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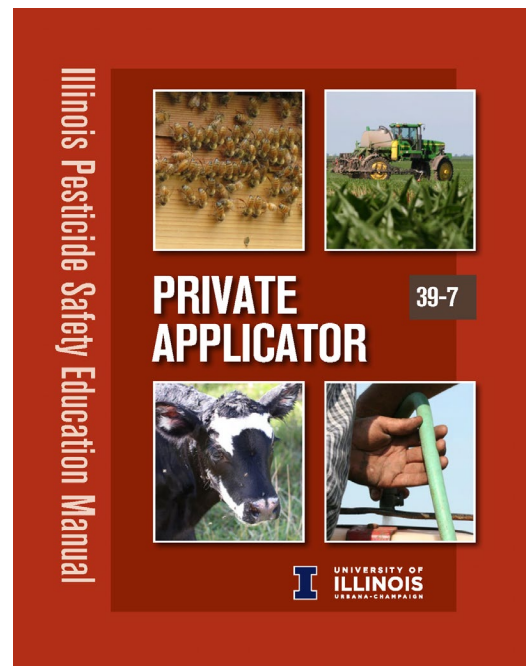
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### Revised Private Applicator Manual

The Illinois Pesticide Safety Education Manual – Private Applicator (39-7) was recently revised and is available through the [Illinois Extension's online publication store](#) or at most county Extension offices. Each manual costs \$15 plus shipping and handling.

The new edition of Private Applicator was prepared by University of Illinois Pesticide Safety Education Program (PSEP) specialists and should be used to prepare for the Illinois Department of Agriculture's Private Applicator Certification Exam. This manual would also be useful to anyone interested in learning more about agricultural pest management.

Topics covered in this manual include integrated pest management, pesticide formulations and adjuvants, pesticide label comprehension, safe practices to avoid pesticide poisoning, protecting the environment while using pesticides the environment, field crop pesticide application equipment and calibration, and pesticide laws and regulations.



*Travis Cleveland*



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## Good Things to Know for a Simplified Registration and Licensure Process

Starting this December, the University of Illinois Pesticide Safety Education Program will return to offering in-person training clinics. Seats will be quite limited compared to previous years, so plan accordingly. Additionally, our online training modules will be available for those who prefer this learning method. Testing will be offered both in-person and online. More information follows.

### Retest Letters & Schedule Booklet Received from Illinois Department of Agriculture (IDA)

If your license expires at the end of the year, you should receive a letter from IDA by Mid November. If possible, please have this letter ready when you test as it will contain your USA Plants number as well as your company name and address. The USA Plants number will streamline the paperwork required prior to taking your exams. If you don't have a USA Plants number, or if you are testing for the first time, you will need to provide your Social Security number (not card) as well as your company name and address.

Along with the letter will be a schedule booklet with registration information for training and testing. Much of that information will be posted soon to our website [www.pesticidesafety.illinois.edu](http://www.pesticidesafety.illinois.edu).

Testing is required every 3 years. Categories can be added to an applicator license at any time. Each exam is valid for three years if taken the same year as the General Standards exam. Otherwise, all category exams expire along with the General Standards exam regardless of the year taken. All licenses expire on December 31 of the specific year they are scheduled to expire.

## Plan Ahead

To get your license when you need it, IDA encourages applicators & operators to test early in the year and not wait until the last minute as there are hundreds of people taking exams each month. Also, some do not pass exams on the first attempt so additional study time may be needed. Study materials can be purchased and used in advance of the training so that the course material works as more of a refresher to help reinforce learning. Help ensure that employees are prepared. For testing they will need their company address, a photo I.D., a basic function calculator, and of course their retest letter from IDA.

Passing the exam does NOT make you licensed. You cannot apply pesticides until IDA receives your completed application and payment. Afterwards, IDA will mail your license to your employer's address. *Only then are you licensed to apply pesticides.*

### Payment Concerns for Licensing (Not Training)

IDA does not take debit or credit cards. Some companies have expressed concerns in the past because they do not have a checking account. Alternate payment options include using a money order or personal check and being reimbursed. Universities may use account transfers. Please plan accordingly and allow for extra time that may be needed for paperwork.

### Need a Duplicate License, Secondary License, or Change of Information?

Current licenses that have been misplaced or destroyed may be replaced. Request a duplicate license using the forms found on the IDA website. In addition, licensees wishing to be licensed under a second company may submit a request to the Department using the Secondary license request form. Licensees may also submit changes of information to the Department using the appropriate [forms](#) on the website.

## Training Options

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### Option 1: In-Person Training

\*\*Preregistration and training schedule will be available by Mid-November.\*\*

Large capacity, classroom setting using fill-in-the-blank style workbook (provided). Trainings run 2.5-3.5 hours followed by testing. Both 1 and 2 day clinics offered. Details will be in the schedule booklet and posted on our website.

Preregistration and prepayment required.

To register: [www.pesticidesafety.illinois.edu](http://www.pesticidesafety.illinois.edu) or (800) 644-2123

Fee: General Standards \$45.00; Categories \$25.00 each

(Categories vary by location and include: Field Crops, Rights of Way, Mosquito, Turf-grass, and Ornamentals)

### Option 2: Online Training

Online courses are available as an alternative to in-person training. Online courses include General Standards, Private Applicator, and most traditional training categories. The courses are designed to be completed on your own schedule and pace. Each course will guide you through video lessons instructed by PSEP specialists and keep you engaged with plenty of exam-prep questions.

To register: [www.pesticidesafety.illinois.edu](http://www.pesticidesafety.illinois.edu)

Fee: General Standards \$45.00; Categories \$25.00 each

### Option 3: Self-Study Publications

Training manuals (reference textbooks) are available for purchase for those who prefer to simply read the required material for

General Standards, Private Applicator, and each category of licensure. Fill-in-the-blank style workbooks are also available to help guide you through the manual and prepare you for the associated exam.

To order: [www.pesticidesafety.illinois.edu](http://www.pesticidesafety.illinois.edu) or (217) 333-2007

## Testing Options

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### Option 1: In-Person Testing

IDA will offer testing at all In-Person Training Clinics. Attendance at training will guarantee a saved seat for testing. Walk-ins for testing will be seated *as space allows*. There is no fee for in-person testing.

IDA will also offer Test-Only sessions (no training). Pre-registration is required for all Test-Only sessions. To register for an exam and to find Test-Only locations, dates and times please visit: <http://www.agr.state.il.us> (Click on Pesticide Training and Testing link.) Check the website often as additional locations may be added. There is no fee for in-person testing.

### Option 2: Online Testing

For those needing an alternative to in-person testing, online exams for General Standards, Private Applicator and all categories are offered utilizing an exam proctoring service. Exam length and time are similar to that of in-person testing. Exams appointments may be scheduled 24 hours a day, 7 days per week. A small fee is required for the proctoring service and paid directly to them. For more information or to register for an online exam, visit [www.pesticidesafety.illinois.edu](http://www.pesticidesafety.illinois.edu)

*Michelle Wiesbrook and Jean Miles*

## Tips for Attracting Monarch Butterflies to Gardens and Landscapes



*Top: Monarch adult on purple coneflower. Sarah Hughson, University of Illinois.*

*Bottom: Monarch caterpillars on common milkweed. Sarah Hughson, University of Illinois.*

Last month, the migratory monarch butterfly was added to the International Union for Conservation of Nature (IUCN) Red List as an endangered species. IUCN is an international non-profit organization and the world's leading authority on biodiversity. The IUCN Red List is different than the US Federal Endangered Species list managed by the US Fish and Wildlife Service. Currently, the migratory monarch is not on the US Federal Endangered Species list but will be re-evaluated for endangered status

in the future. At this time Illinois applicators are not required to change their operations, but many are wondering what they can do to help our native monarchs.

The following are suggestions for improving monarch gardens based on research by Adam Baker PhD, and presented in a recent [Horticultural Research Institute webinar by Dan Potter PhD](#). Baker's research looked at factors affecting monarch utilization of garden spaces and factors affecting monarch survival in those spaces. Here are some

### Choose a garden location with north-south access:

In Baker's research, more monarchs were counted in gardens in locations with north and south access. Since monarchs travel toward the north or south in their migration, access to gardens from those directions is most beneficial. This means that planting a garden along the east or west side of a building or fence is beneficial because it allows monarchs to easily enter the garden from the north or south.

### Plant milkweed where monarchs can see it:

Monarchs locate host plants visually, so making sure milkweed plants are easy to see by passing butterflies is key. This can be done by:

#### Planting milkweed along the perimeter of gardens

- In research, more monarchs were found on milkweed plants placed along the perimeter of gardens compared to those located in the center or mixed throughout the garden.

#### Plant milkweed in structured gardens

- More monarchs were found on milkweed in structured gardens where plants were spaced and separated

by mulch compared to gardens with dense mixtures of plants. In dense plantings, non-host plants may grow around the milkweed, making it difficult for monarchs to see and locate the milkweed.

### Preferred milkweed species:

#### Tall milkweed species were preferred

- More monarchs were found on taller species of milkweed like swamp milkweed, common milkweed and showy milkweed.
- Smaller species are still beneficial to monarch but may not attract as many monarchs. Smaller plants are also great for bee diversity in the garden.

#### Nativars were just as helpful for monarchs in gardens

- Nativars are native species that have been bred or cloned to produce showier flowers.
- Research found no difference in the number of monarchs or the development of caterpillars on nativar milkweed compared to the wild-type of the same milkweed species.
- While it is fine to use nativars in gardens, we don't recommend using nativars in nature preserves or protected areas.

### Avoid tropical milkweed

While tropical milkweed is an attractive addition to a garden, it is not the best choice for monarchs. Here are three drawbacks to planting tropical milkweed:

- Tropical milkweed does not dieback at the same time as our native milkweed

plants. Milkweed dieback is an important cue that lets monarchs know that it is time to migrate, so monarchs feeding on tropical milkweed may not leave the plants at the right time to migrate successfully.

- Since monarchs are lingering on tropical milkweed plants, their populations can build up and transmit illness, particularly OE (*Ophryocystis elektrosirra*). OE is a parasite that can impact the ability to emerge from the pupal casing, ability to fly and migrate properly, and survival. Some infected individuals may have small or crumpled wings.
- In higher temperatures caused by climate change, tropical milkweed may produce higher levels of toxins than native milkweeds and become toxic to monarchs.

### Control European paper wasps (*Polistes dominula*)

European paper wasps are an introduced species that feed caterpillars to their young. This species is not put off by the distastefulness of monarch caterpillars and may feed on them. Younger caterpillars are more at risk of predation by European paper wasps but larger caterpillars can sometimes be taken.

European paper wasps look similar to yellowjackets (*Vespula spp.*).

- European paper wasps build their paper nests in crevices or under overhangs, while yellowjackets nest underground in abandoned rodent holes or other concealed locations.
- European paper wasps have yellow or orange tipped antennae, yellowjackets have black antennae

## Avoid placing butterfly houses in or around pollinator gardens.

- While butterfly houses are cute, butterflies don't utilize them.
- Butterfly houses are attractive sites for European paper wasps nests, so butterfly houses may inadvertently lead to monarch predation by European paper wasps.

### Monarch Resources:

Monarch Waystations <https://monarchwatch.org/waystations/>

Monarch Joint Venture: Learn more about monarch biology, create habitat or get involved with community science projects that benefit monarchs <https://monarchjointventure.org/>

Xerces Society: Learn about pollinator protection, including lists of pollinator plants for your region and other educational materials <https://xerces.org/>

### Primary Research used in this article:

Baker, A.M. and D.A. Potter. 2018. Colonization and usage of eight milkweed (*Asclepias*) species by monarch butterflies and bees in urban garden settings. *Journal of Insect Conservation*, 22, 405 - 418. <https://link.springer.com/article/10.1007/s10841-018-0069-5>

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Sarah Hughson

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Michelle Wiesbrook  
Extension Specialist, Pesticide Safety Education  
Email: [buesinge@illinois.edu](mailto:buesinge@illinois.edu)

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The *Illinois Pesticide Review* is published six times a year. For more information about pesticide safety or for more issues of this newsletter, please visit us at [www.pesticidesafety.illinois.edu](http://www.pesticidesafety.illinois.edu). You can also reach us at 800-644-2123.

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