

First Detector Training



Lori Spears
Invasive Species Survey Coordinator
Utah State University
September 27, 2019

Agenda

- 9:00-9:15 Welcome (Dr. Lori Spears, USU)
- 9:15-9:30 Partner Agencies and their Roles (Dawn Holzer, USDA APHIS PPQ)
- 9:30-10:15 Managing EAB in the West (Dr. Whitney Cranshaw, CSU)
- 10:15-10:30 Break
- 10:30-11:15 Guess Who Came to Dinner? (Dr. Whitney Cranshaw, CSU)
- 11:15-12:00 35-year Review of Invasive Insects (Dr. Whitney Cranshaw, CSU)
- 12:00-12:45 Lunch (Copper Grill Catering)
- 12:45-1:15 Japanese Beetle and Gypsy Moth (Joey Caputo, UDAF)
- 1:15 -1:45 Elm Seed Bug (Ryan Davis, USU)
- 1:45-2:15 Spotted Lanternfly (Dr. Lori Spears, USU)
- 2:15-3:00 Stink Bugs (Cody Holthouse, USU)



Utah's First Detector Program is a response to the constant and growing threat of invasive species

Japanese Beetle



...and the list goes on and on

Spotted Wing Drosophila



Velvet Longhorned Beetle



...and the list goes on and on

Brown Marmorated Stink Bug







...and the list goes on and on

Elm Seed Bug



...and the list goes on and on

Small Hive Beetle



...and the list goes on and on



Balsam Woolly Adelgid

Waiting in the wings...

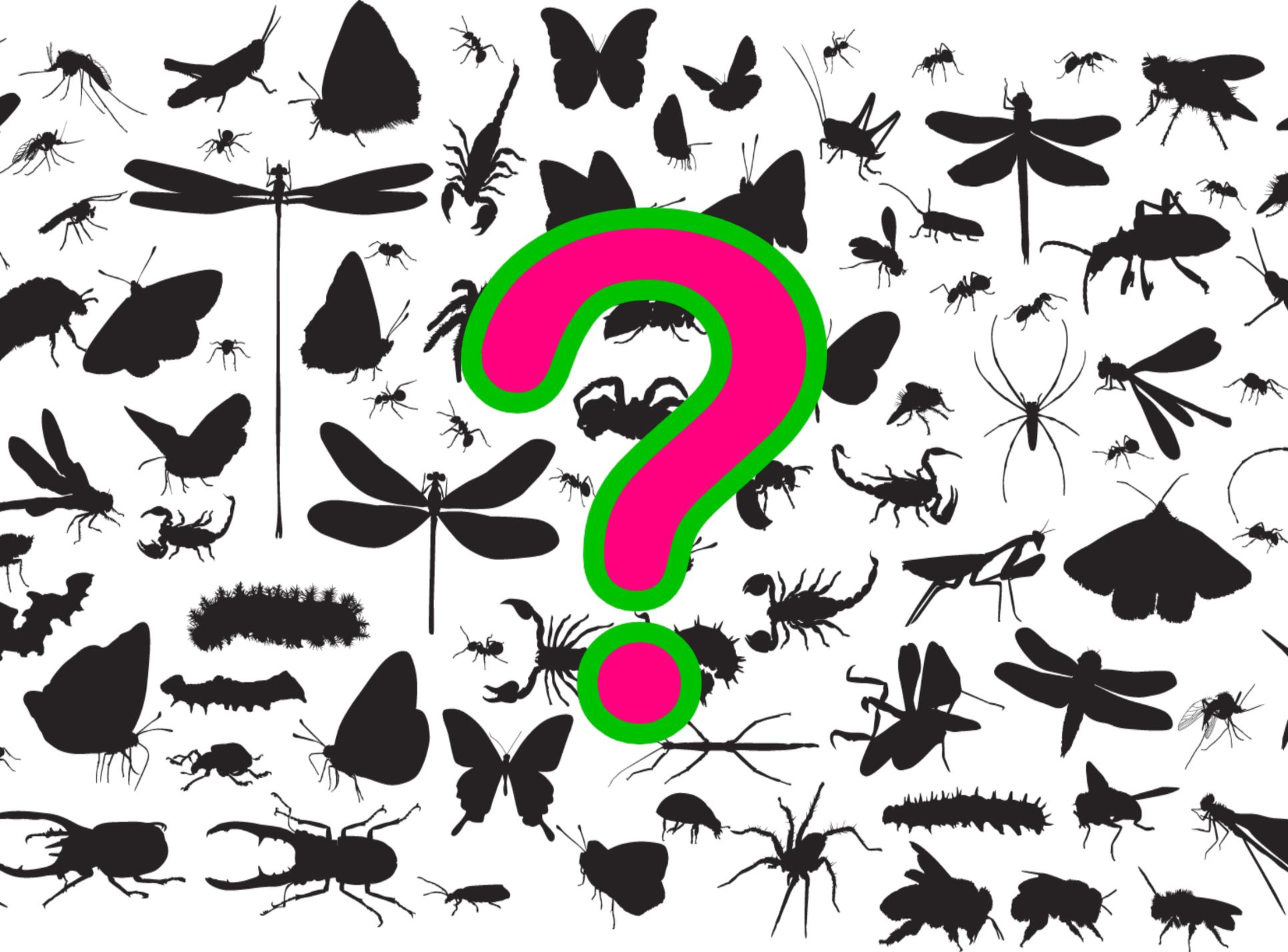
Emerald Ash Borer



Waiting in the wings...

Spotted Lanternfly





Focus on Early Stages of Invasion



Focus on Early Stages of Invasion



"HAVE WE MET?
I'M YOUR WORST
NIGHTMARE."



BUY IT
YOU BUR

If you're a camper heading
a trip — or just getting
your stove — do nature
potentially transport inv



PROTECT YOU

- ▶ Buy locally harvest
- ▶ Gather on site where
- ▶ Ask a park ranger or
host about where to

For more information

ENSION
toUniversity

BEWARE
of NIGHTMARE'S

BEWARE

BEWARE





How Invasive Species Spread

WHY SHOULD YOU CARE? WHEN ESTABLISHED, INVASIVE SPECIES CAN: REDUCE CROP YIELD, QUALITY, AND INCOME • INCREASE MANAGEMENT COSTS AND PESTICIDE USE

OUTDOOR GEAR:

Clean outdoor gear before transport to a new location; mud, weed seeds and other pests can hide in soil and cracks on equipment.

WOOD PRODUCTS:

Don't transport wood across state lines or quarantine areas. Buy firewood from local sources and burn it where you buy it.

PASSENGER BAGGAGE:

Follow USDA plant inspection regulations when transporting fruits, vegetables, and plants. For international travel, declare all agricultural items to U.S. Customs and Border Protection to prevent introduction of invasive species.



PLANT MATERIAL:

Purchase and promote only invasive, environmentally safe species. Remove invasive species from your property and replace with non-invasive species suited to your region.

Invasive organisms are non-native, and capable of harming the economy, environment, and human health.

The term "invasive" applies to aggressive exotic species. Invasive species can spread naturally and by human transport. Understanding how invasive species are spread is crucial to their prevention.

TRANSPORTATION MODES:

Thoroughly inspect and wash personal and recreational vehicles (e.g., boat) to avoid transport of invasive species.



INCREASE NUISANCE PROBLEMS • INCREASE PUBLIC HEALTH AND SAFETY RISKS • LOWER BIODIVERSITY AND LAND VALUE • DISRUPT ECOSYSTEM SERVICES (E.G., POLLINATION, BIOCONTROL)

VISIT INVASIVE.USU.EDU
FOR MORE INFORMATION

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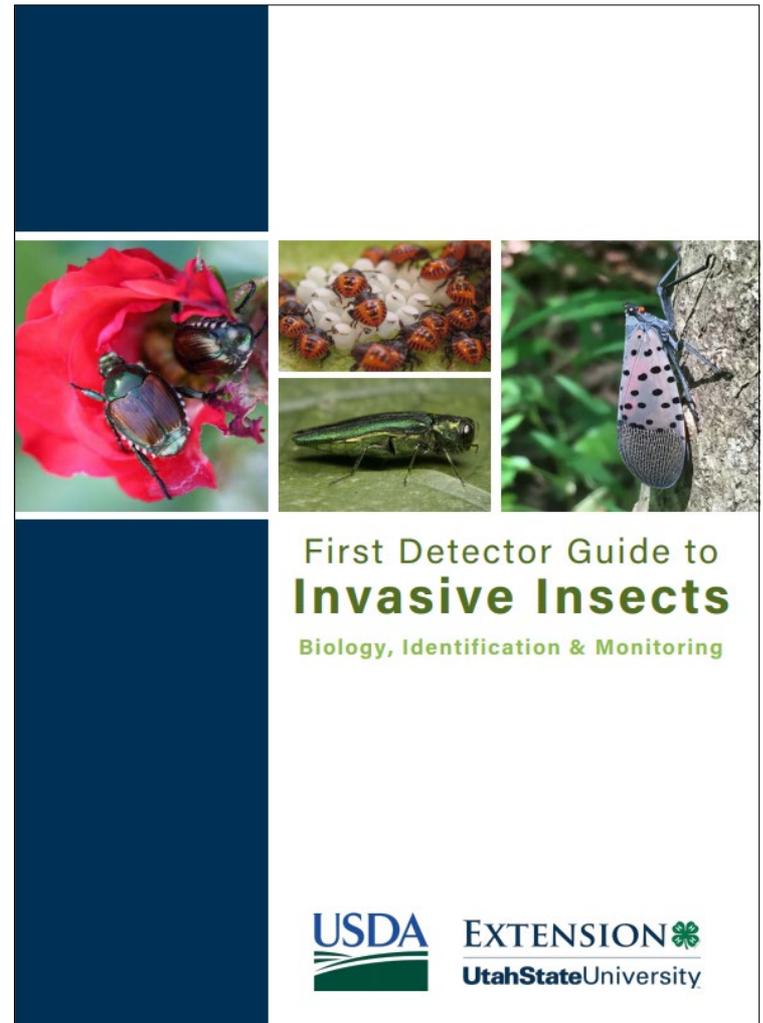
Utah State University
BOTANICAL CENTER

Invasive Fruit Pest Guide for Utah

Insect & Disease Identification, Monitoring & Management



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Contact Us

INTRODUCTION

ROLES & RESPONSIBILITIES

In order to become a First Detector, individuals must attend a First Detector training workshop, which is usually held in September (see <https://utahpests.usu.edu/caps/get-involved> for more information). In addition, First Detectors must be familiar with and agree to the following terms:

- **First Detectors never announce the arrival of a new pest.** All information regarding potentially new, invasive pests must be treated as confidential. First Detectors should immediately notify the UPPDL regarding suspected symptoms or collection of life stages. The UPPDL will then communicate that information to the appropriate agencies. This protocol is required to avoid premature and incorrect reports, as significant unintended consequences may result from hasty, inaccurate communications.
- **First Detectors do not have the authority to enter private property without permission.** If you do receive permission to enter private property, it is recommended that the property owner accompany you.
- **Being a First Detector is voluntary.** First Detectors will not be financially compensated or reimbursed for time and/or travel. However, continuing education units (CEUs) may be available for pesticide applicators and certified arborists. Master Gardeners may also be able to use First Detector volunteer hours toward Master Gardener service hours, but should first discuss this opportunity with their county Extension agent.

SUBMITTING SAMPLES

The UPPDL is a service of USU Extension and the Department of Biology at USU. The UPPDL is staffed with highly skilled and experienced professionals that provide rapid and accurate identification of pest-related problems. First Detectors may submit suspect samples (digital images and/or physical samples) directly to the UPPDL. If possible, send digital images to caps@usu.edu or utahpestlab@gmail.com for screening prior to submitting physical samples to the UPPDL.

Submitting Digital Images

Send high-resolution images as an email attachment to one of the labs listed on the next page. Images should be in focus and well-lighted, contain a ruler or other object for scale, and contain different parts/views of the insect and/or plant symptoms.

INTRODUCTION

Submitting Physical Samples

Live insects can escape from containers; therefore, it is very important that you kill (do not squish) the insect before submitting it to the UPPDL. Place the insect into a spill-proof jar or vial containing rubbing alcohol (hand sanitizer or white vinegar are suitable alternatives). You can also freeze the insect before placing it into a sealable crush-proof container. If submitting plant material, handle it as if it contains a live pest (i.e., secure plant material so that an emerging pest could not escape). Wrap plant material in paper bags or newspaper. Secure samples using packing material to avoid breakage/damage. Samples containing plant material should be sent overnight.

Include with your submission, the date, collection location, email address, phone number, and physical address in case we have follow-up questions. Mail sample(s) to one of the labs listed below, and as soon as possible to prevent drying or deterioration of the insect or plant material.

Utah Plant Pest Diagnostic Laboratory

Utah State University
5305 Old Main Hill
Logan, UT 84322-5305
Phone: 435-797-2435
Email: caps@usu.edu or utahpestlab@gmail.com
Website: <http://utahpests.usu.edu/upddl/>



Utah Department of Agriculture and Food

Plant Industry and Conservation Division
350 N. Redwood Road
Salt Lake City, UT 84114
Phone: 801-538-7184
Email: agriculture@utah.gov
Website: <http://ag.utah.gov/plants-pests.html>



Acknowledgments: Many thanks to Dawn Holzer and Alana Wild (both of USDA APHIS PPO) for supporting and recognizing the need for this work. Funding was provided by USDA APHIS PPO. The Utah First Detector Program is modeled after the Minnesota, Vermont, and North Dakota First Detector Programs.

First Detector Responsibilities

- First Detectors never announce the arrival of a new pest.
- All information regarding potentially new, invasive pests must be treated as confidential.
- This protocol is required to avoid premature and incorrect reports.
- Notify USU Extension, the Utah Plant Pest Diagnostic Lab, or Utah Department of Agriculture and Food





Invasive beetle not yet confirmed in Utah, but tree care companies beg to differ

[CARTER MOORE](#) on October 15, 2018 at 12:00 pm

Some tree care companies believe a tree-munching insect called the emerald ash borer has already begun its attack in Utah, but researchers worry there is premature panic about its arrival.

Utah Pests Online Resources

www.utahpests.usu.edu

The screenshot shows the homepage of the Utah Pests website. At the top left, there are logos for 'EXTENSION UtahStateUniversity' and 'UTAH PESTS'. On the top right, there are links for 'USU Links', 'Extension Links', and 'Social Media', along with a search bar containing 'Google Custom S' and a magnifying glass icon. Below the header is a large banner image of a red apple with a wasp on it. The text 'UTAH PESTS' is overlaid on the left side of the banner. Below the banner, the main content area is divided into several sections. On the left, a large text box reads 'UTAH PESTS HELPS TO SOLVE PLANT PEST ISSUES THAT CONCERN UTAH CITIZENS EVERY DAY'. To the right of this text box are two smaller boxes: 'IPM PEST ADVISORIES' with illustrations of corn, citrus, and wheat, and 'Pest Identification Guides' with a magnifying glass icon over a tree. Further right is a 'BROWSE UTAH PESTS' menu with links to 'Fact Sheets', 'Guides and Publications', 'Slide Presentations', 'Utah Pests News', 'IPM Pest Advisories', 'Bees and Other Pollinators', 'Educational Videos', and 'Contact Us'. Below this is a 'UTAH PESTS PROGRAMS' section with links to 'Utah Pests Home', 'IPM Integrated Pest Management', 'School Integrated Pest Management', 'Utah Plant Pest Diagnostic Lab', and 'Cooperative Agricultural Pest Survey'. At the bottom left, a 'Latest News' section features a photo of a butterfly on a purple flower and a headline: 'Sequencing pollen DNA to discover insect migratory routes'. The text below the headline explains that metabarcoding allows for tracing migratory routes of insects. A 'Read More' button is located at the bottom right of the news item.

EXTENSION UtahStateUniversity

UTAH PESTS

USU Links | Extension Links | Social Media

Google Custom S

UTAH PESTS

UTAH PESTS HELPS TO SOLVE PLANT PEST ISSUES THAT CONCERN UTAH CITIZENS EVERY DAY

IPM PEST ADVISORIES

Pest Identification Guides

BROWSE UTAH PESTS

- Fact Sheets
- Guides and Publications
- Slide Presentations
- Utah Pests News
- IPM Pest Advisories
- Bees and Other Pollinators
- Educational Videos
- Contact Us

UTAH PESTS PROGRAMS

- Utah Pests Home
- IPM Integrated Pest Management
- School Integrated Pest Management
- Utah Plant Pest Diagnostic Lab
- Cooperative Agricultural Pest Survey

Latest News

Sequencing pollen DNA to discover insect migratory routes

Metabarcoding, a technique of mass DNA sequencing, allows for tracing migratory routes of insects. A small DNA fragment of the pollen that insects transport is used as a barcode to identify the plant species they visited previously.

Read More

Utah CAPS Program

utahpests.usu.edu/caps



COOPERATIVE AGRICULTURAL PEST SURVEY



Survey Updates



Featured Pests



Report an Invasive Pest



Get Involved

BROWSE CAPS

- Utah CAPS Program
- Invasive Species
- Survey Updates
- Featured Pests
- Report an Invasive Pest
- Get Involved
- Educational Materials
- Contact Us

UTAH PESTS PROGRAMS

-  Utah Pests Home
-  Integrated Pest Management
-  School Integrated Pest Management
-  Utah Plant Pest Diagnostic Lab
-  Cooperative Agricultural Pest Survey

Pest Advisory and Utah Pests Newsletter
Free Subscription

Utah CAPS Program

utahpests.usu.edu/caps



COOPERATIVE AGRICULTURAL PEST SURVEY



Survey Updates



Featured Pests

BROWSE CAPS

- Utah CAPS Program
- Invasive Species
- Survey Updates
- Featured Pests
- Report an Invasive Pest
- Get Involved
- Educational Materials**
- Contact Us



Report an Invasive Pest



Get Involved

UTAH PESTS PROGRAMS

-  Utah Pests Home
- IPM** Integrated Pest Management
-  School Integrated Pest Management
-  Utah Plant Pest Diagnostic Lab
-  Cooperative Agricultural Pest Survey

Pest Advisory and Utah Pests Newsletter
Free Subscription

COOPERATIVE AGRICULTURAL PEST SURVEY

Outreach and Educational Materials

[Fact Sheets](#)[Field Guides](#)[Informational Powerpoints](#)[Rack Cards](#)[Posters](#)[Others](#)

FACT SHEETS

Brown Marmorated Stink Bug Fact Sheet



A fact sheet that focuses on the monitoring and management of Brown Marmorated Stink Bug (BMSB) in fruit and vegetable crops in Utah. BMSB was accidentally introduced into the eastern U.S. from Asia in the late 1990s. It was first detected in Utah in 2012 and since 2017 has caused damage to fruits in vegetables in some Northern Utah counties. .

[DOWNLOAD](#) 

Small Hive Beetle Fact Sheet



A fact sheet containing many facts about Small Hive Beetle (SHB). SHB is an exotic pest of honey and bumble bee colonies that is native to Africa. SHB feeds on pollen and honey, kills bee brood and workers, and causes honey to discolor and ferment. This pest is now found throughout much of the U.S. with highest infestations occurring in the Southeast. It was first detected in Utah in 2016 and is now confirmed in Washington and Davis counties. Infestations can be prevented by early detection, using good husbandry techniques, maintaining a high ratio of bees to comb, and keeping hives in partial to full sun. Chemical control options for SHB are limited due to toxicity to bees.

[DOWNLOAD](#) 

BROWSE CAPS

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UTAH PESTS PROGRAMS

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[Pest Advisory and Utah Pests Newsletter
Free Subscription](#)

Funding provided by USDA APHIS
PPQ and USU Extension



ANY
QUESTIONS
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