notes”) (bottom right) shows any notes or restrictions and allows consultants to add their own notes. To read or add a note, touch the note icon next to the colon and the screen will show the note or a blank page to add the note you desire. NOTE: the database ships locked so that you don’t accidentally change anything. Also, any consultant notes entered will not be saved when you update this file from the web. To enter notes, you must unlock the database first. Do this by hitting “OK” to return to the database screen (fig. 2), pull down the tinyByte menu, and select the SmartList Properties, and uncheck the “SmartList is read-only” box. Go back to the pesticide record, add the note, then **RELOCK THE DATABASE.**

![Fig. 3. Viewing a pesticide record in depth. The "Info" tab is selected.](image)

![Fig. 4. Viewing a pesticide record in depth. "Efficacy" tab is selected.](image)

![Fig. 5. Viewing a pesticide record in depth. "Notes" tab is selected.](image)
Using Filemaker:

Filemaker is a cross-platform database that is available from most software houses and from the filemaker web site (www.filemaker.com). You open the filemaker database by double clicking on the database icon. The panel on the left side gives some information about the database (Fig. 6). At the top is a rectangle that in this case says “pesticide” – this is the view that is being used. There are 3 different choices: pesticide, pest efficacy, and non-target. All show the same data for the pesticide, just in a slightly different format, emphasizing what the name suggests. The small rolodex figure is used to view the different records. Click on the lower part and you advance through the database, and on the top you go back a record. Underneath the rolodex, you have a indicator that tells how many records are in the database. For example, in our apple database, there are 91 different pesticide/pest/use period recommendations, each of which is recorded separately in a record.

After opening, the database is always in the browse mode. Note that this database, like the Palm database is also READ ONLY to prevent making unintended changes. In the browse mode, you can navigate between the different records, print, etc. To find a record, go under the view menu and choose “Find Mode”. This will give you a blank form with two of the boxes colored a light green. Since you’ll use this most of the time to find a recommendation by pest and time of year, these are pop-up menus where the different stages and times can be chosen (Fig. 7). Once you’ve chosen the desired
search, press the find button on the left hand side. Note: you can type in a search in any of the boxes, but must spell everything correctly or use the abbreviations used in the database to get a match.

After selecting “find”, the database searches all the records that meet your criteria (Fig. 8). In our example (see left), we searched for codling moth sprays that were recommended during the late spring-summer. Notice that we had 5 matches (left hand side in blue circle, below the rolodex icon), and we can scroll through the matches using the rolodex as discussed above. At this time, we can also switch between views without affecting the search results. To see all the records again, go under the “Records” menu and select show all records.

**Consultant Notes:**

If you want to add notes, there is a space for this on each record. However, the database must be unlocked to save the notes. Do this at the desktop with the file closed.

- On macintosh, select the database in the finder, then press the apple key (command key) and “1” at the same time, unselect the lock file.
- On windows, select the database, and right click, choose properties, and unselect “read-only”.

**After you’ve entered your notes, lock the database again.** It is critical to lock the database because databases automatically write all changes to disk when they occur. Thus if you make an unintended change, its there forever. Consultant notes will not be saved when you update the database again from the WSU server.

![Completed search screen in filemaker](image-url)
**Microsoft Access:**

This database has a miserable interface, but it’s included with Microsoft Office on Windoze, so it's free. Double click on the icon of the desired database (e.g. apple or pear). You’ll be greeted to the screen on the right (Fig. 9). Make sure the “Forms” button is chosen select “apple3” and select open (blue circle). This will open a screen that is a form similar to that previously shown on Filemaker.

To perform a search, go under the “Records” menu, select Filter, and choose the “Filter by Form” option. This gives you a blank form (Fig. 10). If you don’t get the blank form, click on the stylized X on the toolbar. Each of the fields is a pop-up menu that has the different choices that are recorded in the database. Choose what you want, then press the funnel icon (next to the stylized X) and the records that match your criteria are presented. The only difference is that the pest field doesn’t quite work that simply. This is because the field has multiple pests present. For example, Grape MB (mealybug) shares a recommendation with codling moth (guthion) so the data were entered as CM, Grape MB in that field. *Using the popup will only find exactly what you choose.* If you choose the CM, Grape MB popup, it will only find those recommendations that work with both CM and Grape MB, it will not find all recommendations for Grape Mealybug. To find all recommendations type **Like “*Grape*”** or **Like “*Grape MB*”** and press the funnel to get the search results (Fig. 11).
Notice at the bottom of the screen, it shows that 5 records were found. Use the arrow keys to move back and forth between the recommendations. If you want to see the entire database again, select “Remove Filter/Sort” under the records menu.

**Consultant Notes:**

See the notes underneath the filemaker program. Again, *remember to lock the database to prevent unwanted changes once the notes are added*. None of these notes will be preserved when you update the database from the WSU server!

---

*Fig. 11. Completed search screen in Access.*
Abbreviations used in the databases:

AGA – apple grain aphid
ARM – apple rust mite
C. florus – *Colpoclypeus florus*, a parasitoid of PLR
Campy – *Campylomma* bug
CM- Codling Moth
CUT – cutworms
DD – Delayed Dormant
ERM – European Red Mite
GAA – Green apple aphid
GFW – Green Fruit Worm
Grape MB – Grape mealybug
LAC – *Lacanobia* fruit worm
LB – *Lygus* bug
LEP – various lepidopterous pests
LR – leafrollers – both Pandemis leafroller (PLR) and Obliquebanded leafroller (OBLR)
MSM – McDaniel spider mite
OBLR – Obliquebanded leafroller
P. flavipes – *Pniaglo flavipes*
PLBM – pear leaf blister mite
PLR – *Pandemis* leafroller
PP – Pear Psylla
PRM – pear rust mite
PSF- Pear Sawfly
RAA – Rosy Apple Aphid
SB – Stink bug
SJS – San Jose Scale
TSSM – two spotted spider mite
Typhs – *Typhlodromus occidentalis*, the western orchard predatory mite
WAA – Woolly apple aphid
WALH- White apple leafhopper
WFT – Western Flower Thrips
WTLM – Western Tentiform Leafminer