Registration form

Mosquito Control CEU Training \$150.00 48 HOUR RUSH ORDER PROCESSING FEE ADDITIONAL \$50.00 Rush service does not include overnight delivery or FedEx fees.

You will have 90 days from this date in order to complete this course
Print Name I have read and understood the disclaimer notice found on page 4. Signature is required.
That's road and analysissa the dissianner house roand on page 1. Oighatare is required.
Signature
Address:
City StateZip
Phone: Home () Work ()
Fax () Email
License or Operator ID #Exp. Date
Class/Grade Please circle/check which certification you are applying the course CEU's.
Commercial Applicator Residential Applicator Industrial Applicator
Pesticide Handler Agricultural Applicator Adviser Other
Your certificate will be e-mailed to you in about two weeks.
Technical Learning College TLC PO Box 3060, Chino Valley, AZ 86323 Toll Free (866) 557-1746 Fax (928) 272-0747 email info@tlch2o.com
If you've paid on the Internet.
Please write your 4-digit Internet Order number

DISCLAIMER NOTICE

I understand that it is my responsibility to ensure that this CEU course is either approved or accepted in my State for CEU credit. I understand State laws and rules change on a frequent basis and I believe this course is currently accepted in my State for CEU or contact hour credit, if it is not, I will not hold Technical Learning College responsible. I fully understand that this type of study program deals with dangerous, changing conditions and various laws and that I will not hold Technical Learning College, Technical Learning Consultants, Inc. (TLC) liable in any fashion for any errors, omissions, advice, suggestions or neglect contained in this CEU education training course or for any violation or injury, death, neglect, damage or loss of your license or certification caused in any fashion by this CEU education training or course material suggestion or error or my lack of submitting paperwork. It is my responsibility to call or contact TLC if I need help or assistance and double-check to ensure my registration page and assignment has been received and graded. It is my responsibility to ensure all information is correct and to abide with all rules and regulations.

You can obtain a printed version of the course manual from TLC for an additional \$69.95 plus shipping charges.

AFFIDAVIT OF EXAM COMPLETION

I affirm that I personally completed the entire text of the course. I also affirm that I completed the exam without assistance from any outside source. I understand that it is my responsibility to file or maintain my certificate of completion as required by the state or by the designation organization.

Grading Information

In order to maintain the integrity of our courses we do not distribute test scores, percentages or questions missed. Our exams are based upon pass/fail criteria with the benchmark for successful completion set at 70%. Once you pass the exam, your record will reflect a successful completion and a certificate will be issued to you.

For security purposes, please fax or e-mail a copy of your driver's license and always call us to confirm we've received your assignment and to confirm your identity.

Do not solely depend on TLC's Approval list for it may be outdated.

Some States and many employers require the final exam to be proctored. http://www.abctlc.com/downloads/PDF/PROCTORFORM.pdf

All downloads are electronically tracked and monitored for security purposes.

No refunds.

CUSTOMER SERVICE RESPONSE CARD

Mosquito Control Training Course

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	How	/ did y	ou he	ar abou	ıt this C	Course	?		
_	Wha	at wou	ıld you	do to i	mprove	e the C	ourse?		
H	How ab	out th	ne price	e of the	course	e?			
F	Poor		Fair _	Ave	erage _	G	ood	Gı	reat
H	How wa	as you	ur custo	omer s	ervice?				
F	Poor	_ Fair	-	Avera	ıge	_ Good	d	_ Gr	eat
A	Any oth	er co	ncerns	or con	nments				
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Important Information about this Course (Disclaimer Notice)

This CEU course has been prepared to educate pesticide applicators and operators in general safety awareness of dealing with the often-complex and various pesticide treatment sprays, devices, methods, and applications. This course (manual) will cover general laws, regulations, required procedures and accepted policies relating to the use of pesticides and herbicides. It should be noted, however, that the regulation of pesticides and hazardous materials is an ongoing process and subject to change over time. For this reason, a list of resources is provided to assist in obtaining the most up-to-date information on various subjects. This manual is a not a guidance document for applicators or operators who are involved with pesticides. It is not designed to meet the requirements of the United States Environmental Protection Agency or your local State environmental protection agency or health department. This course manual will provide general pesticide safety awareness and should not be used as a basis for pesticide treatment method/device guidance. This document is not a detailed pesticide informational manual or a source or remedy for poison control.

Technical Learning College or Technical Learning Consultants, Inc. makes no warranty, guarantee or representation as to the absolute correctness or appropriateness of the information in this manual and assumes no responsibility in connection with the implementation of this information. It cannot be assumed that this manual contains all measures and concepts required for specific conditions or circumstances. This document should be used for educational purposes only and is not considered a legal document. Pesticides are poisonous. Always read and carefully follow all precautions and safety recommendations given on the container label. Store all chemicals in the original labeled containers in a locked cabinet or shed, away from food or feeds, and out of the reach of children, unauthorized persons, pets, and livestock.

Confine chemicals to the property or plants being treated. Avoid drift onto neighboring properties, especially gardens containing fruits and/or vegetables ready to be picked. Dispose of empty containers carefully. Follow label instructions for disposal. Never reuse containers. Make sure empty containers are not accessible to children or animals. Never dispose of containers where they may contaminate water supplies or natural waterways. Do not pour down sink or toilet. Consult your county agricultural commissioner for correct ways of disposing of excess pesticides. You should never burn pesticide containers.

Individuals who are responsible for pesticide storage, mixing and application should obtain and comply with the most recent federal, state, and local regulations relevant to these sites and are urged to consult with the EPA and other appropriate federal, state and local agencies.

USE PESTICIDES WISELY: ALWAYS READ THE ENTIRE PESTICIDE LABEL CAREFULLY, FOLLOW ALL MIXING AND APPLICATION INSTRUCTIONS AND WEAR ALL RECOMMENDED PERSONAL PROTECTIVE GEAR AND CLOTHING. CONTACT YOUR STATE DEPARTMENT OF AGRICULTURE FOR ANY ADDITIONAL PESTICIDE USE REQUIREMENTS, RESTRICTIONS OR RECOMMENDATIONS.

NOTICE: MENTION OF PESTICIDE PRODUCTS IN THIS COURSE DOES NOT CONSTITUTE ENDORSEMENT OF ANY MATERIAL OR HERB OR HERBAL SUPPLEMENT. ALWAYS FOLLOW THE PRODUCT'S LABEL INSTRUCTIONS.

NOTICE

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Mosquito Control Answer Key

You are responsible to ensure that this course is accepted for credit by your State. Did you check with your State agency to ensure this course is accepted for credit?

Method of C	Course acceptance confirmation.	. Please fill this section
Website Teleph	one Call Email Spoke to	
Did you receive the	e approval number, if applicable	?
What is the course	approval number, if applicable?	?
	to ensure that TLC receives the As sure that we received it.	signment and Registration Key.
Circle or Mark off,	Pick only one answer per questio Underline or Bold the answer. P rsion 1 or 2 or 3 or 4 or 5 or 6	
Topic 1 – Mosquito	Introduction Section	
1. ABCDEF 2. ABCDEF 3. ABCDEF 4. ABCDEF 5. ABCDEF	6. ABCDEF 7. ABCDEF 8. ABCDEF 9. ABCDEF 10. ABCDEF	11. ABCDEF 12. ABCDEF 13. ABCDEF 14. ABCDEF 15. ABCDEF
Topic 2 – Mosquito	Identification Section	
1. ABCDEF 2. ABCDEF 3. ABCDEF 4. ABCDEF 5. ABCDEF	6. ABCDEF 7. ABCDEF 8. ABCDEF 9. ABCDEF 10. ABCDEF	11. ABCDEF 12. ABCDEF 13. ABCDEF 14. ABCDEF 15. ABCDEF
Topic 3– Mosquito	-Borne Diseases Section	
1. ABCDEF 2. ABCDEF 3. ABCDEF 4. ABCDEF	6. ABCDEF 7. ABCDEF 8. ABCDEF 9. ABCDEF	11. ABCDEF 12. ABCDEF 13. ABCDEF 14. ABCDEF

Topic 4– Mosquito Control Section

1. ABCDEF	6. ABCDEF	11. ABCDEF
2. ABCDEF	7. ABCDEF	12. ABCDEF
3. ABCDEF	8. ABCDEF	13. ABCDEF
4. ABCDEF	9. ABCDEF	14. ABCDEF
5. ABCDEF	10. A B C D E F	15. ABCDEF

Topic 5- Insects Commonly Mistaken for Mosquitoes

1. ABCDEF	6. ABCDEF	11. ABCDEF
2. ABCDEF	7. ABCDEF	12. ABCDEF
3. ABCDEF	8. ABCDEF	13. ABCDEF
4. ABCDEF	9. ABCDEF	14. ABCDEF
5. ABCDEF	10. A B C D E F	15. ABCDEF

You are finished with your assignment. Please fax this answer key and your registration page along with the customer survey to TLC.

If you are a California DPR or Nevada student, we will require a photocopy of your driver's license.

Fax Number (928) 272-0747 Back-Up Fax (928) 468-0675

Always call us after faxing the paperwork to <u>confirm</u> that we've received it. Allow two weeks for processing and for the proper DPR forms to be sent back to you. If you need this course graded and your certificate sooner, add a \$50.00 rush fee. This may not include postage charges. **Thank you for your business.**

I understand that I am 100 percent responsible to ensure that TLC receives the Assignment and Registration Key. I understand that TLC has a zero tolerance towards not following their rules, cheating or hostility towards staff or instructors. I need to complete the entire assignment for credit. There is no credit for partial assignment completion. I will contact TLC if I do not hear back from them within 2 days of assignment submission. I will forfeit my purchase costs and will not receive credit or a refund if I do not abide with TLC's rules.

I have read the disclaimer page 2 and 4 and agree to the terms. I have checked with my State and ensured that it is accepted for CEU credit,

Please sign and date

Name	Date	

INSTRUCTIONS

We will require all students to fax or e-mail a copy of their driver's license with the registration form.

You will need to pick one of the following five assignments to complete. This selection process is based upon your last name.

Assignment #1 for all pest applicators whose names start with the letter A- E pages 9-18.

Assignment #2 for all pest applicators whose last names start with F-K you will find your assignment on pages 19-28.

Assignment #3 for all pest applicators whose last name starts with the letter L-P, your assignment is found on pages 29-38.

Assignment #4 for all pest applicators whose last name starts with the letter Q-R, your assignment is found on pages 39-48.

Assignment #5 for all pest applicators whose last name starts with the letter S-Z, your assignment is found on pages 49-60.

Assignment #6 for repeat students, your assignment is found on pages 61-70.

Grading Information

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Rush Grading Service

If you need this assignment graded and the results mailed to you within a 48-hour period, prepare to pay an additional rush service handling fee of \$50.00. This fee may not cover postage costs. If you need this service, simply write RUSH on the top of your Registration Form. We will place you in the front of the grading and processing line.

Mosquito Control CEU Training Awareness Assignment #1 Last Names A to E

You will have 90 days from the start of this course to have successfully passed this assignment with a score of 70 %. You may e mail the answers to TLC, info@tlch2o.com or fax the answers to TLC, (928) 272-0747. This assignment is available to you in a Word Format on TLC's Website. You can find online assistance for this course on the in the Search function on Adobe Acrobat PDF to help find the answers. Once you have paid the course fee, you will be provided complete course support from Student Services (928) 468-0665.

Assignment #1 for all pest applicators whose names start with the letter A- E.

Assignment #2 for all pest applicators whose last names start with F-K.

Assignment #3 for all pest applicators whose last name starts with the letter L-P.

Assignment #4 for all pest applicators whose last name starts with the letter Q-R.

Assignment #5 for all pest applicators whose last name starts with the letter S-Z.

Assignment #6 for repeat students.

Topic 1 –	Mosquito	Introdu	ction	Section
Integrated	Pest Mana	gement	-Introd	duction

1.	IPM is a science-based a	nd	common-sense approach for, vectors, such
	mosquitoes.		
A.	Managing pests	D.	Resident education and pest monitoring
В.	Surveillance	E.	Lower levels of infestations
	Pest prevention		
2.	IPM relies heavily on resid	den	t education and
Α.	Pests and vectors	D.	Pest monitoring
В.	Surveillance	E.	Lower levels of infestations
C.	Pest prevention	F.	None of the Above
3.	is a c	ritic	al component to any successful IPM program because the
res	sults from the surveillance	will	help determine the appropriate response to an infestation.
A.	Pests and vectors	D.	Resident education and pest monitoring
			Lower levels of infestations
C.	Pest prevention	F.	None of the Above
4.	Once mosquitoes have la	and	ed, they rely onto determine if we are an
	ceptable blood meal host.		
Α.	Its life cycle	D.	Water quality
В.	Transient waters	E.	A number of short-range attractants
	A state of torpor		-

Mosquitoes that hibernat time in a		stage live for 6	6-8 months	, but spend	l most of	that
A. Its life cycle B. Transient waters	D. State of to	rpor				
B. Transient waters	E. Cocoon					
C. A state of sleep	F. None of the	e Above				
6. Aedes adults will oviposi requiring later flooding to seasonal change in the vege A. Begin its life cycle B. Transient waters C. Begin the reproduction	tation, water qu D. Inundate tl E. Look for a	As uality, and most one eggs for ha blood meal	with trans squito spec	ient waters	s, there	
7. The type of stands depends upor A. Eggs, larvae, and pupae	ng water in the species.		mosquito	chooses	to lay	her
B. Nest C. Raft	E. Eggs F. None of the					
8. Portions of marshes, swa prolific mosquito breeding si include tree holes and conta saucers and plastic covers of A. Eggs, larvae, and pupae B. Nest C. Raft	tes. Other site ainers such as rtarpaulins.	s in which so old tires, bud arva	me species	s lay their _		
9. The mosquito goes throug A. True B. False	gh three distinc	t stages durinç	g its life cyc	le.		
Wrigglers and Tumblers 10. After the female mosq surface of stagnant water, in may collect and flood the egg A. True B. False	n a depression					
11. The larva lives in the v called a pupa or "feeds.						
A. Adults	D. Wriggler					
B. Female mosquitoes	E. Larvae					
C. Tumbler	F. None of the	e Above				
12. Mosquitoes may overwir						
A. Fertilized adult females of	r larvae	D. Wriggler				
B. Female mosquitoes		E. Larvae	a Abarra			
C. Male mosquitoes		F. None of the	ne above			

13. Mosquitoes belonging to the genus Culex lay their in bunches or "rafts."
A. Eggs, larvae, and pupae D. Mosquito larva B. Tumblers E. Eggs C. Cocoon F. None of the Above
Weather 14. Mosquito development and population dynamics are closely tied to weather. When and how much rain is received, wind speed and direction, maximum and minimum temperatures, and the total amount of heat energy accumulated are all critical to mosquito development. A. True B. False
Water Source 15. The water (or lack thereof) in a habitat directly does not affects mosquito reproduction. Very few mosquitoes need standing water to complete their development. A. True B. False
Topic 2 – Mosquito Identification Section 1. Culiseta melanura is important because of its role in the transmission cycle of eastern equine encephalitis virus and potentially West Nile virus. A. SLE D. WNV (West Nile virus) B. WEE E. Western equine and Saint Louis encephalitis C. Malaria F. None of the Above
2. Culiseta melanura is a medium-sized mosquito that resembles Culex species because of its
A. Bluntly rounded abdominal tip B. Its distinctive scale patterns C. Distinct ring around the proboscis D. Brownish color with pale bands E. High organic content F. None of the Above
 Malaria was a serious plague in the United States for centuries until its final eradication in the 1950s. Despite the ostensible eradication, there are occasional cases of autochthonous (local) transmission in the U.S. vectored by An. quadrimaculatus in the east and Anopheles freeborni in the west. A. True B. False
4. Culex pipiens, the Northern House Mosquito has a distribution that roughly includes the of the United States.
A. Treeholes D. Effluent from sewage treatment plants B. Out-of-doors at night C. Southern parts D. Effluent from sewage treatment plants F. None of the Above
 5. Although they occur in, Culex pipiens reach their greatest numbers in urban and suburban areas and readily enter homes. A. Treeholes D. Effluent from sewage treatment plants B. Out-of-doors at night E. Rural environments C. Temporary ground water F. None of the Above

6. Culex pipiens can be found in a fairly limited range of larval habitats, but are generally associated with water that has a low organic content.A. True B. False
7. Catch basins and storm drains provide ideal habitat for Cx. pipiens. The species becomes particularly abundant in areas where raw sewage leaks into A. Treeholes D. Effluent from sewage treatment plants B. Subterranean drainage systems E. Readily enter homes C. Temporary ground water F. None of the Above
8. Culex pipiens' main host is wild donkeys, but it also feeds freely on a wide variety of warm-blooded vertebrates, including birds.A. True B. False
9. Culex pipiens is a serious pest, called the "house mosquito" because it commonly develops in small containers around the home. It shows great skill in finding ways to get into the house, where it feeds on It also occurs in containers and sumps on farms and industrial plants, in polluted waters, and will feed out-of-doors at night. A. Birds D. Effluent from sewage treatment plants B. Mammals E. The occupants at night C. Temporary ground water F. None of the Above
10. Culex tarsalis breeds in nearly every freshwater source except Larvae are found in all but the most polluted ground pools. A. Treeholes D. Effluent from sewage treatment plants B. Out-of-doors at night E. Running water C. Ground water F. None of the Above
11. Culex tarsalis is the most important carrier of in much of the western U.S. A. SLE D. WNV B. WEE E. Western equine and Saint Louis encephalitis C. Malaria F. None of the Above
12. As mosquitoes go, the Western Encephalitis Mosquito is one of the more easily recognizable, with its A. Bluntly rounded abdominal tip B. Distinctive scale patterns C. Distinct ring around the proboscis Encephalitis Mosquito is one of the more easily D. Brownish hair with pale bands E. High pitched scream F. None of the Above
13. Species in the genus Culex are known as "snowpool" mosquitoes.A. True B. False
14. Woodland Malaria mosquitoes have four life stages: egg, larva, pupa, and adult. The immature stages need standing water to complete their life cycle.A. True B. False

Effective Mosquito-Control Program

15. Initial surveys identify the species of mosquitoes present and provide general information on locations, densities and disease potential. With this knowledge it may be possible to determine life cycles and feeding preferences; predict larval habitats, adult resting places and flight ranges; and perhaps even make preliminary recommendations for control programs.

A. True B. False

 Zika disease is sprea aegypti and Ae. albopict 	norne Diseases Section and mostly by the bite of an infected Aedes species mosquito (Ae. aus). These mosquitoes bite anosts D. During the day and night E. in the Tropical areas of the world F. None of the Above
Its symptoms are sever pains. It usually occurs i A. A birth defect B. Dangerous parasitic	, and serious disease carried by mosquitoes. e headache, fever, vomiting, disorientation, chills, muscle aches and n warm wet weather. D. An untreatable, sometimes deadly E. Fever and joint pain F. None of the Above
subtropical areas. It is tr	is a dangerous parasitic disease common in tropical and ansmitted by the female Anopheles mosquito. Usual cycle of transmission Malaria None of the Above
most common symptom	is spread to people by the bite of an infected mosquito. The s of infection are fever and joint pain. Usual cycle of transmission Chikungunya virus None of the Above
there would be insufficie	
	ve in a dog's liver, but young forms of the worm are found in their transmit the infection when they feed on the blood of an infected dog.

a human health problem. A closely related parasite, however, produces human elephantiasis in some tropical areas of the world, a debilitating mosquito-borne affliction that results in grossly swollen arms, legs, and genitals.

7. The dog heartworm parasite does not develop properly in humans and is not regarded as

grossly swollen arms, legs, and genitals.

A. True

B. False

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8 is a Bunyavirus and is a zoonotic pathogen cycled between the
daytime-biting treehole mosquito, Aedes triseriatus, and vertebrate amplifier hosts
(chipmunks, tree squirrels) in deciduous forest habitats.
A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever
C. Dog heartworm F. None of the Above
5. Dog heartworm 1. None of the Above
9is maintained over the winter by transovarial transmission in
mosquito eggs. If the female mosquito is infected, she may lay eggs that carry the virus, and
the adults coming from those eggs may be able to transmit the virus to chipmunks and to
humans.
A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever
B. EEE virus E. Beaver fever
C. Dog heartworm F. None of the Above
10is also caused by a virus transmitted to humans and equines by the
bite of an infected mosquito.
A. LAC virus D. Brokebone fever
B. Fastern equine encephalitis (FFF) F. Beaver fever
C. Dog heartworm F. None of the Above
5. Dog heartworm
11 is an alphavirus that was first identified in the 1930's and
ourrently accurate to feed leastions clear the acctors acchoosed the Cult Coast and come
currently occurs in focal locations along the eastern seaboard, the Gulf Coast and some
inland Midwestern locations of the United States.
A. LAC virus D. Brokebone fever
B. EEE virus E. Beaver fever
C. Dog heartworm F. None of the Above
12 occurs in natural cycles involving birds and Culiseta melanura, in
some swampy areas nearly every year during the warm months.
A. LAC virus D. Brokebone fever
A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever
C. Dog heartworm F. None of the Above
5. Dog heartworm 1. None of the Above
12 Whore
13. Where resides or how it survives in the winter is unknown. It
may be introduced by migratory birds in the spring or it may remain dormant in some yet
undiscovered part of its life cycle.
A. LAC virus D. Brokebone fever
B. EEE virus E. Beaver fever
C. Dog heartworm F. None of the Above
14. In this usual cycle of transmission, virus does not escape from these areas because the
mosquito involved prefers to feed upon birds and does not usually bite humans or other
mammals.
A. True B. False

- 15. Other mosquito species such as Ae. vexans and Culex nigripalpus can also transmit EEE virus. When health officials maintain surveillance for EEE virus activity, this movement out of the swamp can be detected, and if the level of activity is sufficiently high, can recommend and undertake measures to reduce the risk to humans.
- A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever C. Dog heartworm F. None of the Above

Topic 4– Mosquito Control Section

- 1. include the bacterial insecticides Bacillus thuringiensis israelensis and Bacillus sphaericus, the insect growth inhibitor methoprene, and the organophosphate insecticide temephos.
- A. Altosid XR BriquettesB. OxygenD. Tablet, pellet, granular, and briquette formulationsE. Insect growth inhibitor methoprene
- F. None of the Above C. Larvicides
- 2. _____ are applied directly to water using backpack sprayers and truck or aircraft-mounted sprayers.
- A. Altosid XR Briquettes D. Tablet, pellet, granular, and briquette formulations
- E. Insect growth inhibitor methoprene B. Oxygen
- C. Liquid larvicide products F. None of the Above
- _____ of larvicides are also applied by mosquito controllers to breeding areas.
- A. Altosid XR Briquettes D. Tablet, pellet, granular, and briquette formulations
- E. Insect growth inhibitor methoprene B. Oxygen
- C. Liquid larvicide products F. None of the Above
- 4. Oils have always been used as a product of last resort for the control of mosquito pupae, since this stage does not feed but does require _____
- A. Altosid XR Briquettes D. Tablet, pellet, granular, and briquette formulations
- B. Oxygen E. Insect growth inhibitor methoprene
- C. Liquid larvicide products F. None of the Above
- _____is another safe material for control of mosquito larvae. It is an insect hormone that retards the development of larvae (disrupts molting) and prevents mosquitoes from developing into adults.
- A. Altosid XR Briquettes
 B. Methoprene (Altosid XR)
 C. Liquid larvicide products
 D. Tablet, pellet, granular, and briquette formulations
 E. Insect growth inhibitor methoprene
 F. None of the Above

Microbial Insecticides

- 6. When the bacteria Bti encysts, it produces a protein crystal toxic to mosquito and midge larvae. Once the bacteria have been ingested, the toxin disrupts the lining of the larvae's intestine. It has no effect on a vast array of other aquatic organisms except midges in the same habitat.
- B. False A. True

7	mimics a natural juvenile hormone, and when present in the
larval habitat, it keeps immatu	are insects from maturing into adults. Unable to metamorphose,
the mosquitoes die in the pup	•
A. Altosid XR Briquettes	D. Bti strains
	E. Bti (Bacillus thuringiensis israelensis)
C. Liquid larvicide products	F. None of the Above
8. The	kills the mosquitoes without upsetting the septic system's
bacterial digestive processes.	
B. Methoprene	D. Tablet, pellet, granular, and briquette formulationsE. Bti (Bacillus thuringiensis israelensis)
C. Liquid larvicide products	F. None of the Above
O Magguita adulticidas are	applied as ultra high valume (LIHV) aprove LIHV aprovers
	e applied as ultra-high volume (UHV) sprays. UHV sprayers droplets that stay aloft and kill flying mosquitoes on contact.
A. True B. False	diopicts that stay alort and kill hying mosquitoes on contact.
7.1. 1.de	
10. Space sprays or aerosol	"bombs," containing, are effective against adult
mosquitoes. Frequent treatme	ents may be needed during problem periods.
A. Malathion and Naled	D. An organophosphate parasympathomimeticE. Organophosphate insecticide
B. Synergized pyrethrins 0.19	E. Organophosphate insecticide
C. Malathion	F. None of the Above
11.	, typically applied as high volume (low concentration)
	equipment using compounds with residual characteristics, are
common in some U.S. location	
	rganophosphate (OP) insecticide
B. An adulticide E. Barri	
C. Naled F. Non	e of the Above
12.	is an insecticide of relatively low human toxicity; however
recent studies have shown the	_ is an insecticide of relatively low human toxicity; however at children with higher levels of malathion in their urine seem to
	ntion deficit hyperactivity disorder.
	rganophosphate (OP) insecticide
B. An adulticide E. Mala	
C. Naled F. Non	e of the Above
. •	gh four distinct stages during its life cycle: egg, larva, pupa, and
A. True B. False	de, used to kill adult mosquitoes.
A. Tue B. False	
14. Naled is an	that has been registered since 1959 for use in the
	arily for controlling adult mosquitoes, but Naled is also used on
food and feed crops, and in gi	
A. Chemical	D. An organophosphate parasympathomimetic
B. Synergized pyrethrins 0.19	
C. Treatment	F. None of the Above

15. Naled is applied as an ultra-low volume (ULV) spray. ULV sprayers dispense very fine aerosol droplets that stay aloft and kill mosquitoes on contact. ULV applications involve small quantities of pesticide active ingredient in relation to the size of the area treated. A. True B. False **Topic 5- Insects Commonly Mistaken for Mosquitoes** 1. _____ do not bite, and contrary to popular belief, they do not eat mosquitoes. Some species of crane flies emerge from aquatic sources and others from terrestrial or decaying vegetation sources. A. Cat flea D. Mosquitoes
B. Crane flies E. Dance Flies C. Fleas F. None of the Above 2. When humans come in contact with _____infested vegetation, the larvae swarm over the entire body and it might be several hours before they settle down to feed. A. Crane flies D. Mosquitoes B. Redbugs E. Chiggers
C. Dixid Midge larvae F. None of the Above _____ are common around moist areas where vegetation is abundant and may be seen swarming at dusk along the edges of streams and lakes. The adults are short lived, usually being active less than a week. A. Crane flies

B. Redbugs

C. Dixid Midges

D. Mosquitoes

E. Dance Flies

F. None of the Above _____are found in slow moving water, at the surface, and swim in a characteristic "U" shape. These midges lack a proboscis and scales on the wings. A. Mosquitoes D. Crane flies E. Dance Flies B. Redbugs C. Dixid Midge larvae F. None of the Above _____ do not fly, but have strong hind legs which they use to jump from host to host. Dogs and cats are at risk of getting these creatures. A. Cat flea D. Mosquitoes E. Dance FliesF. None of the Above B. Redbuas C. Fleas In the U.S., the most common flea species carried by both cats and dogs is the___ A. Dog flea D. Cat flea, Ctenocephalides felis B. Red flea E. Dance flea C. Fleas F. None of the Above 7. Dance fleas are small (about ¼ inch long), black flies commonly found around decaying vegetation. They have large wings and long antennae, but they are weak flyers and do not move far from the breeding site. A. True B. False

at porch lights and on the	t even closely resembling mosquitoes, their season walls of buildings near their	
attracts the attention of some	e concerned residents.	
A. Land breeding site	D. Aquatic breeding sources E. Lights F. None of the Above	
B. Aquatic habitats	E. Lights	
C. Host sources	F. None of the Above	
9	_ (Psychodidae) are small hairy flies that can mo	ve about very
nimbly, but are weak fliers.		
A. Crane flies	D. MosquitoesE. Phlebotomine sand fliesF. None of the Above	
B. Winter Crane Flies	E. Phlebotomine sand flies	
C. Owl Midges	F. None of the Above	
10	are of considerable public health import	ance because
of their ability to transmit sev	veral viral, bacterial, and protozoal disease-causing	organisms of
humans and other animals.		
	D. Mosquitoes	
B. Winter Crane Flies	E. Phlebotomine sand flies	
C. Owl Midges	F. None of the Above	
11. The	males and females feed on nectar ar	nd other plant
juices, but females require a	blood meal in order to mature a second batch of eg	ggs.
A. Crane fliesB. Winter Crane FliesC. Owl Midges	D. Mosquitoes	
B. Winter Crane Flies	E. Phlebotomine sand flies	
C. Owl Midges	F. None of the Above	
12	_ (Trichoceridae) are often quite abundant durir	ng winter and
spring. They so closely reser	mble mosquitoes that they are frequently mistaken	
A. Crane flies	D. Mosquitoes	
B. Winter Crane Flies	D. MosquitoesE. Phlebotomine sand fliesF. None of the Above	
C. Owl Midges	F. None of the Above	
13.	do not bite humans, and they don't carry	y disease. But
these species still can be an	noying to homeowners.	
A. Crane flies	D. Mosquitoes	
B. Winter Crane Flies	E. Wood Gnats	
C. Owl Midges	F. None of the Above	
14((Anisopodidae) are some of the better known gnat	s, for they are
	found near windows, especially in spring time.	
A. Crane flies	D. Mosquitoes	
B. Winter Crane Flies	E. Wood Gnats	
	F. None of the Above	
15.	adults are found on foliage in or near damp place	es, some are
found around flowing sap. T	hey are sometimes seen in small swarms. Adults	
variations: grayish black or re		
A. Crane flies	D. Mosquitoes	
B. Winter Crane Flies C. Owl Midges	E. Wood Gnats	
C. Owi Miages	F. None of the Above	

Mosquito Control CEU Training Awareness Assignment #2 Last Names - F to K

You will have 90 days from the start of this course to have successfully passed this assignment with a score of 70 %. You may e mail the answers to TLC, info@tlch2o.com or fax the answers to TLC, (928) 272-0747. This assignment is available to you in a Word Format on TLC's Website. You can find online assistance for this course on the in the Search function on Adobe Acrobat PDF to help find the answers. Once you have paid the course fee, you will be provided complete course support from Student Services (928) 468-0665.

Tonic 1 - Mosquito Introduction Section

In	tegrated Pest Manageme	nt -Introduction
1.		of ways to control mosquito populations with decisions based on as keeping track or count of the numbers and types of
m	osquitoes in an area	
Α.	Lower levels of infestation	ns D. Resident education and pest monitoring
В.	Surveillance	E. Pests and vectors
C.	Pest prevention	D. Resident education and pest monitoring E. Pests and vectors F. None of the Above
2.	is a d	critical component to any successful IPM program because the
re	sults from the surveillance	will help determine the appropriate response to an infestation.
Α.	Pests and vectors	D. Resident education and pest monitoringE. Lower levels of infestationsF. None of the Above
В.	Surveillance	E. Lower levels of infestations
C.	Pest prevention	F. None of the Above
		anded, they rely onto determine if we are an
	ceptable blood meal host.	
Α.	Its life cycle	D. Water qualityE. A number of short-range attractantsF. None of the Above
В.	I ransient waters	E. A number of short-range attractants
C.	A state of torpor	F. None of the Above
4	Canines are quite su	sceptible to, a nematode that can be
	ansmitted by certain mosqu	
	SLE	
	Canine heartworm	E. Western equine and Saint Louis encephalitis
C.	Malaria	F. None of the Above
M	osquito Life Cycle Sectio	n
5.	The type of stand	ng water in which the mosquito chooses to lay her
	depends upor	
	Eggs, larvae, and pupae Nest	•
	Nest Raft	F. None of the Above
С.	ixait	1. Notice of the Above
		ial predators such as fish and dragonfly nymphs in permanent
ро	onds, lakes, and stream	s usually keep these bodies of water relatively free of
Α.	Eggs, larvae, and pupae	
	Nest	E. Eggs
C.	Nest Raft	F. None of the Above
		15/2019 TLC www.abctlc.com (866) 557-1746

Wrigglers and Tumblers 7. The mosquitoes in the United States, all of which live in specific habitats, exhibit unique behaviors and bite different types of animals. Despite these differences, all mosquitoes share some common traits, such as
some common traits, such as A. The type of standing water B. A two-year life span C. A four-stage life cycle D. Short flight distance E. Prolific mosquito breeding sites F. None of the Above
8. After the female mosquito obtains a blood meal, she lays her eggs directly on the surface of stagnant water, in a depression, or on the edge of a container where rainwater may collect and flood the eggs.A. True B. False
9. The larva lives in the water, feeds, and develops into the third stage of the life cycle called a pupa or "". The pupa also lives in the water, but no longer feeds. A. Adults D. Wriggler B. Female mosquitoes E. Larvae C. Tumbler F. None of the Above
10. Finally, the mosquito emerges from the pupal case and the water as a, ready to bite. A. Eggs, larvae, and pupae D. Mosquito larva B. Male mosquitoes E. Fully developed adult female C. Raft F. None of the Above
11. Eggs, larvae, and pupae must have a mother to develop.A. True B. False
12. Each raft may contain up to 1000 individual eggs.A. True B. False
13. Single On Water: Anopheles and Toxorhynchites lay their eggs one at a time on
A. Underground D. Standing water B. The water surface C. Above the waterline D. Standing water E. The leaves of certain floating aquatic plants. F. None of the Above
14. Single in Soil: most Aedes and Psorophora lay their eggs one at a time on a moist substrate, such as
A. Population dynamics D. On the water surface B. Decomposing leaf litter E. Mud and decomposing leaf litter C. Extremely polluted water F. None of the Above
Weather 15. Mosquito development and population dynamics are closely tied to weather. When and

15. Mosquito development and population dynamics are closely tied to weather. When and how much rain is received, wind speed and direction, maximum and minimum temperatures, and the total amount of heat energy accumulated are all critical to mosquito development.

A. True B. False

Topic 2 – Mosquito Identification Section	
 The of most mosquito species have a siphon (breathin tube) for acquiring air from just above the surface of water while submerged. 	ıg
A. Adults D. Either adults or eggs	
A. Adults D. Either adults or eggs B. Pupas E. Larvae C. Eggs F. None of the Above	
C. Eggs F. None of the Above	
 Other identifying characteristics of Culiseta melanura larvae are a row of 8-14 seta running horizontally down the siphon and a double row of brown scales located on the sixt section of the abdomen. True B. False 	
Anopheles quadrimaculatus is historically the most important vector of in the eastern United States. A. SLE D. WNV B. WEE E. Western equips and Scient Levis encounts little. B. WEE E. Western equips and Scient Levis encounts little.	of
A. SLE D. WNV	
B. WEEE. Western equine and Saint Louis encephalitisC. MalariaF. None of the Above	
C. Malaria F. Norie di trie Above	
4. Malaria was a serious plague in the United States for centuries until its final eradication is the 1950s. Despite the ostensible eradication, there are occasional cases of autochthonou (local) transmission in the U.S. vectored by An. quadrimaculatus in the east and Anophele freeborni in the west. A. True B. False	ıs
5. Culex pipiens, the Northern House Mosquito has a distribution that roughly includes theof the United States.	
A. Treeholes D. Effluent from sewage treatment plants	
B. Out-of-doors at night E. Northern half	
C. Southern parts F. None of the Above	
6. Although they occur in, Culex pipiens reach their greates numbers in urban and suburban areas and readily enter homes. A. Treeholes D. Effluent from sewage treatment plants B. Out-of-doors at night E. Rural environments C. Temporary ground water F. None of the Above	st
7. The species utilizes temporary ground water that ranges from mildly to grossly polluted. The species also deposits its eggs in artificial containers, including tin cans, tires, and ar refuse that allows stagnant water to puddle. The species is decidedly urban and reache greatest numbers in large urban centers. A. True B. False	ηy
8. Meat packing plants and slaughter house drainage ponds support high populations of th species. Culex pipiens can always be collected in the A. Treeholes D. Effluent from sewage treatment plants B. Subterranean drainage systems E. Readily enter homes C. Temporary ground water F. None of the Above	is

 In northern California, it currently plays only a lesser role as a carrier of human disease, while in southern California and the Gulf Coast region, it is a major carrier of Saint Louis encephalitis. It is also the best known carrier of
10. Culex tarsalis breeds in nearly every freshwater source except Larvae are found in all but the most polluted ground pools. A. Treeholes D. Effluent from sewage treatment plants B. Out-of-doors at night E. Running water C. Ground water F. None of the Above
11. Mosquitoes of the Culex tarsalis species have a A. Bluntly rounded abdominal tip D. Brownish strip with pale bands B. Distinctive scale patterns E. High pitched noise C. Distinct ring around the proboscis F. None of the Above
12. As mosquitoes go, the Western Encephalitis Mosquito is one of the more easily recognizable, with its A. Bluntly rounded abdominal tip B. Distinctive scale patterns C. Distinct ring around the proboscis Encephalitis Mosquito is one of the more easily D. Brownish hair with pale bands E. High pitched scream F. None of the Above
13. Species in the genus Culex are known as "standing-water" mosquitoes.A. True B. False
Effective Mosquito-Control Program 14. Surveys are essential for the planning, operation and evaluation of an effective mosquito-control program, whether for the prevention of mosquito-borne diseases or to reduce mosquito populations to levels permitting normal activities without undue discomfort. A. True B. False
15. Initial surveys identify the species of mosquitoes present and provide general information on locations, densities and disease potential. With this knowledge it may be possible to determine life cycles and feeding preferences; predict larval habitats, adult resting places and flight ranges; and perhaps even make preliminary recommendations for control programs. A. True B. False

Topic 3– Mosquito-Borne Diseases Section 1. Zika disease can be passed from a pregnant woman to her fetus. Infection during pregnancy can cause certain birth defects. A. True B. False		
2. Encephalitis is, and serious disease carried by mosquitoes Its symptoms are severe headache, fever, vomiting, disorientation, chills, muscle aches and pains. It usually occurs in warm wet weather. A. A birth defect D. An untreatable, sometimes deadly B. Dangerous parasitic E. Fever and joint pain C. An infection F. None of the Above		
3 is caused by viruses that are carried by mosquitoes Symptoms appear three to six days after the person is bit by a mosquito. Dengue fever is mostly found in the tropics. A. LAC virus D. Usual cycle of transmission B. EEE virus E. Dengue fever C. Dog heartworm F. None of the Above		
4 usually doesn't cause death, but the symptoms can be severe and debilitating. A. LAC virus D. Usual cycle of transmission B. EEE virus E. Chikungunya C. Dog heartworm F. None of the Above		
Canine Heartworm 5. Adult heartworms live in a dog's heart, but young forms of the worm are found in their blood. Mosquitoes transmit the infection when they feed on the blood of an infected dog. A. True B. False		
6. The dog heartworm parasite does not develop properly in humans and is not regarded as a human health problemA. True B. False		
7 is a Bunyavirus and is a zoonotic pathogen cycled between the daytime-biting treehole mosquito, Aedes triseriatus, and vertebrate amplifier host (chipmunks, tree squirrels) in deciduous forest habitats. A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever C. Dog heartworm F. None of the Above		
8is maintained over the winter by transovarial transmission in mosquito eggs. If the female mosquito is infected, she may lay eggs that carry the virus, and the adults coming from those eggs may be able to transmit the virus to chipmunks and to humans. A. LAC virus D. Brokebone fever		
B. EEE virusC. Dog heartwormE. Beaver feverF. None of the Above		

9is also caused by a	a virus transmitted to humans and equines by the
bite of an infected mosquito.	
A. LAC virus	D. Brokebone fever
B. Eastern equine encephalitis (EEE)	
C. Dog heartworm	F. None of the Above
10 is an alp currently occurs in focal locations along the inland Midwestern locations of the United State A. LAC virus	
11 occurs in natura some swampy areas nearly every year during A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever C. Dog heartworm F. None of the Above	
	ides or how it survives in the winter is unknown. It he spring or it may remain dormant in some yet
	is does not escape from these areas because the irds and does not usually bite humans or other
areas in birds or bridge vectors such as	e virus may escape from enzootic foci in swamp Coquilletidia perturbans and Aedes sollicitans. ammals and can transmit the virus to humans,
EEE virus. When health officials maintain s	

Topic 4– Mosquito Contr	
	include the bacterial insecticides Bacillus thuringiensis phaericus, the insect growth inhibitor methoprene, and the
organophosphate insecticide	
	D. Tablet, pellet, granular, and briquette formulations
B. Oxygen	F. Insect growth inhibitor methoprene
C. Larvicides	E. Insect growth inhibitor methopreneF. None of the Above
C. Larviciaco	T. None of the Above
	_ of larvicides are also applied by mosquito controllers to
breeding areas.	D. Tablet mallet averages and being other ferroundations
A. Altosid XR Briquettes	D. Tablet, pellet, granular, and briquette formulationsE. Insect growth inhibitor methoprene
C. Liquid larvicide products	
C. Liquid lai vicide products	F. Notie of the Above
	can be applied by hand and the product is labeled for use in
known fish habitats.	B T 11 / 11 / 12 / 13 / 13
A. Altosid XR Briquettes	D. Tablet, pellet, granular, and briquette formulations
	E. Insect growth inhibitor methoprene
C. Liquid larvicide products	F. None of the Above
Microbial Insecticides	
	s an insect growth regulator widely used by abatement districts
to control mosquito larvae.	
A. Altosid XR Briquettes	D. Methoprene (sold under the name Altosid)
B. Oxygen	E. Bti (Bacillus thuringiensis israelensis)
C. Liquid larvicide products	F. None of the Above
5.	mimics a natural juvenile hormone, and when present in the
larval habitat, it keeps immat	ure insects from maturing into adults. Unable to metamorphose,
the mosquitoes die in the pur	
A. Altosid XR Briquettes	D. Bti strainsE. Bti (Bacillus thuringiensis israelensis)
B. Metnoprene	E. Bti (Bacillus thuringiensis israelensis)
C. Liquid larvicide products	F. None of the Above
6. Pellets can be flushed do	own toilets into underground septic tanks known to be breeding
house mosquitoes. The	kills the mosquitoes without upsetting the septic
system's bacterial digestive p	processes.
	D. Tablet, pellet, granular, and briquette formulations
B. Methoprene	
C. Liquid larvicide products	F. None of the Above
7	tunically applied as high values allow as a settentiary liquids
	, typically applied as high volume (low concentration) liquids
in some U.S. locations and the	ent using compounds with residual characteristics, are common
	reir use is growing. Organophosphate (OP) insecticide
B. An adulticide E. Bari	
	ne of the Above

8 is	an organophosphate	parasympathomimetic	which binds
irreversibly to cholinesterase.			
A. Malathion and Naled		sphate parasympathomi	metic
B. Synergized pyrethrins 0.1%			
C. Malathion	F. None of the Ab	oove	
9 is a	an insecticide of relative	ely low human toxicity: h	owever recent
studies have shown that childre	en with higher levels of	malathion in their urine	seem to be at
an increased risk of attention de			
A. ULV applications D. An orga	anophosphate (OP) ins		
B. An adulticide E. Malath	ion		
C. Naled F. None of	of the Above		
10. is a	nocticido that is wi	doly used in agricultu	ro rocidontial
10 is a landscaping, public recreation	areas and in nublic h	nealth nest control prod	re, resideriliai Irams such as
mosquito eradication. In the US,			
A. Malathion and Naled	D. An organopho	sphate parasympathomi	
B. Synergized pyrethrins 0.1%C. Malathion	E. Organophosph	nate insecticide	
C. Malathion	F. None of the Ab	oove	
4.4. The man and the man at the man and	. farm d'aller at atama andre	ala a 16 - 196 - a cala cara da la	
11. The mosquito goes through			rva, pupa, and
adult. Malathion is an adulticide, A. True B. False	, used to kill addit most	fulloes.	
7. True B. Taise			
12	is applied as an ultra-l	ow volume (ULV) spray.	ULV sprayers
dispense very fine aerosol dropl	lets that stay aloft and k	kill mosquitoes on contac	ct.
 A. Malathion and Naled 	D. An organopho	sphate parasympathomi	metic
B. Synergized pyrethrins 0.1%	E. Organophosph	nate insecticide	
C. Malathion	F. None of the At	oove	
13. ULV applications involve si	mall quantities of pestic	cide active ingredient in	relation to the
size of the area treated.	man quantitioo or pooti	oldo dollvo iligiodiolik ili	rolation to the
A. True B. False			
11 Noted in an	that has been	registered since 1050	for was in the
14. Naled is an	that has been	registered since 1959	ioi use in the
United States. It is used primari	ily for controlling adult i	mosquitoes, but Naled is	s also used on
United States. It is used primari food and feed crops, and in gree	ily for controlling adult i enhouses.	mosquitoes, but Naled is	s also used on
United States. It is used primari food and feed crops, and in gree A Chemical	ily for controlling adult i enhouses. D. An organopho	mosquitoes, but Naled is	s also used on
United States. It is used primari food and feed crops, and in gree A. Chemical B. Synergized pyrethrins 0.1%	ily for controlling adult i enhouses. D. An organopho E. Organophosph	mosquitoes, but Naled is sphate parasympathominate insecticide	s also used on
United States. It is used primari food and feed crops, and in gree A Chemical	ily for controlling adult i enhouses. D. An organopho	mosquitoes, but Naled is sphate parasympathominate insecticide	s also used on
United States. It is used primari food and feed crops, and in gree A. Chemical B. Synergized pyrethrins 0.1% C. Treatment	ily for controlling adult in enhouses. D. An organopho E. Organophosph F. None of the Ab	mosquitoes, but Naled is sphate parasympathominate insecticide pove	s also used on
United States. It is used primari food and feed crops, and in gree A. Chemical B. Synergized pyrethrins 0.1%	ily for controlling adult in enhouses. D. An organopho E. Organophosph F. None of the Ab used to kill adult mos	mosquitoes, but Naled is sphate parasympathominate insecticide pove	s also used on metic ntrol programs
United States. It is used primari food and feed crops, and in gree A. Chemical B. Synergized pyrethrins 0.1% C. Treatment 15. Naled is conducted by state or local auth sprayers.	ily for controlling adult in enhouses. D. An organopho E. Organophosph F. None of the Abundarities, Naled is applied	mosquitoes, but Naled is sphate parasympathomic nate insecticide pove squitoes. In mosquito cold by truck-mounted or ail	s also used on metic ntrol programs
United States. It is used primari food and feed crops, and in gree A. Chemical B. Synergized pyrethrins 0.1% C. Treatment 15. Naled is conducted by state or local auth sprayers. A. ULV applications D. An org.	ily for controlling adult in enhouses. D. An organopho E. Organophosph F. None of the Abundarities, Naled is applied anophosphate (OP) instantial enhouses.	mosquitoes, but Naled is sphate parasympathomic nate insecticide pove squitoes. In mosquito cold by truck-mounted or ail	s also used on metic ntrol programs
United States. It is used primari food and feed crops, and in gree A. Chemical B. Synergized pyrethrins 0.1% C. Treatment 15. Naled is conducted by state or local auth sprayers. A. ULV applications D. An org. B. An adulticide E. Malath	ily for controlling adult in enhouses. D. An organopho E. Organophosph F. None of the Abundarities, Naled is applied anophosphate (OP) instantial enhouses.	mosquitoes, but Naled is sphate parasympathomic nate insecticide pove squitoes. In mosquito cold by truck-mounted or ail	s also used on metic ntrol programs

	nly Mistaken for Mosquitoes
1.	are long, gangly insects that commonly resemble
Mosquitoes with their siender	r, jointed legs and elongated thorax.
A. MosquitoesB. RedbugsC. Dixid Midge larvae	D. Crane flies
C. Divid Midge Januar	E. Nano of the Above
C. Dixid ivilage larvae	F. None of the Above
2. When humans come in	contact withinfested vegetation, the
larvae swarm over the entire	e body and it might be several hours before they settle down to
feed.	
A. Crane fliesB. Redbugs	D. Mosquitoes
B. Redbugs	E. Chiggers
C. Dixid Midge larvae	F. None of the Above
3. Dance Flies appear like	by the way they swarm in sunlit areas in
backyards and other shelter	red situations. The vertical movement of the swarming adults
gives them their common nar	ne of Dance Flies.
A. Mosquitoes	D. Crane flies
B. Redbugs	E. Honey bees
A. MosquitoesB. RedbugsC. Dixid Midge larvae	F. None of the Above
4. The	are found in slow moving water, at the surface, and swim
in a characteristic "U" shape.	These midges lack a proboscis and scales on the wings.
A. Mosquitoes	D. Crane flies
B. Redbugs	E. Dance Flies
A. MosquitoesB. RedbugsC. Dixid Midge larvae	F. None of the Above
5. In the U.S., the mos	t common flea species carried by both cats and dogs is
the A. Dog flea D. Car	t flea, Ctenocephalides felis
B. Red flea E. Dai	nce flea
C. Fleas F. Nor	ne of the Above
6. Compared with other fle	a species, the has a very wide host range.
Wild animals carrying cat flea	as include raccoons, opossum, skunks and foxes.
A. Dog flea D. Cat	t flea
B. Red flea E. Dar	
	ne of the Above
7. Mayflies (Ephemeroptera	a) are small (about ¼ inch long), black flies commonly found
	They have large wings and long antennae, but they are weak
flyers and do not move far fro	
A. True B. False	and an examing once
8. Adult mayflies though not	even closely resembling mosquitoes, their seasonal occurrence
	walls of buildings near theirinvariably
attracts the attention of some	
	D. Aquatic breeding sources
B. Aquatic habitats	
C. Host sources	F. None of the Above

	develop in where they form an important part of
	mong the shortest lived in the insect world.
B. Sewage	D. Winter and springE. Public health importance
C. All types of aquatic habit	ats F. None of the Above
o. This types of aquatic flabil	ato 1. None of the Above
10	(Psychodidae) are small hairy flies that can move about very
nimbly, but are weak fliers.	
A. Crane flies	D. Mosquitoes E. Phlebotomine sand flies
B. Winter Crane Flies	E. Phlebotomine sand flies
C. Owl Midges	F. None of the Above
11. The	males and females feed on nectar and other plant
juices, but females require	a blood meal in order to mature a second batch of eggs. The
	hite-tailed deer, horses, donkeys, mules, cattle, swine, raccoons,
Δ Crane flies	D. Mosquitoes
R Winter Crane Flies	D. MosquitoesE. Phlebotomine sand flies
C. Owl Midges	F None of the Above
12	_ (Trichoceridae) are often quite abundant during winter and
spring. They so closely rese	mble mosquitoes that they are frequently mistaken for them.
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	D. MosquitoesE. Phlebotomine sand fliesF. None of the Above
C. Owl Midges	F. None of the Above
13	_ larvae are found in roots, fungi, decaying vegetation, rotting
	regetative material. The adults are readily attracted to lights.
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	E. Phlebotomine sand flies
C. Owl Midges	F. None of the Above
14.	do not bite humans, and they don't carry disease. But
these species still can be ar	noying to homeowners.
A. Crane flies	D. Mosquitoes
A. Crane fliesB. Winter Crane Flies	E. Wood Gnats
C. Owl Midges	F. None of the Above
15.	adults are found on foliage in or near damp places, some are
	They are sometimes seen in small swarms. Adults appear in two
variations: grayish black or i	
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	•
C. Owl Midges	

Mosquito Control CEU Training Awareness Assignment #3 Last Names L to P

You will have 90 days from the start of this course to have successfully passed this assignment with a score of 70 %. You may e mail the answers to TLC, info@tlch2o.com or fax the answers to TLC, (928) 272-0747. This assignment is available to you in a Word Format on TLC's Website. You can find online assistance for this course on the in the Search function on Adobe Acrobat PDF to help find the answers. Once you have paid the course fee, you will be provided complete course support from Student Services (928) 468-0665.

	Finally, the mosqu read				the	pupal	case	and	the	water	as
В.	Eggs, larvae, and pupae Male mosquitoes Raft	Ε.	Fully develo	oped a	dult f	female					
A. B.	Some female mosquitoes Eggs, larvae, and pupae Male mosquitoes Raft	D. E.	Mosquito la	ırva		dire	ctly on	the wa	ater su	urface.	
	Each raft may contain up True B. False	to 4	·00 individua	ıl eggs							
А. В.	Adults Female mosquitoes Male mosquitoes	D. E.	Wriggler Larvae			wo days	after a	dult er	nerge	nce.	
mc A. 12. the	. Some mosquitoes have ore. True B. Fa . Adults may fly 1 to 2 mile water breeding area.	lse les,									
Mc	True B. Fa psquito Egg Classification Single On Water: And	n	eles and To	oxorhy	nchite	es lay t	their eç	ggs or	ne at	a time	e on
Д. В. С.	Underground The water surface Above the waterline	D. E. F.	Standing w The leaves None of the	ater of cert Above	tain f	loating a	aquatic	plants	i .		
	. Single On Cavity Walls e holes, water-holding	-	-	-	-				-		-
В.	Mosquito eggs The water surface Above the waterline	E.	Standing w The leaves None of the	of cert		loating a	aquatic	plants			
15.	. On Plants: Mansonia e	ggs	are deposi	ted on	the	undersi	de, and	d som	etime	s on to	p of
В.	The trees The water surface Above the waterline	E.	Standing w The leaves None of the	of cert		loating a	aquatic	plants	i .		

Topic 2 – Mosquito Identification Section 1. The black-tailed mosquito, Culiseta melanura, belongs to the family Culicidae. This species of mosquito is considered unusual because it overwinters as larvae while most mosquito species overwinter as A. Adults D. Either adults or eggs B. Pupas E. Larvae C. Baby F. None of the Above
 Culiseta melanura is important because of its role in the transmission cycle of eastern equine encephalitis virus and potentially West Nile virus. SLE D. WNV (West Nile virus) WEE E. Western equine and Saint Louis encephalitis Malaria F. None of the Above
3. The of most mosquito species have a siphon (breathing tube) for acquiring air from just above the surface of water while submerged. A. Adults D. Either adults or eggs B. Pupas E. Larvae C. Eggs F. None of the Above
4. Malaria was a serious plague in the United States for centuries until its final eradication in the 1950s. Despite the ostensible eradication, there are occasional cases of autochthonous (local) transmission in the U.S. vectored by An. quadrimaculatus in the east and Anopheles freeborni in the west. A. True B. False
5. Culex pipiens, the Northern House Mosquito has a distribution that roughly includes theof the United States. A. Treeholes D. Effluent from sewage treatment plants B. Out-of-doors at night E. Northern half C. Southern parts F. None of the Above
6. Although they occur in, Culex pipiens reach their greates numbers in urban and suburban areas and readily enter homes. A. Treeholes D. Effluent from sewage treatment plants B. Out-of-doors at night E. Rural environments C. Temporary ground water F. None of the Above
7 0 1 1 1 1 1 1 1 1

- Culex pipiens are known to vector __
- A. SLE D. WNV
- B. WEE E. Western equine and Saint Louis encephalitis
- C. Malaria F. None of the Above
- 8. The species utilizes temporary ground water that ranges from mildly to grossly polluted. The species also deposits its eggs in artificial containers, including tin cans, tires, and any refuse that allows stagnant water to puddle. The species is decidedly urban and reaches greatest numbers in large urban centers.
- A. True B. False

 9. Catch basins and storm drains provide ideal habitat for Cx. pipiens. The species becomes particularly abundant in areas where raw sewage leaks into A. Treeholes D. Effluent from sewage treatment plants B. Subterranean drainage systems E. Readily enter homes C. Temporary ground water F. None of the Above
10. Meat packing plants and slaughter house drainage ponds support high populations of this species. Culex pipiens can always be collected in the A. Treeholes D. Effluent from sewage treatment plants B. Subterranean drainage systems E. Readily enter homes C. Temporary ground water F. None of the Above
11. In northern California, it currently plays only a lesser role as a carrier of human disease while in southern California and the Gulf Coast region, it is a major carrier of Saint Louis encephalitis. It is also the best known carrier of, a severe encephalitis virus newly arrived in the Americas that is spreading along the eastern seaboard. A. SLE D. WNV B. WEE E. Western equine and Saint Louis encephalitis C. Malaria F. None of the Above
12. Culex pipiens is a serious pest, called the "house mosquito" because it commonly develops in small containers around the home. It shows great skill in finding ways to get into the house, where it feeds on It also occurs in containers and sumps or farms and industrial plants, in polluted waters, and will feed out-of-doors at night. A. Birds D. Effluent from sewage treatment plants B. Mammals E. The occupants at night C. Temporary ground water F. None of the Above
13. Mosquitoes of the Culex tarsalis species have a A. Bluntly rounded abdominal tip D. Brownish strip with pale bands B. Distinctive scale patterns E. High pitched noise C. Distinct ring around the proboscis F. None of the Above
14. Western Encephalitis Mosquito (Culex tarsalis) is medium-sized, dark mosquito that has a broad white band across the middle of the proboscis and the lower leg segments. In addition to being a potential vector of this species is the most important vector of Western Equine encephalitis (WEE) and SLE. A. SLE D. WNV B. WEE E. Western equine and Saint Louis encephalitis C. Malaria F. None of the Above
15. Species in the genus Culex are known as "standing-water" mosquitoes.A. True B. False

Topic 3– Mosquito-Borne Diseases Section 1. Yellow fever is a virus infection of monkeys that can either be transmitted from monkey to human or from human to human in tropical areas of the world. A. True B. False
 Encephalitis is, and serious disease carried by mosquitoes. Its symptoms are severe headache, fever, vomiting, disorientation, chills, muscle aches and pains. It usually occurs in warm wet weather. A birth defect
3 is a dangerous parasitic disease common in tropical and subtropical areas. It is transmitted by the female Anopheles mosquito. A. LAC virus D. Usual cycle of transmission B. EEE virus E. Malaria C. Dog heartworm F. None of the Above
4 is spread to people by the bite of an infected mosquito. The most common symptoms of infection are fever and joint pain. A. LAC virus D. Usual cycle of transmission B. EEE virus E. Chikungunya virus C. Dog heartworm F. None of the Above
 5. If a fully engorged mosquito withpositive blood is squashed on the skin, there would be insufficient transfer of virus to produce infection. A. LAC virus D. Usual cycle of transmission B. EEE virus E. HIV C. Dog heartworm F. None of the Above
Canine Heartworm 6. The dog heartworm parasite does not develop properly in humans and is not regarded as a human health problem. A. True B. False
7 is a Bunyavirus and is a zoonotic pathogen cycled between the daytime-biting treehole mosquito, Aedes triseriatus, and vertebrate amplifier hosts (chipmunks, tree squirrels) in deciduous forest habitats. A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever C. Dog heartworm F. None of the Above
8is maintained over the winter by transovarial transmission in mosquito eggs. If the female mosquito is infected, she may lay eggs that carry the virus, and the adults coming from those eggs may be able to transmit the virus to chipmunks and to humans. A. LAC virus D. Brokebone fever

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B. EEE virusC. Dog heartworm

E. Beaver fever

F. None of the Above

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9is also caused by	a virus transmitted to humans and equines by the
bite of an infected mosquito.	
A. LAC virus	D. Brokebone fever
B. Eastern equine encephalitis (EEE)	E. Beaver fever
C. Dog heartworm	F. None of the Above
currently occurs in focal locations along t inland Midwestern locations of the United S	phavirus that was first identified in the 1930's and the eastern seaboard, the Gulf Coast and some states.
A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever	
C. Dog heartworm F. None of the Above	0
C. Dog fleattworm F. None of the Abov	U
occurs in naturations of the Above 11 occurs in naturations of the Above 11 occurs in naturations occurs in naturatio	
	sides or how it survives in the winter is unknown. It he spring or it may remain dormant in some yet
	us does not escape from these areas because the pirds and does not usually bite humans or other
areas in birds or bridge vectors such as	e virus may escape from enzootic foci in swamp s Coquilletidia perturbans and Aedes sollicitans. nammals and can transmit the virus to humans,
EEE virus. When health officials maintain	

Topic 4– Mosquito Control Section

1	include the bacterial insecticides Bacillus thuringiensis
israelensis and Bacillus sp	phaericus, the insect growth inhibitor methoprene, and the
organophosphate insecticide	•
A. Altosid XR Briquettes	D. Tablet, pellet, granular, and briquette formulations
B. Oxygen	E. Insect growth inhibitor methopreneF. None of the Above
C. Larvicides	F. None of the Above
2	are applied directly to water using backpack sprayers
and truck or aircraft-mounted	l sprayers.
A. Altosid XR Briquettes	D. Tablet, pellet, granular, and briquette formulations
	E. Insect growth inhibitor methoprene
C. Liquid larvicide products	F. None of the Above
3.	, a light-viscosity oil that spreads quickly and evenly over the
water surface, preventing lar	vae and pupae from obtaining oxygen through the surface film.
A. Mineral oils	D. Altosid XR Briquettes
B. Mosquito Dunks	E. DDT and Chlordane
A. Mineral oils B. Mosquito Dunks C. Golden Bear 1111	F. None of the Above
insect hormone that retards mosquitoes from developing	another safe material for control of mosquito larvae. It is an sthe development of larvae (disrupts molting) and prevents into adults. D. Tablet, pellet, granular, and briquette formulations E. Insect growth inhibitor methoprene F. None of the Above
	can be applied by hand and the product is labeled for use in
known fish habitats. A. Altosid XR Briquettes B. Oxygen C. Liquid larvicide products	D. Tablet, pellet, granular, and briquette formulationsE. Insect growth inhibitor methopreneF. None of the Above
Microbial Insecticides 6. The product known as chemical insecticides. A. True B. False	Bti (Bacillus thuringiensis israelensis) is not as effective as
	s an insect growth regulator widely used by abatement districts
to control mosquito larvae.	D. Mathamana (add undantha ===== Alt=='d\
A. Altosid XR Briquettes	D. Methoprene (sold under the name Altosid)
B. Oxygen	E. Bti (Bacillus thuringiensis israelensis)
C. Liquid larvicide products	r. None of the Above

8. Pellets can be flushed down toilets into underground septic tanks known to be breeding house mosquitoes. Thekills the mosquitoes without upsetting the septic
system's bacterial digestive processes.
A. Altosid XR Briquettes D. Tablet, pellet, granular, and briquette formulations
A. Altosid XR BriquettesB. MethopreneD. Tablet, pellet, granular, and briquette formulationsE. Bti (Bacillus thuringiensis israelensis)
C. Liquid larvicide products F. None of the Above
9. Space sprays or aerosol "bombs," containing, are effective against adult
mosquitoes. Frequent treatments may be needed during problem periods.
A. Malathion and Naled D. An organophosphate parasympathomimetic E. Organophosphate insecticide
B. Synergized pyrethrins 0.1% E. Organophosphate insecticide
C. Malathion F. None of the Above
10. is an organophosphate parasympathomimetic which binds
irreversibly to cholinesterase. A. Malathion and Naled D. An organophosphate parasympathomimetic
A. Malathion and Naled D. An organophosphate parasympathomimetic B. Synorgized pyrothrips 0.1% F. Organophosphate insecticide
B. Synergized pyrethrins 0.1% C. Malathion E. Organophosphate insecticide F. None of the Above
11 is a pesticide that is widely used in agriculture, residential
landscaping, public recreation areas, and in public health pest control programs such as
mosquito eradication. In the US, it is the most commonly used organophosphate insecticide.
A. Malathion and Naled D. An organophosphate parasympathomimetic
B. Synergized pyrethrins 0.1% E. Organophosphate insecticide
C. Malathion F. None of the Above
12. ULV applications involve large quantities of pesticide active ingredient in relation to the
12. ULV applications involve large quantities of pesticide active ingredient in relation to the size of the pest target treated.
size of the pest target treated. A. True B. False
size of the pest target treated. A. True B. False 13. Naled is an that has been registered since 1959 for use in the United States. It is used primarily for controlling adult mosquitoes, but Naled is also used on
size of the pest target treated. A. True B. False 13. Naled is an that has been registered since 1959 for use in the United States. It is used primarily for controlling adult mosquitoes, but Naled is also used on food and feed crops, and in greenhouses.
size of the pest target treated. A. True B. False 13. Naled is an that has been registered since 1959 for use in the United States. It is used primarily for controlling adult mosquitoes, but Naled is also used on food and feed crops, and in greenhouses. A. Chemical D. An organophosphate parasympathomimetic
size of the pest target treated. A. True B. False 13. Naled is an that has been registered since 1959 for use in the United States. It is used primarily for controlling adult mosquitoes, but Naled is also used on food and feed crops, and in greenhouses. A. Chemical D. An organophosphate parasympathomimetic B. Synergized pyrethrins 0.1% E. Organophosphate insecticide
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size of the pest target treated. A. True B. False 13. Naled is an that has been registered since 1959 for use in the United States. It is used primarily for controlling adult mosquitoes, but Naled is also used on food and feed crops, and in greenhouses. A. Chemical D. An organophosphate parasympathomimetic B. Synergized pyrethrins 0.1% E. Organophosphate insecticide C. Treatment F. None of the Above 14. Naled is used to kill adult mosquitoes. In mosquito control programs conducted by state or local authorities, Naled is applied by truck-mounted or aircraft-mounted sprayers. A. ULV applications D. An organophosphate (OP) insecticide
size of the pest target treated. A. True B. False 13. Naled is an that has been registered since 1959 for use in the United States. It is used primarily for controlling adult mosquitoes, but Naled is also used on food and feed crops, and in greenhouses. A. Chemical D. An organophosphate parasympathomimetic B. Synergized pyrethrins 0.1% E. Organophosphate insecticide C. Treatment F. None of the Above 14. Naled is used to kill adult mosquitoes. In mosquito control programs conducted by state or local authorities, Naled is applied by truck-mounted or aircraft-mounted sprayers. A. ULV applications D. An organophosphate (OP) insecticide B. An adulticide E. Malathion
size of the pest target treated. A. True B. False 13. Naled is an that has been registered since 1959 for use in the United States. It is used primarily for controlling adult mosquitoes, but Naled is also used on food and feed crops, and in greenhouses. A. Chemical D. An organophosphate parasympathomimetic B. Synergized pyrethrins 0.1% E. Organophosphate insecticide C. Treatment F. None of the Above 14. Naled is used to kill adult mosquitoes. In mosquito control programs conducted by state or local authorities, Naled is applied by truck-mounted or aircraft-mounted sprayers. A. ULV applications D. An organophosphate (OP) insecticide
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size of the pest target treated. A. True B. False 13. Naled is an that has been registered since 1959 for use in the United States. It is used primarily for controlling adult mosquitoes, but Naled is also used on food and feed crops, and in greenhouses. A. Chemical D. An organophosphate parasympathomimetic B. Synergized pyrethrins 0.1% E. Organophosphate insecticide C. Treatment F. None of the Above 14. Naled is used to kill adult mosquitoes. In mosquito control programs conducted by state or local authorities, Naled is applied by truck-mounted or aircraft-mounted sprayers. A. ULV applications D. An organophosphate (OP) insecticide B. An adulticide E. Malathion C. Spray F. None of the Above 15. Naled is applied as an ultra-low volume (ULV) spray. ULV sprayers dispense very fine aerosol droplets that stay aloft and kill mosquitoes on contact. ULV applications involve small quantities of pesticide active ingredient in relation to the size of the area treated.
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Topic 5- Insects Commonly Mistaken for Mosquitoes

1	are long, gangly insects that commonly resemble
mosquitoes with thei	r slender, jointed legs and elongated thorax.
A. Mosquitoes	D. Crane flies E. Dance Flies e F. None of the Above
B. Redbugs	E. Dance Flies
C. Dixid Midge larva	e F. None of the Above
	ome in contact withinfested vegetation, the
	ne entire body and it might be several hours before they settle down to
feed.	D. Magguitage
A. Ciarie illes B. Radhuge	D. MosquitoesE. ChiggersF. None of the Above
D. Neubuys C. Divid Midde Jarva	E. Chiggers A F None of the Above
O. Dixia ivilage laiva	C 1. None of the Above
Dance Flies appear	ear like by the way they swarm in sunlit areas in
	r sheltered situations. The vertical movement of the swarming adults
gives them their com	mon name of Dance Flies.
A. Mosquitoes	D. Crane flies E. Honey bees e F. None of the Above
D. Reubugs C. Divid Midae Janua	E. Hone of the Above
C. Dixid iviluge larva	e 1. Notic of the Above
	are found in slow moving water, at the surface, and swim
in a characteristic "U	shape. These midges lack a proboscis and scales on the wings.
A. Mosquitoes	D. Crane flies
B. Redbugs	D. Crane flies E. Dance Flies e F. None of the Above
C. Dixid Midge larva	e F. None of the Above
	he most common flea species carried by both cats and dogs is
the	D. Cat flea, Ctenocephalides felis
A. Dog flea	D. Cat flea, Ctenocephalides felis
D. Neu liea	L. Dance nea
C. Fleas	F. None of the Above
6. Compared with o	other flea species, the has a very wide host range.
Wild animals carrying	g cat fleas include raccoons, opossum, skunks and foxes.
A. Dog flea	
B. Red flea	E. Dance flea
C. Fleas	F. None of the Above
7 Fundus Gnats (Sciaridae) are small (about ¼ inch long), black flies commonly found
around decaying veg	
A. True B. Fa	
	ough not even closely resembling mosquitoes, their seasonal occurrence
	on the walls of buildings near theirinvariably
	of some concerned residents.
A. Land breeding sitB. Aquatic habitats	
C. Host sources	F. None of the Above
J. 11000 0001000	1. 110110 01 1110 / 15010

the food chain. Adults are an	develop in where they form an important part of nong the shortest lived in the insect world.
A. Flowing sap	D. Winter and spring
B. Sewage	E. Public health importance
C. All types of aquatic habita	D. Winter and spring E. Public health importance ats F. None of the Above
	_ (Psychodidae) are small hairy flies that can move about very
nimbly, but are weak fliers.	D. M
A. Crane flies	D. Mosquitoes
C. Owl Midges	D. MosquitoesE. Phlebotomine sand fliesF. None of the Above
	are of considerable public health importance because
of their ability to transmit sev humans and other animals.	veral viral, bacterial, and protozoal disease-causing organisms of
	D. Mosquitoes
B. Winter Crane Flies	E. Phlebotomine sand flies
C. Owl Midges	F. None of the Above
12	larvae are found in roots, fungi, decaying vegetation, rotting
leaves, manure, and other v	egetative material. The adults are readily attracted to lights.
A. Crane files P. Winter Crane Flice	D. Mosquitoes E. Dhiahatamina and flica
C. Owl Midges	D. MosquitoesE. Phlebotomine sand fliesF. None of the Above
	do not bite humans, and they don't carry disease. But
these species still can be an	noying to homeowners.
A. Crane fliesB. Winter Crane FliesC. Owl Midges	D. Mosquitoes
B. Winter Crane Files	E. Wood Gnats
14 attracted to light and can be	(Anisopodidae) are some of the better known gnats, for they are found near windows, especially in spring time. The adults can be
found all year long, though.	
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	
C. Owl Midges	F. None of the Above
	adults are found on foliage in or near damp places, some are
found around flowing sap. T variations: grayish black or r	hey are sometimes seen in small swarms. Adults appear in two eddish.
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	·
C. Owl Midges	F. None of the Above

Mosquito Control CEU Training Awareness Assignment #4 Last Names Q to R

You will have 90 days from the start of this course to have successfully passed this assignment with a score of 70 %. You may e mail the answers to TLC, info@tlch2o.com or fax the answers to TLC, (928) 272-0747. This assignment is available to you in a Word Format on TLC's Website. You can find online assistance for this course on the in the Search function on Adobe Acrobat PDF to help find the answers. Once you have paid the course fee, you will be provided complete course support from Student Services (928) 468-0665.

	pic 1 – Mosquito Intro egrated Pest Manageme		
		nd common-sense approach for,	vectors, such
as	mosquitoes.		
Α.	Managing pests	D. Resident education and pest monitoringE. Lower levels of infestationsF. None of the Above	
В.	Surveillance	E. Lower levels of infestations	
C.	Pest prevention	F. None of the Above	
2	is a c	ritical component to any successful IPM program	hecause the
		will help determine the appropriate response to an	
Α.	Pests and vectors	D. Resident education and pest monitoring	miootation.
В.	Surveillance	E. Lower levels of infestations	
C.	Pest prevention	D. Resident education and pest monitoringE. Lower levels of infestationsF. None of the Above	
	•		
	•	inded, they rely onto determine	e if we are an
ac	ceptable blood meal host.		
Α.	Its life cycle	D. Water quality	
В.	I ransient waters	E. A number of short-range attractants	
C.	A state of torpor	D. Water qualityE. A number of short-range attractantsF. None of the Above	
4.	Canines are quite sus	sceptible to, a nematode	that can be
	nsmitted by certain mosqu		
		D. WNV	
В.	Canine heartworm	E. Western equine and Saint Louis encephalitis	
C.	Malaria	E. Western equine and Saint Louis encephalitisF. None of the Above	
	osquito Life Cycle Sectio		4- 1 1
	i ne type of standi depends upor	ng water in which the mosquito chooses	to lay ner
	Eggs, larvae, and pupae		
	Raft	E. EggsF. None of the Above	
Ο.	rait	1. None of the Above	
6.	The presence of benefic	ial predators such as fish and dragonfly nymphs	in permanent
		s usually keep these bodies of water relati	
		·	•
	Eggs, larvae, and pupae	D. Mosquito larva	
	Nest	E. Eggs	
C.	Nest Raft	F. None of the Above	

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Wrigglers and Tumblers
7. The mosquitoes in the United States, all of which live in specific habitats, exhibit unique
behaviors and bite different types of animals. Despite these differences, all mosquitoes share
some common traits, such as
A. The type of standing water D. Short flight distance
B. A two-year life span E. Prolific mosquito breeding sites
C. A four-stage life cycle F. None of the Above
8. Mosquitoes may overwinter as eggs,
A. Fertilized adult females or larvae D. Wriggler
B. Female mosquitoes E. Larvae
C. Male mosquitoes F. None of the Above
O. Fare levice, and number resist have water to devalor
9. Eggs, larvae, and pupae must have water to develop. A. True B. False
A. Tide B. Taise
10. Some female mosquitoes lay theirdirectly on the water surface.
A. Eggs, larvae, and pupae D. Mosquito larva
B. Male mosquitoes E. Eggs
C. Raft F. None of the Above
11. Adults may fly 500 to 1000 miles, but usually rest in grass, shrubbery, or other foliage
close to the water breeding area.
A. True B. False
Mosquito Egg Classification
12. Mosquito eggs are generally square in shape, tapered at the top and square at the
bottom.
A. True B. False
13. Each mosquito species prefers certain localities for depositing eggs. Some prefer very
clean water, others slightly polluted water, while others thrive in
A. Population dynamics D. On the water surface
B. Decomposing leaf litter E. Egg development
C. Extremely polluted water F. None of the Above
14 Single On Water: Anaphales and Tavarhynahites lay their aggs and at a time an
14. Single On Water: Anopheles and Toxorhynchites lay their eggs one at a time on
A. Underground D. Standing water
B. The water surface E. The leaves of certain floating aquatic plants.
C. Above the waterline F. None of the Above
15. Single in Soil: most Aedes and Psorophora lay their eggs one at a time on a moist
substrate, such as
A. Population dynamics D. On the water surface
B. Decomposing leaf litter E. Mud and decomposing leaf litter
C. Extremely polluted water F. None of the Above

Topic 2 – Mosquito Identification Section

1. Culiseta melanura larvae have long siphons that can be distinguished from those of other mosquito larvae by the presence of two or three setae (hairs) located at the very base of their siphons.
A. True B. False
2. Culiseta melanura is a medium-sized mosquito that resembles Culex species because of its
A. Bluntly rounded abdominal tip B. Its distinctive scale patterns C. Distinct ring around the proboscis D. Brownish color with pale bands E. High organic content F. None of the Above
3. Malaria was a serious plague in the United States for centuries until its final eradication in the 1950s. Despite the ostensible eradication, there are occasional cases of autochthonous (local) transmission in the U.S. vectored by An. quadrimaculatus in the east and Anopheles freeborni in the west. A. True B. False
4. Culex pipiens, the Northern House Mosquito has a distribution that roughly includes theof the United States.
A. Treeholes D. Effluent from sewage treatment plants B. Out-of-doors at night E. Northern half C. Southern parts F. None of the Above
around the abdominal segments. The quickly developing larvae may be continuously present spring through fall. A. Bluntly colored D. Medium-sized, brownish with pale bands B. Distinctive scale patterns E. Red and white C. Distinct ring around the proboscis F. None of the Above
6. Catch basins and storm drains provide ideal habitat for Cx. pipiens. The species becomes particularly abundant in areas where raw sewage leaks into A. Treeholes D. Effluent from sewage treatment plants B. Subterranean drainage systems E. Readily enter homes C. Temporary ground water F. None of the Above
7. Meat packing plants and slaughter house drainage ponds support high populations of this species. Culex pipiens can always be collected in the A. Treeholes D. Effluent from sewage treatment plants B. Subterranean drainage systems E. Readily enter homes C. Temporary ground water F. None of the Above
8. Culex pipiens' main host is humans, but it also feeds freely on a wide variety of warm-blooded vertebrates, including birds. A. True B. False

while in southern California and the Gulf (only a lesser role as a carrier of human disease, Coast region, it is a major carrier of Saint Louis er of, a severe encephalitis preading along the eastern seaboard. t Louis encephalitis
10. Mosquitoes of the Culex tarsalis specie A. Bluntly rounded abdominal tip B. Distinctive scale patterns C. Distinct ring around the proboscis	D. Brownish strip with pale bandsE. High pitched noise
a broad white band across the middle of	
with a	D. Brownish pale band E. Bright white band of scales in the middle F. None of the Above
13. Culex eggs are laid one at a time, but aA. The larvae of most mosquito speciesB. LarvaeC. A raft of 100 or more eggs	D. A transmission cycle
14. Woodland Malaria mosquitoes have mmature stages need standing water to con. A. True B. False	e three life stages: egg, larva, and adult. The mplete their life cycle.
nformation on locations, densities and di possible to determine life cycles and feeding	s of mosquitoes present and provide general sease potential. With this knowledge it may be g preferences; predict larval habitats, adult resting n make preliminary recommendations for control
D. 1 aloo	

Topic 3– Mosquito-Borne Diseases Section

1. Zika disease is spread mostly by the bite of an infected Aedes species mosquito (Ae. aegypti and Ae. albopictus). These mosquitoes bite A. Birds as blood meal hosts D. During the day and night E. in the Tropical areas of the world C. Infected dogs F. None of the Above
 Zika disease can be passed from a pregnant woman to her fetus. Infection during pregnancy can cause certain birth defects. True B. False
3. Encephalitis is, and serious disease carried by mosquitoes lts symptoms are severe headache, fever, vomiting, disorientation, chills, muscle aches an pains. It usually occurs in warm wet weather. A. A birth defect D. An untreatable, sometimes deadly B. Dangerous parasitic E. Fever and joint pain C. An infection F. None of the Above
4 is spread to people by the bite of an infected mosquito. The most common symptoms of infection are fever and joint pain. A. LAC virus D. Usual cycle of transmission B. EEE virus E. Chikungunya virus C. Dog heartworm F. None of the Above
usually doesn't cause death, but the symptoms can be severe and debilitating. A. LAC virus D. Usual cycle of transmission E. Chikungunya C. Dog heartworm F. None of the Above
6. If a fully engorged mosquito withpositive blood is squashed on the skir there would be insufficient transfer of virus to produce infection. A. LAC virus D. Usual cycle of transmission B. EEE virus E. HIV C. Dog heartworm F. None of the Above
Canine Heartworm 7 is a Bunyavirus and is a zoonotic pathogen cycled between the daytime-biting treehole mosquito, Aedes triseriatus, and vertebrate amplifier host (chipmunks, tree squirrels) in deciduous forest habitats. A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever C. Dog heartworm F. None of the Above

8is maintained over the winter by transovarial transmission mosquito eggs. If the female mosquito is infected, she may lay eggs that carry the virus, ar
the adults coming from those eggs may be able to transmit the virus to chipmunks and humans.
A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever
B. EEE virus E. Beaver fever
C. Dog heartworm F. None of the Above
9is also caused by a virus transmitted to humans and equines by the
bite of an infected mosquito.
A. LAC virus D. Brokebone fever B. Eastern equine encephalitis (EEE) E. Beaver fever
C. Dog heartworm F. None of the Above
10 is an alphavirus that was first identified in the 1930's ar
currently occurs in focal locations along the eastern seaboard, the Gulf Coast and sominland Midwestern locations of the United States.
A. LAC virus D. Brokebone fever
B. EEE virus E. Beaver fever
C. Dog heartworm F. None of the Above
11 occurs in natural cycles involving birds and Culiseta melanura,
some swampy areas nearly every year during the warm months.
A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever
B. EEE virus E. Beaver fever
C. Dog heartworm F. None of the Above
12. Where resides or how it survives in the winter is unknown.
may be introduced by migratory birds in the spring or it may remain dormant in some y
undiscovered part of its life cycle. A. LAC virus D. Brokebone fever
B. EEE virus E. Beaver fever
C. Dog heartworm F. None of the Above
13. In this usual cycle of transmission, virus does not escape from these areas because the mosquito involved prefers to feed upon birds and does not usually bite humans or other controls.
mammals. A. True B. False
A. True D. False
14. For reasons not fully understood, the virus may escape from enzootic foci in swam
areas in birds or bridge vectors such as Coquilletidia perturbans and Aedes sollicitans.
A. True B. False
15. Other mosquito species such as Ae. vexans and Culex nigripalpus can also transn
EEE virus. When health officials maintain surveillance for EEE virus activity, this moveme
out of the swamp can be detected, and if the level of activity is sufficiently high, ca
recommend and undertake measures to reduce the risk to humans.
A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever
C. Dog heartworm F. None of the Above
2. 2.3

Topic 4– Mosquito Control Section

NЛ	ICT/	obia	al Ir	160	∩tı	~14	ADC
141	161	JUIC		136	uы		463

 The product known as Bti (Bacillus thuringlensis Israelensis) can be as effective as chemical insecticides. A. True B. False
 When the bacteria Bti encysts, it produces a protein crystal toxic to mosquito and midge larvae. Once the bacteria have been ingested, the toxin disrupts the lining of the larvae's intestine. It has no effect on a vast array of other aquatic organisms except midges in the same habitat. A. True B. False
3 is an insect growth regulator widely used by abatement districts
to control mosquito larvae. A. Altosid XR Briquettes D. Methoprene (sold under the name Altosid) B. Oxygen E. Bti (Bacillus thuringiensis israelensis) C. Liquid larvicide products F. None of the Above
4 mimics a natural juvenile hormone, and when present in the larval habitat, it keeps immature insects from maturing into adults. Unable to metamorphose the mosquitoes die in the pupal stage. A. Altosid XR Briquettes D. Bti strains B. Methoprene E. Bti (Bacillus thuringiensis israelensis) C. Liquid larvicide products F. None of the Above
5. Vector control technicians sometimes use to reach larval sources that would otherwise be difficult or dangerous to treat. A. Altosid XR Briquettes D. Bti strains B. Methoprene E. Bti (Bacillus thuringiensis israelensis) C. Liquid larvicide products F. None of the Above
6. Pellets can be flushed down toilets into underground septic tanks known to be breeding house mosquitoes. Thekills the mosquitoes without upsetting the septic system's bacterial digestive processes. A. Altosid XR Briquettes D. Tablet, pellet, granular, and briquette formulations B. Methoprene E. Bti (Bacillus thuringiensis israelensis) C. Liquid larvicide products F. None of the Above
7. State and local agencies commonly use the organophosphate insecticides Malathion and Naled and the synthetic pyrethroid insecticides for adult mosquito control Always follow the pesticide label's instructions. A. Malathion and Naled D. Permethrin, Resmethrin, and Sumithrin E. Organophosphate insecticide C. Malathion F. None of the Above
 Mosquito adulticides are applied as ultra-low volume (ULV) sprays. ULV sprayers dispense very fine aerosol droplets that stay aloft and kill flying mosquitoes on contact. A. True B. False

 Space sprays or aerosol "bombs," containing, are effective against adu mosquitoes. Frequent treatments may be needed during problem periods. Malathion and Naled D. An organophosphate parasympathomimetic Synergized pyrethrins 0.1% E. Organophosphate insecticide Malathion F. None of the Above
10, typically applied as high volume (low concentration liquids with hand-held spray equipment using compounds with residual characteristics, are common in some U.S. locations and their use is growing. A. ULV applications D. An organophosphate (OP) insecticide B. An adulticide E. Barrier treatments C. Naled F. None of the Above
11 is an organophosphate parasympathomimetic which bind irreversibly to cholinesterase. A. Malathion and Naled D. An organophosphate parasympathomimetic B. Synergized pyrethrins 0.1% E. Organophosphate insecticide C. Malathion F. None of the Above
12 is an insecticide of relatively low human toxicity; howeverecent studies have shown that children with higher levels of malathion in their urine seem to be at an increased risk of attention deficit hyperactivity disorder. A. ULV applications D. An organophosphate (OP) insecticide B. An adulticide E. Malathion C. Naled F. None of the Above
13 is a pesticide that is widely used in agriculture, residential landscaping, public recreation areas, and in public health pest control programs such a mosquito eradication. In the US, it is the most commonly used organophosphate insecticide. A. Malathion and Naled D. An organophosphate parasympathomimetic B. Synergized pyrethrins 0.1% E. Organophosphate insecticide F. None of the Above
14. The mosquito goes through five distinct stages during its life cycle: egg, larva, Wigglie pupa, and adult. Malathion is an adulticide, used to kill adult mosquitoes. A. True B. False
15. Naled is used to kill adult mosquitoes. In mosquito control program conducted by state or local authorities, Naled is applied by truck-mounted or aircraft-mounte sprayers. A. ULV applications D. An organophosphate (OP) insecticide
B. An adulticide E. Malathion C. Spray F. None of the Above

Topic 5- Insects Commonly Mistaken for Mosquitoes

1 Larvae of chiquers	commonly called, attack humans and dogs
during the larval stage.	commonly called, allack numans and dogs
A. Mosquitoes	D. Crane flies
A. Mosquitoes B. Redbugs	E. Dance Flies
C. Dixid Midge larvae	F. None of the Above
Ŭ	
	are long, gangly insects that commonly resemble
mosquitoes with their slend	der, jointed legs and elongated thorax.
A. MosquitoesB. RedbugsC. Dixid Midge larvae	D. Crane flies
B. Redbugs	E. Dance Flies
C. Dixid Midge larvae	F. None of the Above
3 Dance Flies annear lik	e by the way they swarm in sunlit areas in
hackvards and other she	tered situations. The vertical movement of the swarming adults
gives them their common i	
B. Redbugs	E. Honey bees
A. Mosquitoes B. Redbugs C. Dixid Midge larvae	F. None of the Above
4. The	are found in slow moving water, at the surface, and swim
	be. These midges lack a proboscis and scales on the wings.
A. Mosquitoes	D. Crane flies
B. Redbugs	E. Dance Flies
C. Dixid Midge larvae	F. None of the Above
F Applications of incostic	idea targeting the Divid Midges adult stage are not officient. While
	ides targeting the Dixid Midges adult stage are not efficient. While ay kill biting midges active on a given night, they are continually
	nabitat and entering areas of human activity.
A. True B. False	labitat and entering areas of numan activity.
6	do not fly, but have strong hind legs which they use to jump
	d cats are at risk of getting these creatures.
A. Cat flea D. I	Mosquitoes
B. Redbugs E. [C. Fleas F. N	Dance Flies
C. Fleas F. N	None of the Above
7 In the IIC the m	and common floo anadica corried by both acts and dage in
	ost common flea species carried by both cats and dogs is
the	Cat flea, Ctenocephalides felis
	Dance flea
	None of the Above
О. П са з Г. Г	NOTIC OF THE ADOVE
8. Compared with other	flea species, the has a very wide host range.
	leas include raccoons, opossum, skunks and foxes.
A. Dog flea D. (Cat flea
	Dance flea
C. Fleas F. N	None of the Above

<u> </u>	recognized by the way they hold their wings at rest and the "caudal" filaments at the tip of the abdomen.
occurrence at porch li	h not even closely resembling mosquitoes, their seasonal ghts and on the walls of buildings near their lably attracts the attention of some concerned residents.
B. Aquatic habitats	D. Aquatic breeding sources E. Lights
C. Host sources	F. None of the Above
11nimbly, but are weak fliers.	_ (Psychodidae) are small hairy flies that can move about very
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	E. Phlebotomine sand flies
B. Winter Crane FliesC. Owl Midges	F. None of the Above
juices, but females require a blood meal hosts include wh rodents, birds and humans. A. Crane flies B. Winter Crane Flies	males and females feed on nectar and other plant a blood meal in order to mature a second batch of eggs. The ite-tailed deer, horses, donkeys, mules, cattle, swine, raccoons, D. Mosquitoes E. Phlebotomine sand flies F. None of the Above
13.	(Trichoceridae) are often quite abundant during winter and
spring. They so closely resen	nble mosquitoes that they are frequently mistaken for them.
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	E. Phlebotomine sand flies
C. Owl Midges	F. None of the Above
14 (attracted to light and can be found all year long, though.	Anisopodidae) are some of the better known gnats, for they are found near windows, especially in spring time. The adults can be
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	
	F. None of the Above
15.	adults are found on foliage in or near damp places, some are
	ney are sometimes seen in small swarms. Adults appear in two
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	
C. Owl Midges	F. None of the Above

Mosquito Control CEU Training Awareness Assignment #5 Last Names S to Z

You will have 90 days from the start of this course to have successfully passed this assignment with a score of 70 %. You may e mail the answers to TLC, info@tlch2o.com or fax the answers to TLC, (928) 272-0747. This assignment is available to you in a Word Format on TLC's Website. You can find online assistance for this course on the in the Search function on Adobe Acrobat PDF to help find the answers. Once you have paid the course fee, you will be provided complete course support from Student Services (928) 468-0665.

Topic 1 – Mosquito Introduction Section
Integrated Pest Management -Introduction 1. IPM uses a combination of ways to control mosquito populations with decisions based o, such as keeping track or count of the numbers and types of
mosquitoes in an area. A. Lower levels of infestations B. Surveillance C. Pest prevention D. Resident education and pest monitoring E. Pests and vectors F. None of the Above
Once mosquitoes have landed, they rely onto determine if we are a acceptable blood meal host.
A. It's life cycleB. Transient watersD. Water qualityE. A number of short-range attractants
B. Transient waters E. A number of short-range attractants
C. A state of torpor F. None of the Above
3. Aedes adults will oviposit near the edge of the swamp or within tussocks of vegetation requiring later flooding to As with transient waters, there is seasonal change in the vegetation, water quality, and mosquito species present. A. Begin its life cycle D. Inundate the eggs for hatching B. Transient waters E. Look for a blood meal
C. Begin the reproduction F. None of the Above
Mosquito Life Cycle Section 4. The type of standing water in which the mosquito chooses to lay hedepends upon the species.
A. Eggs, larvae, and pupae D. Mosquito larva
B. Nest E. Eggs C. Raft F. None of the Above
C. Raft F. None of the Above
5. The presence of beneficial predators such as fish and dragonfly nymphs in permaner

A. Eggs, larvae, and pupae D. Mosquito larva

B. Nest E. Eggs

C. Raft

F. None of the Above

behaviors and bite different to some common traits, such as A. The type of standing wate B. A two-year life span	nited States, all of which live in specific habitats, exhibit unique ypes of animals. Despite these differences, all mosquitoes share s D. Short flight distance E. Prolific mosquito breeding sites F. None of the Above
	o obtains a blood meal, she lays her eggs directly on the surface ssion, or on the edge of a container where rainwater may collect
A. Eggs, larvae, and pupaeB. Male mosquitoes	
"rafts." A. Eggs, larvae, and pupae B. Tumblers	
	_ are ready to bite one to two days after adult emergence. D. Wriggler E. Larvae F. None of the Above
11. All mosquitoes have only A. True B. Fal	
12. Adults may fly 500 to 1 close to the water breeding a A. True B. Fal	
13. On Plants: Mansonia eç	ggs are deposited on the underside, and sometimes on top of
A. The trees B. The water surface C. Above the waterline	D. Standing waterE. The leaves of certain floating aquatic plants.F. None of the Above

Weather

14. Mosquito development and population dynamics are closely tied to weather. When and how much rain is received, wind speed and direction, maximum and minimum temperatures, and the total amount of heat energy accumulated are all critical to mosquito development.

A. True B. False

Water Source

15. The water (or lack thereof) in a habitat directly affects mosquito reproduction. All mosquitoes need standing water to complete their development.

A. True B. False

Topic 2 – Mosquito Identification Section
 The black-tailed mosquito, Culiseta melanura, belongs to the family Culicidae. This species of mosquito is considered unusual because it overwinters as larvae while most mosquito species overwinter as A. Adults D. Either adults or eggs B. Pupas E. Larvae
C. Baby F. None of the Above
 Culiseta melanura larvae have long siphons that cannot be distinguished from those of other mosquito larvae. True B. False
3. Anopheles quadrimaculatus is historically the most important vector of in the eastern United States.
A. SLE D. WNV B. WEE E. Western equine and Saint Louis encephalitis C. Malaria F. None of the Above
4. Culex pipiens, the Northern House Mosquito has a distribution that roughly includes the of the United States.
A. Treeholes D. Effluent from sewage treatment plants B. Out-of-doors at night C. Southern parts D. Effluent from sewage treatment plants E. Northern half F. None of the Above
5. Culex pipiens species isaround the abdominal segments. The quickly developing larvae may be continuously present spring through fall. A. Bluntly colored D. Medium-sized, brownish with pale bands B. Distinctive scale patterns E. Red and white C. Distinct ring around the proboscis F. None of the Above
 Culex pipiens can be found in a fairly small range of larval habitats, but are generally associated with water that has a low organic content. True B. False
7. Culex pipiens is a serious pest, called the "house mosquito" because it commonly develops in small containers around the home. It shows great skill in finding ways to get into the house, where it feeds on It also occurs in containers and sumps or farms and industrial plants, in polluted waters, and will feed out-of-doors at night. A. Birds D. Effluent from sewage treatment plants

C. Temporary ground water F. None of the Above

B. Mammals

E. The occupants at night

3. Culex tarsalis breeds in nearly every arvae are found in all but the most pollut A. Treeholes D. Effluent B. Out-of-doors at night E. Running C. Ground water F. None of	from sewage treatment plants water
9. Culex tarsalis is the most important ca J.S. A. SLE D. WNV B. WEE E. Western equine and Sa C. Malaria F. None of the Above	arrier of in much of the western aint Louis encephalitis
10. Mosquitoes of the Culex tarsalis specA. Bluntly rounded abdominal tipB. Distinctive scale patternsC. Distinct ring around the proboscis	D. Brownish strip with pale bandsE. High pitched noise
a broad white band across the middle	
12. As mosquitoes go, the Western	Encephalitis Mosquito is one of the more easily
recognizable, with its A. Bluntly rounded abdominal tip B. Distinctive scale patterns C. Distinct ring around the proboscis	D. Brownish hair with pale bandsE. High pitched screamF. None of the Above
13. The legs have white banding on eawith a	ch side of the joints, and the proboscis is adorned
A. Bluntly rounded abdominal tip B. Distinctive scale patterns C. Distinct ring around the proboscis	D. Brownish pale bandE. Bright white band of scales in the middleF. None of the Above
14. Species in the genus Culex are know A. True B. False	n as "Dampwood" mosquitoes.
15. Woodland Malaria mosquitoes have mmature stages need standing water to o A. True B. False	e four life stages: egg, larva, pupa, and adult. The complete their life cycle.

Topic 3- Mosquito-Borne Diseases Section 1 7ika disease can be passed from a pregnant wo

 Zika disease can be passed from a pre pregnancy can cause certain birth defects. True B. False 	gnant woman to her fetus. Infection during
2. Encephalitis is	atable, sometimes deadly
	ised by viruses that are carried by mosquitoes. the person is bit by a mosquito. Dengue fever is ansmission
· ·	people by the bite of an infected mosquito. The ever and joint pain. ansmission us
5 usually doesn't ca debilitating. A. LAC virus D. Usual cycle of tra B. EEE virus E. Chikungunya C. Dog heartworm F. None of the Abov	
6. If a fully engorged mosquito with there would be insufficient transfer of virus A. LAC virus D. Usual cycle of tra B. EEE virus E. HIV C. Dog heartworm F. None of the Above	ansmission

mosquito eggs. If the	female mosquito is inf	ver the winter by transovarial transmission in ected, she may lay eggs that carry the virus, and e able to transmit the virus to chipmunks and to
A. LAC virus B. EEE virus	D. Brokebone feverE. Beaver feverF. None of the Above	3
bite of an infected mo A. LAC virus	osquito. ncephalitis (EEE)	virus transmitted to humans and equines by the D. Brokebone fever E. Beaver fever F. None of the Above
currently occurs in fo inland Midwestern loo A. LAC virus B. EEE virus	ocal locations along the cations of the United St D. Brokebone fever	
some swampy areas A. LAC virus B. EEE virus	nearly every year durir D. Brokebone fever	
may be introduced b undiscovered part of A. LAC virus B. EEE virus	by migratory birds in the its life cycle. D. Brokebone fever	des or how it survives in the winter is unknown. It ne spring or it may remain dormant in some yet
	refers to feed upon bi	s does not escape from these areas because the rds and does not usually bite humans or other
areas in birds or br	idge vectors such as on both birds and masts.	virus may escape from enzootic foci in swamp Coquilletidia perturbans and Aedes sollicitans. ammals and can transmit the virus to humans,

15. Other mosquito species such as Ae. vexans and Culex nigripalpus can also transmit EEE virus. When health officials maintain surveillance for EEE virus activity, this movement out of the swamp can be detected, and if the level of activity is sufficiently high, can recommend and undertake measures to reduce the risk to humans.

A. LAC virus

D. Brokebone fever

B. EEE virus

E. Beaver fever

B. EEE virus
C. Dog heartworm
E. Brokebone level
E. Beaver fever
F. None of the Above

Topic 4– Mosquito Control Section

1	are applied directly to water using backpack sprayers
and truck or aircraft-mounted	sprayers.
A. Altosid XR Briquettes	D. Tablet, pellet, granular, and briquette formulations
B. Oxygen	E. Insect growth inhibitor methoprene
C. Liquid larvicide products	F. None of the Above
	(made with Bacillus thuringiensis Berliner var.
israelensis or B.t.i.) to kill mo other living things and is biod	squito larvae in the water. This natural ingredient is harmless to legradable.
A. Mineral oils	D. Altosid XR Briguettes
B. Mosquito Dunks	E. DDT and Chlordane
A. Mineral oils B. Mosquito Dunks C. Golden Bear 1111	F. None of the Above
3	and other materials form a thin film on the surface of the water,
which cause larvae and pupa	ae to drown.
A. Mineral oils	D. Altosid XR Briquettes
B. Mosquito Dunks	E. DDT and Chlordane
A. Mineral oils B. Mosquito Dunks C. Golden Bear 1111	F. None of the Above
4. Chlorinated hydrocarbons	s like DDT and Chlordane are very much a thing of the past, as
A Mineral ails	D. Altosid XR Briquettes E. Organophosphate and carbamate insecticides F. None of the Above
A. Mineral Olis	D. Allosid AR Dilquelles Common hope between the proceedings of the p
C. Coldon Boor 1111	E. Organophosphate and carbamate insecticides
5is	another safe material for control of mosquito larvae. It is an
insect hormone that retards	s the development of larvae (disrupts molting) and prevents
mosquitoes from developing	
A. Altosid XR Briquettes	D. Tablet, pellet, granular, and briquette formulationsE. Insect growth inhibitor methoprene
B. Methoprene (Altosid XR)	E. Insect growth inhibitor methoprene
C. Liquid larvicide products	F. None of the Above
6	_ can be placed even on ice for season-long control. Treat
swamps, ponds, and marsh	areas in early spring before thawing. These extended-release
	150 days of uninterrupted mosquito control once they hit the

A. Mineral oils

B. Mosquito Dunks

C. Golden Bear 1111

D. Altosid XR Briquettes

E. DDT and Chlordane

F. None of the Above

water.

7	can l	be applied by hand and the product is labeled for use in
known fish habitats. A. Altosid XR Brique	ettes D. Tal E. Ins	blet, pellet, granular, and briquette formulations sect growth inhibitor methoprene
Microbial Insecticid 8. Bti strains are solo A. True B. Fa	d under the nan	mes Bactimos, Teknar and Vectobac.
9	is an in	sect growth regulator widely used by abatement districts
to control mosquito la A. Altosid XR Brique B. Oxygen C. Liquid larvicide pr	ttes D. Me E. Bti	ethoprene (sold under the name Altosid) (Bacillus thuringiensis israelensis) one of the Above
larval habitat, it keep the mosquitoes die ir A. Altosid XR Brique	s immature inso the pupal stag ottes D. Bti E. Bti	strains (Bacillus thuringiensis israelensis)
and Naled and the control. Always follow A. Malathion and Na B. Synergized pyretl	synthetic pyroversity the pesticide I led nrins 0.1%	nmonly use the organophosphate insecticides Malathion rethroid insecticides for adult mosquito label's instructions. D. Permethrin, Resmethrin, and Sumithrin E. Organophosphate insecticide F. None of the Above
landscaping, public mosquito eradication A. Malathion and Na B. Synergized pyretl	recreation area . In the US, it is lled nrins 0.1%	esticide that is widely used in agriculture, residential as, and in public health pest control programs such as the most commonly used organophosphate insecticide. D. An organophosphate parasympathomimetic E. Organophosphate insecticide F. None of the Above
dispense very fine as A. Malathion and Na	erosol droplets t lled	applied as an ultra-low volume (ULV) spray. ULV sprayers that stay aloft and kill mosquitoes on contact. D. An organophosphate parasympathomimetic E. Organophosphate insecticide F. None of the Above
14. ULV application size of the area treat A. True B. Fa	ed.	quantities of pesticide active ingredient in relation to the

	used to kill adult mosquitoes. In mosquito control programs
conducted by state or	local authorities, Naled is applied by truck-mounted or aircraft-mounted
sprayers.	
• •	D. An organophosphate (OP) insecticide
B. An adulticide	
C. Spray	F. None of the Above
Topic 5- Insects Co	ommonly Mistaken for Mosquitoes
1. When humans co	ome in contact withinfested vegetation, the
larvae swarm over th	e entire body and it might be several hours before they settle down to
feed.	
A. Crane flies	D. Mosquitoes E. Chiggers
B. Redbugs	E. Chiggers
C. Dixid Midge larvae	F. None of the Above
2 Danco Elios anno	ar like by the way they swarm in sunlit areas in
hackvards and other	sheltered situations. The vertical movement of the swarming adults
	mon name of Dance Flies.
A Mosquitoes	D. Crane flies
R Redhuas	F Honey hees
C. Dixid Midge larvae	D. Crane flies E. Honey bees F. None of the Above
	are common around moist areas where vegetation is abundant
	rarming at dusk along the edges of streams and lakes. The adults are
short lived, usually be	ing active less than a week.
A. Crane flies	D. Mosquitoes E. Dance Flies F. None of the Above
B. Redbugs	E. Dance Flies
C. Dixid Midges	F. None of the Above
4	do not fly, but have strong hind legs which they use to jump
from host to host. Dog	gs and cats are at risk of getting these creatures.
A. Cat flea	D. Mosquitoes
B. Redbugs	E. Dance Flies
C. Fleas	E. Dance FliesF. None of the Above
5 In the IIS th	e most common flea species carried by both cats and dogs is
the	e most common hea species camed by both cats and dogs is
	D. Cat flea, Ctenocephalides felis
B. Red flea	E. Dance flea
C. Fleas	F. None of the Above
	ther flea species, the has a very wide host range.
, ,	cat fleas include raccoons, opossum, skunks and foxes.
A. Dog flea	D. Cat flea
	E. Dance flea
C. Fleas	F. None of the Above

other water sources through) can be quite abundant near creeks, flood control channels and nout the United States. Their larvae are found in most aquatic
habitats and can live in	
A. Breeding site D. Por	ch lights and on the walls of buildings
B. Aquatic habitats E. Mov	ving water
C. Host to host F. No	ne of the Above
at porch lights and on the	t even closely resembling mosquitoes, their seasonal occurrence walls of buildings near theirinvariably
attracts the attention of some	e concerned residents.
A. Land breeding site	D. Aquatic breeding sources E. Lights F. None of the Above
C Host sources	E. Ligitis F. None of the Above
C. Tiost sources	1. Notice of the Above
9. The nymphs of mayflies	develop in where they form an important part of
the food chain. Adults are an	nong the shortest lived in the insect world.
A. Flowing sap	D. Winter and spring E. Public health importance
B. Sewage	E. Public health importance
C. All types of aquatic habits	ats F. None of the Above
10.	are of considerable public health importance because
of their ability to transmit sev	are of considerable public health importance because veral viral, bacterial, and protozoal disease-causing organisms of
humans and other animals.	retai vitai, bacteriai, and protozoai disease eadsing organisms of
	D. Mosquitoes
B. Winter Crane Flies	E. Phlebotomine sand flies
C. Owl Midges	F. None of the Above
11. The	males and females feed on nectar and other plant
	a blood meal in order to mature a second batch of eggs. The
	nite-tailed deer, horses, donkeys, mules, cattle, swine, raccoons,
rodents, birds and humans.	D. Mosquitoos
R. Winter Crane Flies	D. Mosquitoes E. Phlebotomine sand flies
C. Owl Midges	F. None of the Above
o. o images	The residence of the reserve
12	_ (Trichoceridae) are often quite abundant during winter and
	mble mosquitoes that they are frequently mistaken for them.
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	
C. Owl Midges	F. None of the Above
12	larvae are found in roots fundi decaying vegetation rotting
13leaves_manure_and other ve	 larvae are found in roots, fungi, decaying vegetation, rotting egetative material. The adults are readily attracted to lights.
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	
C. Owl Midges	F. None of the Above
<u> </u>	

14	do not bite humans, and they don't carry disease. But
these species still can be an	noying to homeowners.
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	E. Wood Gnats
C. Owl Midges	F. None of the Above
15 ((Anisopodidae) are some of the better known gnats, for they are
attracted to light and can be	found near windows, especially in spring time. The adults can be
found all year long, though.	
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	E. Wood Gnats
C. Owl Midges	F. None of the Above

Mosquito Control CEU Training Awareness Assignment #6 For Repeat Students

You will have 90 days from the start of this course to have successfully passed this assignment with a score of 70 %. You may e mail the answers to TLC, info@tlch2o.com or fax the answers to TLC, (928) 272-0747. This assignment is available to you in a Word Format on TLC's Website. You can find online assistance for this course on the in the Search function on Adobe Acrobat PDF to help find the answers. Once you have paid the course fee, you will be provided complete course support from Student Services (928) 468-0665.

results from the surveillance A. Pests and vectors	nt -Introduction critical component to any successful IPM program because the will help determine the appropriate response to an infestation. D. Resident education and pest monitoring E. Lower levels of infestations
will lower levels of infestation	those where, merit a different response than s. D. Resident education and pest monitoring E. Pests and vectors F. None of the Above
depends upor A. Eggs, larvae, and pupae B. Nest C. Raft	ng water in which the mosquito chooses to lay her the species. D. Mosquito larva E. Eggs F. None of the Above
	ial predators such as fish and dragonfly nymphs in permanent s usually keep these bodies of water relatively free of
A. Eggs, larvae, and pupaeB. NestC. Raft	D. Mosquito larvaE. EggsF. None of the Above
prolific mosquito breeding si	
6. The mosquito goes throug A. True B. False	gh four distinct stages during its life cycle.

Wrigglers and Tumblers 7. Mosquitoes may overwin A. Fertilized adult females of B. Female mosquitoes C. Male mosquitoes	ter as eggs, or larvae D. Wriggler E. Larvae F. None of the Above
8. Eggs, larvae, and pupae A. True B. False	must have water to develop.
9. A. Adults B. Female mosquitoes C. Male mosquitoes	are ready to bite one to two days after adult emergence. D. Wriggler E. Larvae F. None of the Above
clean water, others slightly particle. A. Population dynamics B. Decomposing leaf litter C. Extremely polluted water	s prefers certain localities for depositing eggs. Some prefer very colluted water, while others thrive in D. On the water surface E. Egg development
A. Underground B. The water surface C. Above the waterline	E. The leaves of certain floating aquatic plants.
_	edes and Psorophora lay their eggs one at a time on a moist
A. Population dynamics	E. Mud and decomposing leaf litter
	s: Wyeomyia, Orthopodomyia, and certain Aedes deposit eggs in plants, or artificial containers. The eggs are placed
A. Mosquito eggs B. The water surface C. Above the waterline	D. Standing waterE. The leaves of certain floating aquatic plants.F. None of the Above

15.	. On Plants: Mansonia eggs are deposited on the underside, and sometimes on top of
А. В. С.	The trees The water surface Above the waterline D. Standing water E. The leaves of certain floating aquatic plants. F. None of the Above
1.	ppic 2 – Mosquito Identification Section The of most mosquito species have a siphon (breathing be) for acquiring air from just above the surface of water while submerged.
А. В.	Adults D. Either adults or eggs Pupas E. Larvae
C.	Eggs F. None of the Above
2. its	Culiseta melanura is a medium-sized mosquito that resembles Culex species because of
А. В. С.	Bluntly rounded abdominal tip Its distinctive scale patterns Distinct ring around the proboscis D. Brownish color with pale bands E. High organic content F. None of the Above
	Anopheles quadrimaculatus is historically the most important vector of in the eastern United States.
B.	SLE D. WNV WEE E. Western equine and Saint Louis encephalitis Malaria F. None of the Above
qui	Culex pipiens species isaround the abdominal segments. The ickly developing larvae may be continuously present spring through fall. Bluntly colored D. Medium-sized, brownish with pale bands E. Red and white Distinct ring around the proboscis F. None of the Above
А. В.	Culex pipiens are known to vector SLE D. WNV WEE E. Western equine and Saint Louis encephalitis Malaria F. None of the Above
be A. B.	Catch basins and storm drains provide ideal habitat for Cx. pipiens. The species comes particularly abundant in areas where raw sewage leaks into Treeholes D. Effluent from sewage treatment plants Subterranean drainage systems E. Readily enter homes Temporary ground water F. None of the Above
spe A. B.	Meat packing plants and slaughter house drainage ponds support high populations of this ecies. Culex pipiens can always be collected in the Treeholes D. Effluent from sewage treatment plants Subterranean drainage systems E. Readily enter homes Temporary ground water F. None of the Above

8. Culex pipiens' main host is wild birds, bblooded vertebrates, including man.A. True B. False	out it also feeds freely on a wide variety of warm-
 9. Culex tarsalis breeds in nearly every f Larvae are found in all but the most polluted A. Treeholes B. Out-of-doors at night C. Ground water D. Effluent from E. Running w F. None of the 	om sewage treatment plants
 10. Culex tarsalis is the most important western U.S. A. SLE D. WNV B. WEE E. Western equine and Sain C. Malaria F. None of the Above 	t carrier of in much of the
11. Mosquitoes of the Culex tarsalis specieA. Bluntly rounded abdominal tipB. Distinctive scale patternsC. Distinct ring around the proboscis	s have a D. Brownish strip with pale bands E. High pitched noise F. None of the Above
a broad white band across the middle of	
 13. As mosquitoes go, the Western Er recognizable, with its A. Bluntly rounded abdominal tip B. Distinctive scale patterns C. Distinct ring around the proboscis 	E. High pitched scream
14. The legs have white banding on each si a	de of the joints, and the proboscis is adorned with
A. Bluntly rounded abdominal tip B. Distinctive scale patterns C. Distinct ring around the proboscis	D. Brownish pale bandE. Bright white band of scales in the middleF. None of the Above
15. Species in the genus Culex are knownA. True B. False	as "standing-water" mosquitoes.

Topic 3– Mosquito-Borne Diseases Section	
 Zika disease is spread mostly by the bite of an infected Aedes species n 	nosquito (Ae.
aegypti and Ae. albopictus). These mosquitoes bite	
A. Birds as blood meal hosts D. During the day and night	
B. Flowers E. in the Tropical areas of the world	
A. Birds as blood meal hosts B. Flowers C. Infected dogs D. During the day and night E. in the Tropical areas of the world F. None of the Above	
2. Encephalitis is a virus of the central nervous system that is passed fror	n infected birds to
humans by mosquitoes that accept in addition to huma	
A. Birds as blood meal hosts D. Day and night feedings	
B. Nectar E. Horses	
C. Blood of an infected dog F. None of the Above	
3 is a dangerous parasitic disease commo	on in tropical and
subtropical areas. It is transmitted by the female Anopheles mosquito.	а. оргоса. са.го.
A. LAC virus D. Usual cycle of transmission	
B. EEE virus E. Malaria	
C. Dog heartworm F. None of the Above	
4is caused by viruses that are carried	d by mosquitoes
Symptoms appear three to six days after the person is bit by a mosquito	
mostly found in the tropics.	. Deligue level is
A. LAC virus D. Usual cycle of transmission	
B. EEE virus E. Dengue fever	
C. Dog heartworm F. None of the Above	
5 is spread to people by the bite of an infect	ed mosquito. The
most common symptoms of infection are fever and joint pain.	
A. LAC virus D. Usual cycle of transmission	
B. EEE virus E. Chikungunya virus	
C. Dog heartworm F. None of the Above	
6 usually doesn't cause death, but the symptoms ca	n be severe and
debilitating.	
A. LAC virus D. Usual cycle of transmission	
B. EEE virus E. Chikungunya	
C. Dog heartworm F. None of the Above	
7. If a fully engorged mosquito withpositive blood is squ	ashed on the skin.
there would be insufficient transfer of virus to produce infection.	,
A. LAC virus D. Usual cycle of transmission	
B. EEE virus E. HIV	
C. Dog heartworm F. None of the Above	
Canine Heartworm	
8. Adult heartworms live in a dog's heart, but young forms of the worm	are found in their
blood. Mosquitoes transmit the infection when they feed on the blood of an	
A. True B. False	iiiidalaa aag.
A. Huc D. Laise	

9. Dog heartworm is a large filarial worm that lives in the heart of dogs, but produces a blood stage small enough to develop in a mosquito.A. True B. False
10is also caused by a virus transmitted to humans and equines by the bite of an infected mosquito. A. LAC virus D. Brokebone fever B. Eastern equine encephalitis (EEE) E. Beaver fever C. Dog heartworm F. None of the Above
11 is an alphavirus that was first identified in the 1930's and currently occurs in focal locations along the eastern seaboard, the Gulf Coast and some inland Midwestern locations of the United States. A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever C. Dog heartworm F. None of the Above
12 occurs in natural cycles involving birds and Culiseta melanura, in some swampy areas nearly every year during the warm months. A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever C. Dog heartworm F. None of the Above
13. Where resides or how it survives in the winter is unknown. It may be introduced by migratory birds in the spring or it may remain dormant in some yet undiscovered part of its life cycle. A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever C. Dog heartworm F. None of the Above
may be introduced by migratory birds in the spring or it may remain dormant in some yet undiscovered part of its life cycle. A. LAC virus D. Brokebone fever B. EEE virus E. Beaver fever

Topic 4– Mosquito Contro	ol Section include the bacterial insecticides Bacillus thuringiensis
israelensis and Bacillus sp organophosphate insecticide	phaericus, the insect growth inhibitor methoprene, and the temephos.
B. Oxygen C. Larvicides	D. Tablet, pellet, granular, and briquette formulationsE. Insect growth inhibitor methopreneF. None of the Above
insect hormone that retards mosquitoes from developing	another safe material for control of mosquito larvae. It is an a the development of larvae (disrupts molting) and prevents into adults. D. Tablet, pellet, granular, and briquette formulations E. Insect growth inhibitor methoprene F. None of the Above
swamps, ponds, and marsh briquettes will provide up to water.	can be placed even on ice for season-long control. Treat areas in early spring before thawing. These extended-release 150 days of uninterrupted mosquito control once they hit the
A. Mineral oils	D. Altosid XR Briquettes
A. Mineral oilsB. Mosquito DunksC. Golden Bear 1111	F. None of the Above
	can be applied by hand and the product is labeled for use in
known fish habitats.	D. Tablet pollet granular and briquette formulations
B. Oxygen	D. Tablet, pellet, granular, and briquette formulationsE. Insect growth inhibitor methoprene
C. Liquid larvicide products	
Microbial Insecticides	on indept growth regulator widely used by abatement districts
to control mosquito larvae.	s an insect growth regulator widely used by abatement districts
A. Altosid XR Briquettes	D. Methoprene (sold under the name Altosid)
B. Oxygen	E. Bti (Bacillus thuringiensis israelensis)
C. Liquid larvicide products	F. None of the Above
larval habitat, it keeps immat the mosquitoes die in the pup	<u> </u>
A. Altosid XR Briquettes	
B. MethopreneC. Liquid larvicide products	E. Bti (Bacillus thuringiensis israelensis)F. None of the Above
would otherwise be difficult o	
A. Altosid XR BriquettesB. Methoprene	D. Bti strainsE. Bti (Bacillus thuringiensis israelensis)
C. Liquid larvicide products	

B Synergized pyrethrins 0.1%	y be needed during problem po D. An organophosphate paras	eriods. sympathomimetic
9	g compounds with residual ch is growing. hosphate (OP) insecticide ments	
10 is an original interversibly to cholinesterase. A. Malathion and Naled B. Synergized pyrethrins 0.1% C. Malathion		
11 is an recent studies have shown that childred be at an increased risk of attention de A. ULV applications D. An organopl B. An adulticide E. Malathion C. Naled F. None of the	ren with higher levels of malatleficit hyperactivity disorder. hosphate (OP) insecticide	human toxicity; however nion in their urine seem to
12 is a pession landscaping, public recreation areas mosquito eradication. In the US, it is to A. Malathion and Naled B. Synergized pyrethrins 0.1% C. Malathion	s, and in public health pest o the most commonly used orga D. An organophosphate paras	control programs such as nophosphate insecticide. sympathomimetic
13. The mosquito goes through four adult. Malathion is an adulticide, used A. TrueB. False		∕cle: egg, larva, pupa, and
B. Synergized pyrethrins 0.1%	nat stay aloft and kill mosquitoe D. An organophosphate paras	es on contact. sympathomimetic
B. Synergized pyrethrins 0.1%	controlling adult mosquitoes, uses. D. An organophosphate paras	but Naled is also used on sympathomimetic

Topic 5- Insects Commonly Mistaken for Mosquitoes

1.	are long, gangly insects that commonly resemble
mosquitoes with their slende	r, jointed legs and elongated thorax.
A Mosquitoes	D. Crane flies
R Redhuas	E Dance Flies
A. MosquitoesB. RedbugsC. Dixid Midge larvae	F. None of the Δhove
C. Dixid Wildge larvae	1. Notice of the Above
2	do not bite, and contrary to popular belief, they do not eat
mosquitoes. Some species	of crane flies emerge from aquatic sources and others from
terrestrial or decaying vegeta	ation sources.
A. Cat flea D. Mo	squitoes
B. Crane flies E. Da	nce Flies
A. Cat flea D. Mo B. Crane flies E. Da C. Fleas F. No	ne of the Above
	mmonly called, attack humans and dogs
during the larval stage.	minority called, allack numaris and dogs
A Mosquitoos	D. Crana flins
A. Mosquitoes B. Redbugs C. Dixid Midge larvae	E. Dongo Elico
C. Divid Midge legge	E. Dalice Files
C. Dixid ivilage larvae	F. None of the Above
4. When humans come in	contact withinfested vegetation, the
larvae swarm over the entire	e body and it might be several hours before they settle down to
feed.	
A. Crane flies B. Redbugs	D. Mosquitoes
B. Redbugs	E. Chiggers
C. Dixid Midge larvae	F. None of the Above
5 Dance Flies annear like	by the way they swarm in sunlit areas in
hackvards and other shelte	red situations. The vertical movement of the swarming adults
gives them their common na	
A Mosquitoes	D. Crane flips
A. Mosquitoes B. Redbugs C. Dixid Midge larvae	E. Honov hoos
C. Divid Midge lenge	E. Hone of the Above
C. Dixid ivilage larvae	F. None of the Above
6. Cat fleas are small (abo	out ¼ inch long), black flies commonly found around decaying
vegetation. They have large	wings and long antennae, but they are weak flyers and do not
move far from the breeding s	
A. True B. False	
	even closely resembling mosquitoes, their seasonal occurrence
at porch lights and on the	walls of buildings near theirinvariably
attracts the attention of some	
A. Land breeding site	D. Aquatic breeding sources
B. Aquatic habitats	
	F. None of the Above

	develop in where they form an important part of nong the shortest lived in the insect world.
B. Sewage	D. Winter and springE. Public health importance
C. All types of aquatic habita	ats F. None of the Above
9	(Psychodidae) are small hairy flies that can move about very
nimbly, but are weak fliers.	
A. Crane flies	D. Mosquitoes
A. Crane fliesB. Winter Crane FliesC. Owl Midges	E. Phlebotomine sand flies
C. Owl Midges	F. None of the Above
10	are of considerable public health importance because
humans and other animals.	eral viral, bacterial, and protozoal disease-causing organisms of
A. Crane flies B. Winter Crane Flies	D. Mosquitoes
B. Winter Crane Flies	E. Phlebotomine sand flies
C. Owl Midges	F. None of the Above
11.	_ (Trichoceridae) are often quite abundant during winter and
	nble mosquitoes that they are frequently mistaken for them.
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies C. Owl Midges	E. Priedotomine sand files
	larvae are found in roots, fungi, decaying vegetation, rotting
	egetative material. The adults are readily attracted to lights.
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	E. Phlebotomine sand flies
C. Owl Midges	F. None of the Above
13	do not bite humans, and they don't carry disease. But
these species still can be and	noying to nomeowners.
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	
C. Owl Midges	F. None of the Above
	Anisopodidae) are some of the better known gnats, for they are
found all year long, though.	found near windows, especially in spring time. The adults can be
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	E. Wood Gnats
C. Owl Midges	F. None of the Above
	adults are found on foliage in or near damp places, some are
found around flowing sap. The variations: grayish black or re	hey are sometimes seen in small swarms. Adults appear in two eddish.
A. Crane flies	D. Mosquitoes
B. Winter Crane Flies	•
C. Owl Midges	F. None of the Above