Registration form

Invasive Plant Identification and Control Course \$250.00 48 HOUR RUSH ORDER PROCESSING FEE ADDITIONAL \$50.00

Start and finish da	
You will have 90 days from thi	is date in order to complete this course
Print Name	stood the disclaimer notice found on page 2 and 6. Signature is required.
I have read and unders	stood the disclaimer notice found on page 2 and 6. Signature is required.
Signature	
Address:	
City	StateZip
Phone:	
Home ()	Work ()
Fax ()	Email
License ID #	Exp. Date
Please circle/check wh	nich certification you are applying the course CEU's.
Commercial Applicator_	Residential Applicator Industrial Applicator
Pesticide Handler	Agricultural Applicator Adviser Other
	Technical Learning College PO Box 3060, Chino Valley, AZ 86323-3060 Fax (928) 272-0747 e-mail info@tlch2o.com (928) 468-0665 Toll Free (866) 557-1746
If you've paid on th	ne Internet, please write your Customer#

We will stop mailing the certificate of completion we need your e-mail address. We will e-mail the certificate to you.

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 \$169.95 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.

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.

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

A second certificate of completion for a second State Agency \$50 processing fee.

All downloads are electronically tracked and monitored for security purposes.

No refunds.

CERTIFICATION OF COURSE PROCTOR

Technical Learning College requires that our students who takes a correspondence or home study program course must pass a proctored course reading, quiz and final examination. The proctor must complete and provide to the school a certification form approved by the commission for each examination administered by the proctor.

Instructions . When a student completes the course work, fill out the blanks in this section and provide the form to the proctor with the examination.
Name of Course:
Name of Licensee:
Instructions to Proctor . After an examination is administered, complete and return this certification and examination to the school in a sealed exam packet or in pdf format.
I certify that:
 I am a disinterested third party in the administration of this examination. I am not related by blood, marriage or any other relationship to the licensee which would influence me from properly administering the examination. The licensee showed me positive photo identification prior to completing the examination. The enclosed examination was administered under my supervision on The licensee received no assistance and had no access to books, notes or reference material. I have not permitted the examination to be compromised, copied, or recorded in any way or by any method. Provide an estimate of the amount of time the student took to complete the assignment.
Time to complete the entire course and final exam
Notation of any problem or concerns:
Name and Telephone of Proctor (please print):
Signature of Proctor

Invasive Plant Identification CEU Course Answer Key

Na	me					-
Te	ephone					-
cre						ed by your State for ourse is accepted
	Method of (Course	No re acceptance c	efunds. onfirma	tion. Please fil	ll this section
V			•			
Did	you receive the	appro	oval number, if	applica	ıble?	
Wh	at is the course	appro	val number, if	applica	ble?	
	ı are responsible ase call us to ens				e Assignment a	nd Registration Key
The DPF Mu Cire	ifornia DPR R Assignment mus by the 31st. If it Itiple Choice. P cle or Mark off o ignment versio	it be su is late, ick on or Bold	bmitted to TLC you will be pen by one answer per the answer.	alized \$ per que	50 per day.	er to be submitted to
Co	mplete all the To	opical	Sections before	e sumb	iting the answ	er key
We	ed Identification S	Section	- Topic 1			
1.	ABCD	4.	ABCD	7.	ABCD	10. ABCD
2.	ABCD	5.	ABCD	8.	ABCD	
3.	ABCD	6.	ABCD	9.		
Inva	asive Plant Speci	es Intro	oduction - Topic	2		
1.	ABCD	4.	ABCD	7.	ABCD	10. ABCD
2.	ABCD	5.	ABCD	8.	ABCD	
3.	АВСD	6.	ABCD	9.	ABCD	

Commonly Found Invasive and/or Noxious Weeds -Topic 3

- 1. ABCD
- ABCD
- 7. A B C D
- 10. A B C D

- 2. ABCD
- ABCD
- 8. A B C D

- 3. $\mathsf{A}\;\mathsf{B}\;\mathsf{C}\;\mathsf{D}$
- ABCD
- 9. $\mathsf{A}\;\mathsf{B}\;\mathsf{C}\;\mathsf{D}$

Herbs and Related Invasive Species - Topic 4

- 1. ABCD
- ABCD
- 7. A B C D
- 10. A B C D

- 2. ABCD
- 5. A B C D
- 8. ABCD

- 3. ABCD
- ABCD
- 9. ABCD
- Vine Section Alien Plant Invaders Topic 5
- 1. ABCD
- ABCD
- 7. A B C D
- 10. A B C D

- 2. ABCD
- ABCD
- 8. A B C D

- 3. A B C D
- $\mathsf{A}\;\mathsf{B}\;\mathsf{C}\;\mathsf{D}$
- 9. ABCD
- **Trees- Alien Plant Invaders Topic 6**
- 1. ABCD
- ABCD
- 7. A B C D
- 10. A B C D

- 2 ABCD
- 5. A B C D
- ABCD

- 3. $\mathsf{A}\;\mathsf{B}\;\mathsf{C}\;\mathsf{D}$
- $\mathsf{A}\;\mathsf{B}\;\mathsf{C}\;\mathsf{D}$
- ABCD
- **Weed Management and Control Section Topic 7**
- 1. ABCD
- ABCD
- 7. A B C D
- 10. A B C D

- 2. ABCD
- ABCD
- 8. ABCD

- 3. ABCD
- ABCD
- 9. ABCD
- **Introduction to Wetlands Section Topic 8**
- 1. ABCD
- ABCD
- 7. A B C D
- 10. A B C D

- 2. ABCD
- 5. A B C D
- 8. ABCD
- $\mathsf{A}\;\mathsf{B}\;\mathsf{C}\;\mathsf{D}$
- 9. ABCD
- 6. 3. A B C D

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- 3. ABCD 6. ABCD 9. ABCD

Aquatic Herbicides and Controls Section -Topic 10

 1. ABCD
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 9. ABCD

Invasive Plant Rule Section - Topic 11

 1. ABCD
 4. ABCD
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 10. ABCD

 2. ABCD
 5. ABCD
 8. ABCD

 3. ABCD
 6. ABCD
 9. ABCD

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. My exam was proctored. I will abide by all TLC rules and pesticide agency regulations. I will not hold TLC liable for any misinformation or for any damages or deaths.

Please sign that you understand and will abide with TLC's Rules.

Signature			

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 SUPPLEMENT. ALWAYS FOLLOW THE PRODUCT'S LABEL INSTRUCTIONS.

Please e-mail or fax this survey along with your final exam

INVASIVE PLANT IDENTIFICATION AND CONTROL PROFESSIONAL DEVELOPMENT COURSE

CUSTOMER SERVICE RESPONSE CARD

NAME:
E- MAILPHONE
PLEASE COMPLETE THIS FORM BY CIRCLING THE NUMBER OF THE APPROPRIATE ANSWER IN THE AREA BELOW.
Please rate the difficulty of your course. Very Easy 0 1 2 3 4 5 Very Difficult
 Please rate the difficulty of the testing process. Very Easy 0 1 2 3 4 5 Very Difficult
 Please rate the subject matter on the exam to your actual field or work. Very Similar 0 1 2 3 4 5 Very Different
4. How did you hear about this Course?
5. What would you do to improve the Course?
How about the price of the course?
Poor Fair Average Good Great
How was your customer service?
Poor Fair Average Good Great
Any other concerns or comments.

INSTRUCTIONS

- 1. We will require all students to fax or e-mail a copy of their driver's license with the registration form.
- 2. You will need to pick one of the following four assignments to complete. This selection process is based upon your last name.

Assignment for Last Names *If your last name...*

A-G - Assignment #1 Pages 11-23

H-M - Assignment #2 Pages 25-36

N-S - Assignment #3 Pages 37-49

T-Z - Assignment #4 Pages 51-63

Alternative Assignment #5 for repeat students Pages 65-77

These exams are frequently rotated. Complete all topics before submitting the answers key.

Rush Grading Service

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Invasive Plant Identification CEU Conventional Assignment #1

You will have 90 days from the start of this course to have successfully completed this CEU assignment with a score of 70%. You may e-mail the answers to TLC, info@tlch2o.com, you can also find a copy of this assignment in Word on the Assignment Page on TLC's website or fax the answers to TLC (928) 468-0675. Course assistance is available on the Assignment Page under Course Assistance at www.abctlc.com. Write your answers on the Answer Key found in the front of first assignment.

Write your answers on the Answer Key found in the front section of this assignment.

Weed Identification Section Topic 1 (s) Means the answer can be plural or singular.
1 weeds germinate from seed, grow, flower, and produce seed in less than one year.
A. Winter annual(s) C. Perennial
A. Winter annual(s) C. Perennial B. Annual(s) D. None of the above
2 germinate in the fall, overwinter as seedlings or small rosettes and mature, set seed and die the following spring or early summer. A. Winter annual(s) C. Perennial B. Annual(s) D. None of the above
Understanding Weed Terms 3. The key is to use pesticides in a way that complements rather than hindersin the strategy and which also limits negative environmental effects. A. Other elements
4 are maintained via controlled pollination or vegetative means, so that cultivar characteristics are passed to ensuing generations. A. Cultivars
 5. An ecovar is an intermediate step between a wild-growing plant and a A. Cultivar C. Direct habitat destruction B. Minimum levels of pesticide D. None of the above
Importance of Native Plants 6. Invasions of non-native plants are not a threat to native species. A. True B. False
7. Puncture vine is a prostrate, mat-forming It has small leaflets and small yellow flowers with 5 petals. A. Perennial C. Summer and winter annual(s) B. Summer annual(s) D. None of the above
8. Curly dock is a weed in the buckwheat family. Fairly pleasant tasting, the leaves are very rich in vitamins, especially vitamins A and C, and can be eaten raw or cooked. A. Perennial C. Summer and winter annual(s)

D. None of the above

B. Biennial(s)

 9. The roasted seed has been used as a coffee substitute. It is also a very important food plant for the caterpillars of many butterflies. In the spring, basal emerge from a stout taproot. These elongated leaves have wavy margins, thus the name "curly" dock. In summer, the plant has reddish, rigid stems, 2-4 feet tall. Flower stems have greenish flowers. A. Mid-ribs
10. Milkweed plants, members of the Asclepias family, are the only host plant for the monarch and queen butterflies. The adult females seek out these plants on which they lay their eggs. The caterpillars that hatch will remain on the plants and eat the leaves until they enter the pupal stage, then emerge as adult butterflies. It is a herb with long-spreading rhizomes. A. Perennial C. Summer and winter annual(s) B. Annual(s) D. None of the above
Invasive Plant Species Introduction Topic 2
Federally Listed Invasive Plant Species 1 has elliptic to lanceolate leaves, its branches are usually thorny, and its fruit is yellow, dry and mealy. A. Russian olive
 Combining control methods is the best form ofmanagement. Persistence is imperative so the weed is continually stressed, forcing it to exhaust root nutrient stores and eventually die. Canada thistle C. Toadflax Japanese knotweed D. None of the above
3was easy to establish and homesteaders liberally landscaped their properties with this drought resistant plant, continually spreading it in their migration to the Western frontier. A. Snapdragon C. Toadflax B. Spurge laurel D. None of the above
 4. The broad and pointed leaves can be mistaken for Broadleaf dock (Rumex obtusifolia), but docks lack rhizomes and the tall, spreading habit of Japanese knotweed. A. Canada thistle C. Toadflax B. Japanese knotweed D. None of the above
5 is difficult to control. Its extensive root system has vast nutrient stores that let it recover from control attempts. Combine control methods into a system to achieve best results. A. Leafy spurge C. Toadflax B. Spurge laurel D. None of the above
6. As an annual, reproduces solely by seed. Seeds generally do not remain viable past one year. Repeated hoeing, tilling, or mowing of young plants will prevent seed production. Hand-pulling (with gloves) can also be effective for small infestations. A. Snapdragon

		nial (or sometimes annual) that often grows 8 feet
		ns may be up to 4 inches wide at the base. Stems
of the flower heads.	ominent, spiny, ribbon-ii	ke leaf material or "wings" that extend to the base
A. Leafy spurge	C. Scotch thistle	
B. Russian thistle		
greenish-yellow, bitter-f	fragrant flowers. Larger	plant known for its spiraling evergreen leaves and patches of this species emit a strong unpleasanting, producing clusters of blue berries during the
A. Snapdragon	C. Toadflax D. None of the above	
feet tall and emerge in	clumps from a spreading d narrow, are crowded or C. Toadflax	r, smooth, herbaceous stems that are less than 2 root system. Soft, gray-green leaves, which are 1 nto each stem.
about 1 inch long and y	yellow. Gently pinching t ts as a guide for inse nd creeping roots. C. Toadflax	usters of 15 to 20 snapdragon-like flowers that are the sides of a flower opens its 2 lips revealing an cts to nectar produced in the spur. The plant
Musk thistle rosettes near the	s are usually large and c Leaves have consist	or Noxious Weeds - Topic 3 compact with a large, corky taproot that is hollow ent shape, sometimes expressing a frosted have a cream-colored midrib.
		seed 45 to 55 days after it bolts. Musk thistle has ed with sharp spines and shoots beneath flowers
below ground with a sh	novel or hoe. Mowing ca	e and can be removed easily by severing its root an effectively reduce seed output if plants are cut stage. Gather and burn mowed debris to destroy
application of a system roots, may be effective.	nic herbicide such as	nterspersed with desirable native plants, targeted , which carries plant toxins to the
A. Glyphosate (e.g., Ro B. Chlorpyralid (e.g. Tra		C. Systemic herbicide(s) D. None of the above

extremely expensive undertak infest rapidly. Prescribed burnir A. Mullein C. Lea	
foliar treatments.	surfactant at a concentration of 0.5% improves the effectiveness of nave been shown to be effective in controlling Chinese lespedeza. C. Systemic herbicide(s) D. None of the above
produce a showy display of ma Flowers have five to seven peta single rootstock. A. Mullein C. Ch	
results in severe damage to na A. Fountain grass C. Ca	el loads, which increases the intensity and spread of a fire, and tive, dry forest species adapted to less extreme fire regimes.
9. First year plant that range from 4-12 inches in A. Mullein C. Ch B. Loosestrife D. No	nese lespedeza
management, because they c	ome one of the most insidious problems in the field of wildlife an totally dominate pasture and prairie lands once established, eaving no room for exotic grasses.
1. When glyphosate is appreventing the production of es Roundup Ready, a modified E	plied to susceptible plants, glyphosate blocks EPSP synthase sential amino acids and the plant dies. However, in plants that are PSP synthase is unaffected by glyphosate and allows the plant to e or no crop injury associated with application and C. Glyphosate
B. Dithiopyr	D. None of the above
2. If the glyphosate application to the competitive effects of the done.	is made after the, some yield loss may occur due weed on the crop; in other words, the damage has already been
A. 3 to 5 trifoliate stage B. 5 to 8 trifoliate stage	C. 1 to 3 trifoliate stage D. None of the above

Glyphosate Stewardship	Dankanana waina
3. Rotation to non-Roundup i	Ready crops using after Roundup Ready crops are potential for glyphosate-resistant weeds.
	C. Dithiopyr
3. Nonglyphosate herbicides	
3 71	
	nost commonly used. However, herb Robert often occurs initially as
	desirable native species. In these situations, alternative control
nethods that have the ability broject.	to target individual plants can more successfully meet all goals of a
	C. Glyphosate (Roundup™)
B. Dithiopyr	C. Glyphosate (Roundup™) D. None of the above
. ,	
	Toothache grass is a
	/arm-season, perennial bunch grass
3. Summer annual D. N	one of the above
S is a p	postemergence herbicide that is slowly translocated within the plant.
t can effectively control tillere	ed crabgrass with a single application.
A. Quinclorac	C. Pendimethalin and phenoxy herbicides D. None of the above
3. Fenoxaprop-p-ethyl	D. None of the above
,	sate as a museum sund mantemanus haubiside. It musuides
	acts as a preemergence and postemergence herbicide. It provides abgrass only up to the one-tiller stage of development, but it can be
	ethyl when two or more tillers are present.
A. Quinclorac	C. Pendimethalin and phenoxy herbicides
B. Dithiopyr	D. None of the above
. ,	
	stemergence herbicide effective in controlling crabgrass and some
proadleaf weeds.	andimathalia and phanavy harbiaidae
B. Dithiopyr D. N	endimethalin and phenoxy herbicides
5. Bianopyi 2. 14	
9. Quinclorac can be mixe	d with other herbicides, including, to improve weed
	ly quinclorac in combination with a methylated seed oil according to
lirections on the label.	O. Donatha all all and a decident and delication
A. Quinclorac 3. Fenoxaprop-p-ethyl	C. Pendimethalin and phenoxy herbicides D. None of the above
з. Репохартор-р-ептуг	D. Notile of the above
0. leaves,	in comparison, are smooth or only sparsely hairy; and the leaf
	ded, and lance-shaped. The somewhat rounded terminal clusters of
	w are normally white to cream-colored and have an extended bloom
period from May to Septembe	
A. Canada thistle	C. Common yarrow
3. Dalmatian toadflax	D. None of the above
line Section Alien	Plant Invadore Tonic 5
	Plant Invaders Topic 5
	of a labeled systemic herbicide, such as glyphosate (e.g., Roundup) robably the most effective method to control akebia. An herbicidal
	which provides a burndown of plant tissues, may also provide
some control.	,on provides a samaonn or plant hoodes, may also provide
A. Dithiopyr	C. Pelargonic acid (e.g., Scythe)
Chlornyralid (e.g. Transline	

smaller plants and outcompeting native vegetation for water and nutrients. Urban parks, with extensive wooded borders neighboring landscaped residential and private property, are especially vulnerable to invasion by
A. Mile-a-minute weed C. Climbing bittersweet vine (Celastrus scandens) B. Porcelainberry D. None of the above
 3. Clusters of small greenish flowers emerge from leaf axils, allowing each plant to produce large numbers of seeds. At maturity, globular, green to yellow fruits split open to reveal three redorange, fleshy arils that contain the seeds. These showy fruits have made very popular for use in floral arrangements. A. Mile-a-minute weed
4. A variety of are available for management of climbing euonymus. Grubbing, a rather labor intensive method, is effective for small populations or environmentally sensitive areas where herbicides cannot be used. A. Triclopyr (e.g., Garlon) C. Herbicide applications B. Mechanical and chemical methods D. None of the above
 5. Because English ivy is an evergreen vine, and remains active during the winter, can be made to it any time of year as long as temperatures are above 55 or 60°Fahrenheit for a few days. A. Triclopyr (e.g., Garlon) B. Dithiopyr C. Herbicide applications D. None of the above
6. Fall and winter applications will avoid or minimize impacts to many native plant species. Repeat are likely to be needed and follow-up monitoring should be conducted to evaluate the success of treatments. A. Triclopyr (e.g., Garlon) C. Herbicide applications B. Dithiopyr D. None of the above
7. Several (e.g., glyphosate and triclopyr) move through the plant to the roots when applied to the leaves or stems and have been used effectively on Japanese honeysuckle. A. Herbicide applications
8. Local bird populations are important for dispersal under utility lines, bird feeders, fence lines and other perching locations. Other animals observed eating fruits are chipmunks, squirrel and deer. A. Mile-a-minute weed
9. Cut can be fed to livestock, burned or enclosed in plastic bags and sent to a landfill. If conducted in the spring, cutting must be repeated as regrowth appears to exhaust the plant's stored carbohydrate reserves. A. Mile-a-minute weed
10 is effective at a concentration of 0.5% and is selective to plants in the aster, buckwheat, and pea families. Caution should be taken with chlorpyralid as groundwater pollution through leaching can be a problem with certain soil types. Do not apply spray so heavily that herbicide drips off the leaves. A. Triclopyr (e.g., Garlon) C. Herbicide applications B. Chlorpyralid (e.g. Transline) D. None of the above

Trees- Alien Pla	nt Invaders Topic 6
	le trees for control will help reduce spread of by seed.
A. Silk tree(s)	C. Princess tree(s)
B. Ailanthus [′]	D. None of the above
	llings and small trees can be controlled by applying a 2% solution of iclopyr (e.g., Garlon) and water plus a 0.5% non-ionic surfactant to
thoroughly wet all leave	S.
A. EPSP synthase	C. Glyphosate (Roundup™)
B. Dithiopyr	D. None of the above
3	can be controlled using a variety of mechanical and chemical controls.
	fective for young seedlings. Plants should be pulled as soon as they are
large enough to grasp.	0 B: ()
A. Silk tree(s)	C. Princess tree(s)
B. Carrotwood	D. None of the above
	spreads by suckering, resprouts are common after treatment. Cutting
	asure and will require either an herbicidal control or repeated cutting for
resprouts.	
A. Mimosa	C. Princess tree(s)
B. Ailanthus	D. None of the above
5. Whenever possible	efforts should be taken to prevent the introduction or encroachment of for example, recently disturbed beach habitat may be planted with native
vegetation to prevent A	ustralian pine from invading.
A. Ailanthus	
B. Carrotwood	D. None of the above
	s suggest dispersal by small mammals. In its native range,is
	ch are the likely pollinators in Florida.
A. Ailanthus	C. Australian pine
B. Carrotwood	D. None of the above
7	kills broadleaf (dicotyledonous) plants but causes little or no damage
	for areas where desirable grasses are to be maintained.
A. Triclopyr	C. Glyphosate (Roundup™)
B. Dithiopyr	D. None of the above
8. Unfortunately,	seedlings often grow in low litter areas, unsuitable for frequent
prescribed fire. In dense	e stands, seedlings and saplings may be cut and dropped on site, creating
fuel for future fires.	
A. Buckthorn	C. Princess tree(s)
B. Ailanthus	D. None of the above
9. s	eedlings appear vulnerable to fire, perhaps due to their poorly established
	op kill a mature plant, but resprouting does occur.
	C. Princess tree(s)
B. Ailanthus	D. None of the above
10 Uprooting of 1/2 in	ch diameter seedlings by hand or up to 1 1/2 inch diameter using a weed
	care should be taken to avoid excessive disturbance to the soil, which can
	seeds stored in the soil.
A. Buckthorn	C. Princess tree(s)
B. Carrotwood	D. None of the above

Weed Management and Control Section Topic 7
1 is necessary following mechanical or chemical control. Digging and chopping cause soil disturbance and desired plants need to be reestablished before the invader can get a foothold. The same is true of chemical control, the desired vegetation must be reestablished. Moreover, you must remember that the invader was able to gain a toehold under the management regime that had been in place on that land. A. Cultural Control C. Chemical control B. Environmental control D. None of the above
Cultural Control 2. Controlling weeds on such sites can be futile without, as weeds will readily re-invade the disturbed area. A. Vegetative restoration
are available as concentrated liquids, (2 to 8 lb/gal) which need to be mixed with water before applying; as wettable powders which are from 50 to 100% active ingredient and need to be dispersed in water for uniform application, or as granules which are from 1 to 10% active ingredient and which are applied dry with granular applicators. See the label for all instructions on labeled crops and timings. A. Weed control chemicals C. Glyphosate (Roundup™) B. Nonglyphosate herbicides D. None of the above
4. Most effective control of broadleaf weeds is obtained when applied in early fall (August 15–October 15) or in spring (May 1–June 1). For some weeds, repeated application at 20–30 day intervals may be required for control. A. Perennial C. Summer and winter annual(s) B. Biennial(s) D. None of the above
5 is referred to as a desiccant because it causes a leaf or an entire plant to dry out quickly. It is used to desiccate potato vines and seed crops, to control flowering of sugarcane, and for industrial and aquatic weed control. It is not residual; that is, it does not leave any trace of herbicide on or in plants, soil, or water. A. Triclopyr C. Glyphosate (Roundup™) B. Diquat dibromide D. None of the above
6. The product Agent Orange, used extensively throughout Vietnam, was about 50% 2,4-D. However, the controversies associated with the use of Agent Orange were associated with a contaminant () in the 2,4,5-T component of the defoliant. A. Dithiopyr C. Dioxin B. Nonglyphosate herbicides D. None of the above
7kill all plants, both desirable and undesirable. These herbicides can be used to spot treat perennial grassy weeds that are not affected by selective herbicides. To spot treat an area, thoroughly wet the weed foliage with herbicide solution. A. Triclopyr C. Nonselective postemergence herbicides B. Systemic herbicides D. None of the above
Imazapyr (Trade name Habitat®). 8. Although imazapyr is a, a good applicator can somewhat selectively remove targeted plants by focusing the spray only on the plants to be removed. A. Glyphosate herbicide

Persistence of Pesticides 9. Persistence is usually expres A. True B. False	ssed as the "half	-life" (T1/2) of a pesticide.
(thermal degradation), moisture (pH)break c	conditions, biolo lown slowly and	otodecomposition), high air or water temperatures ogical action (microbial decay), and soil conditions may be more available to aquatic animals. C. Persistent (short-lasting) pesticides D. None of the above
and are usually visible to the r	naked eye as a jin growth on the ver the pond surf rotfeather	_are frequently a problem in pond management floating mat of thread-like filaments often called e pond bottom in shallow water, later float to the
Biological Control 2. Grass carp do not control pla A. True B. False	anktonic algae.	
states and in many other areas	of the world with nland and coasta tries.	al and economic problem in all of the gulf coast a sub-tropical or tropical climate. This species al freshwater bays, lakes, and marshes in the above
large spoke-like floats that radi year, however, it can be confu can appear almost bushy under	ate out from the sed with water. C. Common bla	is easily distinguished from its native cousins by base of the flower stalk. During the rest of the, both of which are rather robust and adderwort above
insects which are believed to be	oe helpful in kee	has resulted in the successful introduction of two eping water lettuce under maintenance control in e able to control submersed plants are ineffective above
	vly than contact leffectiveness of t C. Systemic he	rbicides
7. Systemic herbicides tend to a A. True B. False	act more quickly	than contact herbicides.

 8. An aquatically registered surfactant will improve the effectiveness of A. Dithiopyr C. Systemic herbicide B. Triclopyr D. None of the above
9 benefit other plants growing near them by taking nitrogen out of the air and depositing it in the soil in usable form; fallen alder leaves make very rich compost. A. Water lettuce
10. One danger with any chemical control method is the chance of oxygen depletion after the treatment caused by the decomposition of the dead plant material.A. True B. False
Submersed (underwater) Aquatic Weed Section Topic 9 1. Renovate is a liquid triclopyr formulation that is effective on It is a selective broadleaf, systemic herbicide. A. Water lettuce C. Parrotfeather B. Water hyacinths D. None of the above
 2. A variety of physical, chemical, and biological control methods have been used in attempts to manage infestations of A. Hydrilla C. Eurasian watermilfoil B. Water hyacinths D. None of the above
 are systemic herbicides. Systemic herbicides are absorbed and move within the plant to the site of action. A. Liquid triclopyr formulations C. 2,4-D compounds B. Liquid formulations D. None of the above
 4. Reward is a liquid diquat formulation that has been effective on Eurasian watermilfoil and is very effective if mixed with a copper compound. A. True B. False
5. Renovate is a that is effective on Eurasian watermilfoil. It is a selective broadleaf, systemic herbicide. A. Systemic herbicide(s) C. Granular butoxyethyl ester of 2,4-D B. Liquid triclopyr formulation D. None of the above
 6. Aquathol, Aquathol K, and Aquathol Super K areand comes in both liquid and granular formulations. A. Liquid triclopyr formulation C. Dipotassium salts of endothall B. Liquid diquat formulation D. None of the above
 Sonar and Avast are fluridone compounds, come in both liquid and granular formulations, and have been effective on Eurasian watermilfoil. True B. False
8. Any aquatic plant identified asshould be sent to a specialist for positive identification since hydrilla is such a serious threat to fresh water habitats. It is only through early identification and concentrated control methods that there is any hope of eliminating hydrilla. A. Hydrilla C. Eurasian watermilfoil B. Egeria, elodea, or hydrilla D. None of the above

Pond Water Chemistry 9. The water hardness also should be considered when using herbicides containing copper. A. True B. False
10. Some herbicides contain copper and should be used with caution in hard water ponds (less than 10 parts per million water hardness).A. True B. False
Aquatic Herbicides and Controls Section Topic 10 1 is used as a defoliant for a wide range of crops and as a herbicide for both terrestrial and aquatic weeds. A. Glyphosate herbicide C. Endothall B. Nonglyphosate herbicide D. None of the above
 2. Field and laboratory tests show that usually remains in the top inch of soil for long periods of time after it is applied. A. Fluridone C. Diquat B. 2,4-D D. None of the above
 Reward itself is an acid, but it is commonly used in salt form, most commonly the isopropylamine salt. True B. False
 4. Some formulations of are highly toxic to fish while others are less so. A. Reward C. Fluridone B. 2,4-D D. None of the above
5 can be effective for spot treatment of Eurasian watermilfoil and is relatively selective to Eurasian watermilfoil when used at the labeled rate. A. Glyphosate herbicide B. Dithiopyr D. None of the above
6 can show good control of submersed plants where there is little water movement and an extended time for the treatment. Its use is most applicable to whole-lake or isolated bay treatments where dilution can be minimized. It is not effective for spot treatments of areas less than five acres. A. Reward C. Fluridone B. 2,4-D D. None of the above
7. Most species of algae can be controlled with very low concentrations of It is available in crystalline nuggets the size of rock salt or as a finely ground "snow" grade. A. Copper sulfate C. Dithiopyr B. Nonglyphosate herbicide D. None of the above
8. A concentrated granular herbicide is effective against a broad range of aquatic plants with a wide margin of safety to fish and other aquatic life.A. True B. False
9 is a concentrated liquid aquatic herbicide effective against a wide variety of submersed, emergent, and floating aquatic plants including duckweed, naiads, and cattails. A. Reward C. Fluridone B. Diquat D. None of the above

	no environmental risk in aquatic applications because the es as it is absorbed onto soil, vegetation, and organic
matter.	oo do it is absorbed onto son, vegetation, and organie
A. Reward C. Fluridone B. Diquat D. None of the a	phovo
B. Diquat D. None of the a	above
Invasive Plant Rule Section	Topic 11
1. must be overcome	for a plant to be considered an invasive weed. Invasive
weeds are invasive species.	C. Coographical barrier
A. Population of non-native plantsB. Several barriers	D. None of the above
	n plants
3 Other physical barriers might be	, or competition for resources
from neighboring plants.	, or competition for resources
A. pH, nutrient availability C. Noxi	
B. Altering physical processes D. None	e of the above
of establishment to be considered invasive relatively fast. However, this movement of native plant an invasive weed or A. Population of non-native plants	vercome barriers to dispersal and spread from their site ve plants. Additionally, the rate of spread must be or spread alone does not necessarily make this non- C. Noxious weed(s) D. None of the above
California	
	rizes the impacts, potential for spread, and distribution of
more than 200 that inva	de wildlands in California.
A. Invasive species C. Alier B. Non-native plant(s) D. None	e of the above
	e Control Act of 1972 in part prohibits the application of with its labeling. This means that a pesticide cannot be
7. Wash exposed skin areas with generorA. True B. False	ous amounts of soap and water.
8. All herbicides can be classified as eith	ner selective or nonselective kill certain
weeds with little or no injury to the crop.	
, ,	C. Selective herbicides D. None of the above
2. Italiaalaaliva halbialaa(a)	D. Hone of the above
9. The movement of a	by runoff or by soil erosion to non-target areas is
another possibility. Typical 2,4 D injury sy A. Phenoxy herbicide(s)	ymptoms on grape leaves. C. Selective herbicides
• • • • • • • • • • • • • • • • • • • •	D. None of the above

Vapor Drift

10. Volatility refers to the ability of an herbicide to vaporize and to mix freely with the air.

A. True

B. False

When Finished with Your Assignment

REQUIRED DOCUMENTS

Please scan the **Registration Page**, **Answer Key**, **Survey and Driver's License** and email it to info@TLCH2O.com.

IPhone Scanning Instructions

If you are unable to scan, take a photo of these documents with your **iPhone** and send these photos to TLC, info@TLCH2O.com.

FAX

If you are unable to scan and email, please fax these to TLC, if you fax, call to confirm that we received your paperwork. (928) 468-0675

Invasive Plant Identification CEU Conventional Assignment #2

You will have 90 days from the start of this course to have successfully completed this CEU assignment with a score of 70%. You may e-mail the answers to TLC, info@tlch2o.com, you can also find a copy of this assignment in Word on the Assignment Page on TLC's website or fax the answers to TLC (928) 468-0675. Course assistance is available on the Assignment Page under Course Assistance at www.abctlc.com. Write your answers on the Answer Key found in the front of first assignment.

Write your answers on the Answer Key found in the front section of this assignment.

(s) Means the answer can be plu	
cultivar characteristics are passed	intained via controlled pollination or vegetative means, so that d to ensuing generations. s) C. Negative environmental effect(s) D. None of the above
To maintain the ecovar development process. A. Genetic diversity B. Minimum levels of pesticide	C. Direct habitat destruction
3. An ecovar is an intermediate sA. CultivarB. Minimum levels of pesticide	tep between a wild-growing plant and a C. Ecovar development process D. None of the above
4may include the crop, baited or pheromone tra A. Tactics B. Minimum levels of pesticide(s)	using row covers or trenches to prevent insects from reaching ups to capture insects, or cultivation or mowing for weed control. C. Direct habitat destruction D. None of the above
Importance of Native Plants 5. Invasions of non-native plant habitat destruction. A. True B. False	ts are the second greatest threat to native species after direct
	cally and is a consistent key to plant identification. The leaves arranged along the Is a second consistent key to plant identification. The leaves are also as a consistent key to plant identification. The leaves are also as a consistent key to plant identification. The leaves are also as a consistent key to plant identification. The leaves are also as a consistent key to plant identification. The leaves are also as a consistent key to plant identification. The leaves are also as a consistent key to plant identification. The leaves are also as a consistent key to plant identification. The leaves are also as a consistent key to plant identification.
7. Puncture vine is a prostrate yellow flowers with 5 petals. A. Perennial C. Sumr B. Biennial(s) D. None	, mat-forming It has small leaflets and small ner annual(s) of the above
	weed in the buckwheat family. Fairly pleasant tasting, the specially vitamins A and C, and can be eaten raw or cooked. ner and winter annual(s) of the above

 9. The roasted seed has been used as a coffee substitute. It is also a very important food plant for the caterpillars of many butterflies. In the spring, basal emerge from a stout taproot. These elongated leaves have wavy margins, thus the name "curly" dock. In summer, the plant has reddish, rigid stems, 2-4 feet tall. Flower stems have greenish flowers. A. Rosettes C. Leaves B. Flowers D. None of the above
10. Milkweed plants, members of the Asclepias family, are the only host plant for the monarch and queen butterflies. The adult females seek out these plants on which they lay their eggs. The caterpillars that hatch will remain on the plants and eat the leaves until they enter the pupal stage, then emerge as adult butterflies. It is a herb with long-spreading rhizomes. A. Perennial C. Summer and winter annual(s) B. Annual(s) D. None of the above
Invasive Plant Species Introduction Topic 2
Federally Listed Invasive Plant Species 1 has elliptic to lanceolate leaves, its branches are usually thorny, and its
fruit is yellow, dry and mealy.
A. Russian oliveB. Russian KnotflaxD. None of the above
 Combining control methods is the best form ofmanagement. Persistence is imperative so the weed is continually stressed, forcing it to exhaust root nutrient stores and eventually die. Canada thistle C. Toadflax Russian thistle D. None of the above
3was easy to establish and homesteaders liberally landscaped their properties with this drought resistant plant, continually spreading it in their migration to the Western frontier.
A. Snapdragon C. Toadflax B. Spurge laurel D. None of the above
4. The broad and pointed leaves can be mistaken for Broadleaf dock (Rumex obtusifolia), but docks lack rhizomes and the tall, spreading habit of Japanese knotweed. Other less invasive relatives (such as P. virginianum) grow from similar rhizomes and are difficult to eradicate. A. Japanese knotweed C. Autumn olive
B. Russian thistle D. None of the above
5 is difficult to control. Its extensive root system has vast nutrient stores that let it recover from control attempts. Combine control methods into a system to achieve best results.
A. Leafy spurge C. Toadflax
B. Scotch thistle D. None of the above
6. As an annual, reproduces solely by seed. Seeds generally do not remain viable past one year. Repeated hoeing, tilling, or mowing of young plants will prevent seed production. Hand-pulling (with gloves) can also be effective for small infestations. A. Snapdragon

	a branched, robust biennial (or sometimes annual) that often grows 8 feet
	6 feet in width. Main stems may be up to 4 inches wide at the base. Stems
of the flower heads.	rominent, spiny, ribbon-like leaf material or "wings" that extend to the base
A. Spurge laurel	C. Scotch thistle
B. Russian thistle	D. None of the above
greenish-yellow, bitter-	in attractive ornamental plant known for its spiraling evergreen leaves and fragrant flowers. Larger patches of this species emit a strong unpleasant is in late winter-early spring, producing clusters of blue berries during the
spring.	
A. Snapdragon B. Spurge laurel	C. Toadflax D. None of the above
feet tall and emerge in	is a perennial with erect, smooth, herbaceous stems that are less than 2 clumps from a spreading root system. Soft, gray-green leaves, which are 1 d narrow, are crowded onto each stem. C. Toadflax
	D. None of the above
about 1 inch long and orange throat that ac reproduces by seeds a A. Snapdragon	
	and Invasive and/or Noxious Weeds - Topic 3 es are usually large and compact with a large, corky taproot that is hollow
A. Rosettes	 C. Crown
B. Mid-rib	D. None of the above
shoots beneath flowers A. Mid-ribs	very large bracts beneath flowers that are armed with sharp spines and sare almost devoid of C. Leaves D. None of the above
3below ground with a sh	will not tolerate tillage and can be removed easily by severing its root novel or hoe.
	C. Canada thistle
B. Musk thistle	D. None of the above
	here Canada thistle is interspersed with desirable native plants, targeted mic herbicide such as, which carries plant toxins to the
A. Triclopyr (e.g., Garlo B. Chlorpyralid (e.g. Tr	on) C. Glyphosate (e.g., Roundup or Rodeo)
an extremely expensive	are necessary every year for several years, making Leafy spurge control e undertaking. If left uncontrolled for a single year, it can re-infest rapidly. conjunction with herbicides, may also be effective.

6. The addition of a non-ionic streatments.A. True B. False	urfactant at a concentration of 0.5% improves the effectiveness of
7have been show A. Triclopyr and clopyralid B. Chlorpyralid (e.g. Transline)	vn to be effective in controlling Chinese lespedeza. C. Systemic herbicide(s) D. None of the above
8 raises fue results in severe damage to nati A. Mullein C. Fou B. Loosestrife D. Non	el loads, which increases the intensity and spread of a fire, and ve, dry forest species adapted to less extreme fire regimes. ntain grass e of the above
9. First year plants that range from 4-12 inches in le A. Mullein	
	ome one of the most insidious problems in the field of wildlife in totally dominate pasture and prairie lands once established, aving no room for native plants.
	vasive Species Topic 4 y associated with application and Roundup Ready phosate e of the above
2. If the glyphosate application to the competitive effects of the done.A. 1 to 3 trifoliate stageB. 5 to 8 trifoliate stage	is made after the, some yield loss may occur due weed on the crop; in other words, the damage has already been C. 3 to 5 trifoliate stage D. None of the above
is also effective in reducing the	ady crops using after Roundup Ready crops cotential for glyphosate-resistant weeds. C. Glyphosate D. None of the above
part of a mosaic alongside do methods that have the ability to project. A. EPSP synthase C. Glyp	st commonly used. However, herb Robert often occurs initially as esirable native species. In these situations, alternative control target individual plants can more successfully meet all goals of a hosate (Roundup $^{\text{TM}}$) e of the above
	othache grass is a m-season, perennial bunch grass e of the above

	postemergence herbicide that is slowly translocated within the plant
It can effectively control tille	ed crabgrass with a single application.
A. Quinclorac	C. Pendimethalin and phenoxy herbicides
B. Fenoxaprop-p-ethyl	red crabgrass with a single application. C. Pendimethalin and phenoxy herbicides D. None of the above
7. postemergence control of c	acts as a preemergence and postemergence herbicide. It provide abgrass only up to the one-tiller stage of development, but it can be eathyl when two or more tillers are present.
A. Quinclorac	C. Dithiopyr
B. Fenoxaprop-p-ethyl	D. None of the above
	ostemergence herbicide effective in controlling crabgrass and some
broadleaf weeds.	
	Pendimethalin and phenoxy herbicides
B. Dithiopyr D.	None of the above
	ed with other herbicides, including, to improve week ply quinclorac in combination with a methylated seed oil according to
A. Quinclorac	C. Pendimethalin and phenoxy herbicides
B. Fenoxaprop-p-ethyl	
segment is longer, more rou	C. Common yarrow
1. Akebia vines may also complete removal, regular ilarge infestations, use of a triclopyr (e.g., Garlon), is p	n Plant Invaders Topic 5 be dug up, removing as much of the roots as possible. To ensure it nonitoring and repeated cutting, digging or pulling is necessary. For labeled systemic herbicide, such as glyphosate (e.g., Roundup) or robably the most effective method to control akebia. An herbicidation, which provides a burndown of plant tissues, may also provide
A. Dithiopyr	C. Pelargonic acid (e.g., Scythe)
B. Chlorpyralid (e.g. Transli	
smaller plants and outcomp extensive wooded borders r especially vulnerable to inva-	ne quickly overwhelms and destroys native vegetation by shading out eting native vegetation for water and nutrients. Urban parks, with eighboring landscaped residential and private property, are sion by C. Climbing bittersweet vine (Celastrus scandens) D. None of the above
•	
	h flowers emerge from leaf axils, allowing each plant to produce large ity, globular, green to yellow fruits split open to reveal three red-
	ain the seeds. These showy fruits have made very
popular for use in floral arra	
A. Mile-a-minute weed	C. Climbing bittersweet
	D. None of the above
B. Fountain grass	D. None of the above

4. A variety of	are available for management of climbing euonymus.
Grubbing, a rather labor intensi	ve method, is effective for small populations or environmentally
sensitive areas where herbicides	s cannot be used.
A. Dithiopyr	C. Mechanical and chemical methodsD. None of the above
B. Herbicide applications	D. None of the above
5. Because English ivy is an eve	ergreen vine, and remains active during the winter,
can be made to it any time of year	ar as long as temperatures are above 55 or 60°Fahrenheit for a
few days.	
A. Dithiopyr	C. Mechanical and chemical methodsD. None of the above
B. Herbicide applications	D. None of the above
6. Fall and winter applications w	vill avoid or minimize impacts to many native plant species.
	are likely to be needed and follow-up monitoring should be
conducted to evaluate the succe	ss of treatments.
A. Dithiopyr	C. Mechanical and chemical methods
B. Herbicide applications	C. Mechanical and chemical methods D. None of the above
7 Several (6	e.g., glyphosate and triclopyr) move through the plant to the roots
	ems and have been used effectively on Japanese honeysuckle.
B. Herbicide applications	C. Mechanical and chemical methods D. None of the above
0	
	portant for dispersal under utility lines, bird feeders, fence lines her animals observed eating fruits are
chinmunka aguirral and door	
A Mile-a-minute weed	C. Climbing bittersweet vine (Celastrus scandens)
B. Porcelainberry	C. Climbing bittersweet vine (Celastrus scandens) D. None of the above
9. Cut can	be fed to livestock, burned or enclosed in plastic bags and sen
the plant's stored carbohydrate r	spring, cutting must be repeated as regrowth appears to exhaus
A Kudzu	C. Fountain grass
A. Kudzu B. Porcelainberry	D. None of the above
aster, buckwheat, and pea famili	fective at a concentration of 0.5% and is selective to plants in the
A Triclopyr (e.g. Garlon)	C. Dithionyr
A. Triclopyr (e.g., Garlon) B. Chlorpyralid (e.g. Transline)	D. None of the above
z. c.mo.py.ama (e.g. manomio)	21 115115 51 415 415 115
Trees- Alien Plant Inv	aders Topic 6
	olled using a variety of mechanical and chemical controls. Hand
	ng seedlings. Plants should be pulled as soon as they are large
enough to grasp.	
A. True B. False	
2 Princess tree seedlings an	d small trees can be controlled by applying a 2% solution o
	(e.g., Garlon) and water plus a 0.5% non-ionic surfactant to
thoroughly wet all leaves.	(a.g.,)
	C. Glyphosate (Roundup™)
	D. None of the above
2 Targeting large female trace	for control will halp raduce enroad of
A. Silk tree(s) C. Prince	for control will help reduce spread of by seed.
	e of the above
	5 5. 15 GMOTO

 Because Mimosa spreads by suckering, resprouts are common after treatment. Cutting is an initial control measure and will require either an herbicidal control or repeated cutting for
resprouts.
A. True B. False
5. Whenever possible, efforts should be taken to prevent the introduction or encroachment of For example, recently disturbed beach habitat may be planted with native vegetation to prevent this species from invading.
A. Silk tree(s) C. Australian pine
B. Carrotwood D. None of the above
 6. Clumps of seedlings suggest dispersal by small mammals. In its native range,is pollinated by bees, which are the likely pollinators in Florida. A. Ailanthus C. Australian pine B. Carrotwood D. None of the above
b. Garrotwood B. None of the above
 7kills broadleaf (dicotyledonous) plants but causes little or no damage to grasses and is useful for areas where desirable grasses are to be maintained. A. Triclopyr C. Glyphosate (Roundup™) B. Dithiopyr D. None of the above
8. Unfortunately, seedlings often grow in low litter areas, unsuitable for frequent prescribed fire. In dense stands, seedlings and saplings may be cut and dropped on site, creating fuel for future fires. A. Buckthorn C. Princess tree(s)
B. Ailanthus D. None of the above
9 seedlings appear vulnerable to fire, perhaps due to their poorly established root structure. Fire will top kill a mature plant, but resprouting does occur. A. Buckthorn C. Princess tree(s) B. Ailanthus D. None of the above
10. Uprooting of 1/2 inch diameter seedlings by hand or up to 1 1/2 inch diameter using a weed wrench is effective, but care should be taken to avoid excessive disturbance to the soil, which can
release seeds stored in the soil.
A. Buckthorn C. Princess tree(s) B. Ailanthus D. None of the above
Weed Management and Control Section Topic 7
1 is necessary following mechanical or chemical control. Digging and chopping cause soil disturbance and desired plants need to be reestablished before the invader can get a foothold. The same is true of chemical control, the desired vegetation must be
reestablished. Moreover, you must remember that the invader was able to gain a toehold under
the management regime that had been in place on that land.
A. Chemical control B. Environmental and economic problem C. Cultural Control D. None of the above
Cultural Control
Controlling weeds on such sites can be futile without, as weeds will readily
re-invade the disturbed area.
A. Chemical control C. Persistent (long-lasting) pesticides B. Vegetative restoration D. None of the above
D. VEGETATIVE TESTOTATION D. INONE OF THE ADOVE

kill all plants, both desirat	ole and undesirable. These herbicides can be
used to spot treat perennial grassy weeds that are	not affected by selective herbicides. To spot
treat an area, thoroughly wet the weed foliage with h	
A. Broad spectrum, non-selective herbicide C. B. Systemic herbicides D.	Nonselective postemergence herbicides None of the above
D. Systemic herbicides	Notice of the above
4are available as concentrated leads with water before applying; as wettable powders which need to be dispersed in water for uniform application active ingredient and which are applied dry with instructions on labeled crops and timings. A. Weed control chemicals C. Non-systemic held B. Non-glyphosate herbicides D. None of the above	ch are from 50 to 100% active ingredient and on, or as granules which are from 1 to 10% granular applicators. See the label for all rbicides
5. Most effective control of but early fall (August 15–October 15) or in spring (Mapplication at 20–30 day intervals may be required for A. Perennial C. Summer and winter annual B. Biennial(s) D. None of the above	lay 1–June 1). For some weeds, repeated or control.
6is referred to as a desiccan to dry out quickly. It is used to desiccate potato vines sugarcane, and for industrial and aquatic weed contrany trace of herbicide on or in plants, soil, or water. A. Triclopyr C. Diquat dibromide B. Glyphosate (Roundup™) D. None of the above	rol. It is not residual; that is, it does not leave
7. The product Agent Orange, used extensively thowever, the controversies associated with the uscontaminant () in the 2,4,5-T A. Dithiopyr C. Dioxin B. Nonglyphosate herbicides D. None of the above	se of Agent Orange were associated with a component of the defoliant.
Imazapyr (Trade name Habitat®). 8. Although imazapyr is a, a good targeted plants by focusing the spray only on the plant A. Broad spectrum, non-selective herbicide C. B. Systemic herbicides D.	nts to be removed.
Persistence of Pesticides 9. Persistence refers to the length of time a pesticide A. True B. False	e remains in the environment.
Ä. Persistent (long-lasting) pesticides C.	

Introduction to Wetlands Section Topic 8

Filamentous Algae 1. Unlike microscopic algae, and are usually visible to the repond moss. A. Filamentous algae C. Pari B. Hydrilla D. Non	
Biological Control 2. Grass carp control planktonic A. True B. False	c algae.
states and in many other areas	C. Eurasian watermilfoil
large spoke-like floats that radi	ort is flowering it is easily distinguished from its native cousins by ate out from the base of the flower stalk. During the rest of the sed with, both of which are rather robust and water. C. Common bladderwort D. None of the above
insects which are believed to be	sect biocontrols has resulted in the successful introduction of two be helpful in keeping water lettuce under maintenance control in rol fish which are able to control submersed plants are ineffective C. Algae D. None of the above
6 are absorbed. Glyphosate herbicides B. Systemic herbicides	orbed and move within the plant to the site of action. C. Broad spectrum, non-selective herbicides D. None of the above
7. Systemic herbicides are abso A. True B. False	orbed and move within the plant to the site of action.
8. An aquatically registered of A. Dithiopyr B. Triclopyr	d surfactant (see the label) will improve the effectiveness C. Glyphosate herbicides D. None of the above
	r plants growing near them by taking nitrogen out of the air and form; fallen alder leaves make very rich compost. C. Alders D. None of the above
	cal control method is the chance of oxygen depletion after the position of the dead plant material.

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	ter) Aquatic Weed Section Topic 9		
 Renovate is a liquid triclop selective broadleaf, systemic he 	byr formulation that is effective on It is a problem.		
A. Water lettuce B. Eurasian watermilfoil			
B. Eurasian watermiitoii	D. None of the above		
	cal, and biological control methods have been used in attempts to a watermilfoil. Unfortunately, complete eradication is rare.		
3. Navigate and Aqua-Kleen is Eurasian watermilfoil. absorbed and move within the p A. Liquid triclopyr formulations B. Liquid formulations	C. 2,4-D compounds		
4. Reward is a liquid diquat for very effective if mixed with a copp.A. TrueB. False	rmulation that has been effective on Eurasian watermilfoil and is oper compound.		
	that is effective on Eurasian watermilfoil. It is a selective		
broadleaf, systemic herbicide. A. Systemic herbicide(s)	C. Granular butoxyethyl ester of 2,4-D		
B. Liquid triclopyr formulation			
granular formulations. These en can be mixed with copper comp and kill all plant cells that they co	C. Dipotassium salts of endothall		
7. Sonar and Avast are fluridon have been effective on EurasianA. TrueB. False	ne compounds, come in both liquid and granular formulations, and n watermilfoil.		
identification since hydrilla is su identification and concentrated of	should be sent to a specialist for positive ch a serious threat to fresh water habitats. It is only through early control methods that there is any hope of eliminating hydrilla. C. Parrotfeather D. None of the above		
Pond Water Chemistry			
In soft waters (below 50 pa and plants.	arts per million hardness) some herbicides are more toxic to fish		
A. True B. False			
10. CopperIn soft water someA. TrueB. False	heavy metals, can be toxic to fish.		
•	nd Controls Section Topic 10		
1is used as a defoliant for a wide range of crops and as an herbicide for both terrestrial and aquatic weeds.			
A. Glyphosate herbicide	C. Endothall		
B. Dithiopyr	D. None of the above		

long periods of time after	tests snow that usually remains in the top inch of soil for
A. Fluridone	
B. 2,4-D	D. None of the above
Fluridone itself is isopropylamine salt. A. True B. Fals	an acid, but it is commonly used in salt form, most commonly the
example, the LC50 ra	of are highly toxic to fish while others are less so. For nges between 1.0 and 100 mg/L in cutthroat trout, depending on the nnel catfish had less than 10% mortality when exposed to 10 mg/L for 48
	C. Diquat D. None of the above
	can be effective for spot treatment of Eurasian watermilfoil and is urasian watermilfoil when used at the labeled rate. C. Triclopyr D. None of the above
movement and an exte	C. Diquat
available in crystalline r	ae can be controlled with very low concentrations of It is nuggets the size of rock salt or as a finely ground "snow" grade. C. Copper sulfate D. None of the above
including Chara, Spirog Effective in hard water. A. Glyphosate herbicide	, under field conditions, is effective in controlling a broad range of algae yra, Cladophora, Vaucheria, Ulothrix, Microcystis, and Oscillatoria. C. Cutrine Plus D. None of the above
	is a concentrated liquid aquatic herbicide effective against a wide variety at, and floating aquatic plants including duckweed, naiads, and cattails. C. Diquat D. None of the above
10	_poses virtually no environmental risk in aquatic applications because the rapidly decreases as it is absorbed onto soil, vegetation, and organic C. Diquat D. None of the above
	Rule Section Topic 11
1A. Triclopyr	_ in general are formulated in two ways, as esters or amines. C. Phenoxy herbicides
B. Dithiopyr	D. None of the above

2. There are two categories of amines: the regular form and the low-volatile form. The latter form is less likely to cause problems.A. True B. False
3. The formulations are safer to use than are the esters, but they are less effective in their performance. A. Ester(s) C. 2,4-D, 2,4,5-T, 2,4-DB, 2,4,5-TP (Silvex) and MCPA B. Amine D. None of the above
Symptoms of Injury 4. Mere traces of a may cause sensitive plants to produce abnormally large leaves, exaggerated distances between leaves and multiplied or enlarged flowering or fruiting parts. A. Phenoxy herbicide C. Registration and labeling of a particular pesticide B. Non-selective herbicides D. None of the above
5. Greater concentrations of thecan cause stunting and cupping of leaves, spiraling growth of soft shoots, clearing and enlargement of major leaf veins and severe distortion of flowering or fruiting parts. A. Product C. Insecticide(s) B. Herbicide(s) D. None of the above
Long-term Effects 6. Severe cases of injury may result in stunted growth and poor ripening for two to four years after exposure. Growers seeking monetary compensation should be aware of these long-term effects and not be too quick to settle damage claims. A. Phenoxy herbicide C. Hazardous pesticides B. Non-selective herbicides D. None of the above
Resolving Problems 7. User responsibility. Registration and labeling of a clearly give individual the right to apply the pesticide as long as they follow the directions for use and the precautions stated on the label. A. Herbicide use(s) C. Herbicide volatility B. Particular pesticide(s) D. None of the above
8. The use of a pesticide in any way contrary to the label is a violation of federal law. Misuse of may make the user liable to either criminal prosecution or to civil proceedings
or both. A. Pesticide B. Greater concentrations of the herbicide C. Non-selective herbicide D. None of the above
9. Although there is no legal obligation for herbicide applicators to take stock of sensitive crops in the area of application and to consult and cooperate with neighbors in matters of , it is advisable to do so.
A. Herbicide use(s) C. Herbicide volatility B. Particular pesticide(s) D. None of the above
 10. Growers of sensitive crops are not obligated to inform operators of surrounding farms and local industries of the presence and sensitivity of their crops, but it is advisable to seek the cooperation of neighbors in the use of A. Hazardous pesticides

Invasive Plant Identification CEU Conventional Assignment #3

You will have 90 days from the start of this course to have successfully completed this CEU assignment with a score of 70%. You may e-mail the answers to TLC, info@tlch2o.com, you can also find a copy of this assignment in Word on the Assignment Page on TLC's website or fax the answers to TLC (928) 468-0675. Course assistance is available on the Assignment Page under Course Assistance at www.abctlc.com. Write your answers on the Answer Key found in the front of first assignment.

Write your answers on the Answer Key found in the front section of this assignment.

Weed Identification Section Topic 1

(s) Means the answer can be plural or singular.

Understanding Weed Terms		
	cycle of a pest so that the pesticide can be applied when	
the pest is – the aim is t	o achieve maximum effect at minimum levels of pesticide.	
A. At its most vulnerable B. Minimum levels of pesticide	C. Direct habitat destruction	
B. Minimum levels of pesticide	D. None of the above	
2. The key is to use pesticides in a wa	y that complements rather than hinders in the	
strategy and which also limits negative	environmental effects.	
A. Other elements	C. Direct habitat destruction	
A. Other elements B. Ecovar development process	D. None of the above	
cultivar characteristics are passed to en	ed via controlled pollination or vegetative means, so that	
	C. Direct habitat destruction	
B. Negative environmental effect(s)		
b. Negative environmental encot(s)	B. None of the above	
4. To maintainir	n ensuing generations, little to no selection is done during	
the ecovar development process.		
A. Genetic diversity B. Minimum levels of pesticide	C. Direct habitat destruction	
B. Minimum levels of pesticide	D. None of the above	
5. An ecovar is an intermediate step be	tween a wild-growing plant and a	
	C. Direct habitat destruction	
B. Ecovar development process		
·		
6may include using	row covers or trenches to prevent insects from reaching	
the crop, baited or pheromone traps to	capture insects, or cultivation or mowing for weed control.	
A. Tactics	C. Direct habitat destruction	
B. Ecovar development process(s)	D. None of the above	
loon automaa af Nation Dlanta		
Importance of Native Plants	the accord greatest threat to native energies after direct	
habitat destruction.	the second greatest threat to native species after direct	
A. True B. False		
A. Tide B. False		
Broadleaves (dicots), Grasses (monocots), and Sedges		
	and is a consistent key to plant identification. The leaves	
may be alternately or oppositely arrange	ed along the	
A. Rosettes C. Spikes B. Stem D. None of the		
B. Stem D. None of the	above	

9. Puncture vine is a prostrate, mat-forming It has small leaflets and small yellow flowers with 5 petals. Fruits containing seeds are a sharp, spiny burr that can easily puncture a bicycle inner tube (or gardener's skin!). This weed is found only in thin, less vigorous turf given insufficient water. It will pull easily out of moist soils. Be sure to wear gloves to protect your hands from the burrs. You can discourage the growth of puncture vine by increasing the turn density. A. Perennial C. Summer and winter annual(s) B. Summer annual(s) D. None of the above
10. Milkweed plants, members of the Asclepias family, are the only host plant for the monarch and queen butterflies. The adult females seek out these plants on which they lay their eggs. The caterpillars that hatch will remain on the plants and eat the leaves until they enter the pupal stage then emerge as adult butterflies. It is a herb with long-spreading rhizomes. A. Perennial C. Summer and winter annual(s) B. Biennial(s) D. None of the above
Invasive Plant Species Introduction Topic 2 Federally Listed Invasive Plant Species 1 has elliptic to lanceolate leaves, its branches are usually thorny, and its fruit is yellow, dry and mealy. A. Russian olive
2. Combining control methods is the best form ofmanagement. Persistence is imperative so the weed is continually stressed, forcing it to exhaust root nutrient stores and eventually die. A. Canada thistle C. Toadflax B. Japanese knotweed D. None of the above
3was easy to establish and homesteaders liberally landscaped their properties with this drought resistant plant, continually spreading it in their migration to the Western frontier. Also, burial sites were often adorned with toadflax to give everlasting beauty and tranquility. Their legacy has prevailed, proving to be notorious in nature. A. Snapdragon C. Toadflax B. Spurge laurel D. None of the above
4. The broad and pointed leaves can be mistaken for Broadleaf dock (Rumer obtusifolia), but docks lack rhizomes and the tall, spreading habit of Japanese knotweed. Other less invasive relatives (such as P. virginianum) grow from similar rhizomes and are difficult to eradicate. A. Japanese knotweed
5 is difficult to control. Its extensive root system has vast nutrient stores that let it recover from control attempts. Combine control methods into a system to achieve best results. A. Leafy spurge
6. As an annual, reproduces solely by seed. Seeds generally do no remain viable past one year. Repeated hoeing, tilling, or mowing of young plants will preven seed production. Hand-pulling (with gloves) can also be effective for small infestations. A. Snapdragon

7 is	a branched, robust biennial (or sometimes annual) that often grows 8 feet
	6 feet in width. Main stems may be up to 4 inches wide at the base. Stems
	prominent, spiny, ribbon-like leaf material or "wings" that extend to the base
of the flower heads.	
A. Spurge laurel	
B. Russian thistle	D. None of the above
8 is	an attractive ornamental plant known for its spiraling evergreen leaves and
greenish-yellow, bitter	r-fragrant flowers. Larger patches of this species emit a strong unpleasant
odor. Flowering occur	rs in late winter-early spring, producing clusters of blue berries during the
spring.	
A. Snapdragon	C. Toadflax
B. Spurge laurel	D. None of the above
9	is a perennial with erect, smooth, herbaceous stems that are less than 2
	n clumps from a spreading root system. Soft, gray-green leaves, which are 1
•	nd narrow, are crowded onto each stem.
A. Leafy spurge	C. Toadflax
B. Scotch thistle	D. None of the above
about 1 inch long and orange throat that a	ems that terminate with clusters of 15 to 20 snapdragon-like flowers that are divided yellow. Gently pinching the sides of a flower opens its 2 lips revealing an cts as a guide for insects to nectar produced in the spur. The plant
reproduces by seeds a	
A. Snapdragon	D. None of the above
b. Spurge laurer	D. Notice of the above
Commonly For	und Invasive and/or Noxious Weeds - Topic 3
	es are usually large and compact with a large, corky taproot that is hollow
near the	Leaves have consistent shape, sometimes expressing a frosted
	e leaf margins, and often have a cream-colored midrib.
A. Rosettes	
B. Leaves	D. None of the above
	rs and starts to produce seed 45 to 55 days after it bolts. Musk thistle has
	eath flowers that are armed with sharp spines and shoots beneath flowers
are almost devoid of _	
A. Mid-ribs	C. Leaves
B. Flowers	D. None of the above
	will not tolerate tillage and can be removed easily by severing its root
	shovel or hoe. Mowing can effectively reduce seed output if plants are cut
when the terminal hea	ad is in the late-flowering stage. Gather and burn mowed debris to destroy
any seed that has dev	
A. Fountain grass	C. Canada thistle
any seed that has dev A. Fountain grass B. Musk thistle	
A. Fountain grassB. Musk thistle4. In natural areas v	 Canada thistle None of the above vhere Canada thistle is interspersed with desirable native plants, targeted
A. Fountain grassB. Musk thistle4. In natural areas vapplication of a system	C. Canada thistle D. None of the above where Canada thistle is interspersed with desirable native plants, targeted emic herbicide such as, which carries plant toxins to the
A. Fountain grassB. Musk thistle4. In natural areas vapplication of a systemots, may be effective	C. Canada thistle D. None of the above where Canada thistle is interspersed with desirable native plants, targeted emic herbicide such as, which carries plant toxins to the e.
A. Fountain grassB. Musk thistle4. In natural areas vapplication of a system	C. Canada thistle D. None of the above where Canada thistle is interspersed with desirable native plants, targeted emic herbicide such as, which carries plant toxins to the e. lon) C. Glyphosate (e.g., Roundup or Rodeo)

4 is most comr	monly used. However, herb Robert often occurs initially as
part of a mosaic alongside desirable	e native species. In these situations, alternative control individual plants can more successfully meet all goals of a
project.	
A. EPSP synthase C. Gly	
B. Dithiopyr D. No	ne of the above
5. Grass Family (Poaceae). Toothach	
A. Winter annual C. Warm-seas	son, perennial bunch grass
B. Biennial grass D. None of the	e above
6 is a postemerg	pence herbicide that is slowly translocated within the plant.
It can effectively control tillered crabgra	ss with a single application.
A. Quinclorac C. Dit B. Fenoxaprop-p-ethyl D. No	hiopyr
B. Fenoxaprop-p-ethyl D. No	ne of the above
	preemergence and postemergence herbicide. It provides
	nly up to the one-tiller stage of development, but it can be
combined with fenoxaprop-p-ethyl whe	n two or more tillers are present.
A. Quinclorac C. Dit B. Fenoxaprop-p-ethyl D. No	hiopyr
8 is a postemerge	nce herbicide effective in controlling crabgrass and some
A. Quinclorac C. Dit B. Fenoxaprop-p-ethyl D. No	hiopyr
B. Fenoxaprop-p-etnyl D. No	ne of the above
	her herbicides, including, to improve weed rac in combination with a methylated seed oil according to
A. Pendimethalin and phenoxy herbicid	les C Dithionyr
B. Fenoxaprop-p-ethyl	D. None of the above
segment is longer, more rounded, and flower heads of western yarrow are nor	rison, are smooth or only sparsely hairy; and the leaf lance-shaped. The somewhat rounded terminal clusters of mally white to cream-colored and have an extended bloom
period from May to September.	
	mmon yarrow
B. Dalmatian toadflax D. No	ne of the above
Vine Section Alien Plant	Invaders Topic 5
	emoving as much of the roots as possible. To ensure its
	and repeated cutting, digging or pulling is necessary. For
	emic herbicide, such as glyphosate (e.g., Roundup) or
	most effective method to control akebia. An herbicidal
	ch provides a burndown of plant tissues, may also provide
some control.	
A. Dithiopyr	C. Pelargonic acid (e.g., Scythe)
B. Chlorpyralid (e.g. Transline)	D. None of the above

smaller plants and outcompeting native extensive wooded borders neighboring especially vulnerable to invasion by	verwhelms and destroys native vegetation by shading out vegetation for water and nutrients. Urban parks, with landscaped residential and private property, are nbing bittersweet vine (Celastrus scandens) ne of the above
numbers of seeds. At maturity, globular	
4. A variety ofa a Grubbing, a rather labor intensive met sensitive areas where herbicides canno A. Herbicide applications C. Med B. Systemic herbicide(s) D. Nor	
	vine, and remains active during the winter, any time of year as long as temperatures are above 55 or chanical and chemical methods ne of the above
	d or minimize impacts to many native plant species. ly to be needed and follow-up monitoring should be eatments. chanical and chemical methods ne of the above
7. Several (e.g., gly when applied to the leaves or stems and A. Herbicide applications C. Med B. Systemic herbicide(s) D. Nor	
and other perching locations. Other anir chipmunks, squirrel and deer. A. Mile-a-minute weed C. Clim	for dispersal under utility lines, bird feeders, fence lines mals observed eating fruits are ubing bittersweet vine (Celastrus scandens) ne of the above
to a landfill. If conducted in the spring, the plant's stored carbohydrate reserves A. Mile-a-minute weed C. Clim	to livestock, burned or enclosed in plastic bags and sent cutting must be repeated as regrowth appears to exhaust s. bing bittersweet vine (Celastrus scandens) ne of the above
aster, buckwheat, and pea families. C	at a concentration of 0.5% and is selective to plants in the aution should be taken with chlorpyralid as groundwater olem with certain soil types. Do not apply spray so heavily C. Dithiopyr D. None of the above

Trees- Alien Plant Invaders Topic 6 1. Establishing a thick cover of trees (preferably native and non-invasive) or grass sod will help shade out and discourage establishment of ailanthus seedlings. Targeting large female trees for control will help reduce spread of by seed. A. Ailanthus C. Australian pine B. Carrotwood D. None of the above
 Princess tree(s) can be controlled using a variety of mechanical and chemical controls. Hand pulling may be effective for young seedlings. Plants should be pulled as soon as they are large enough to grasp. True B. False
3. Princess tree seedlings and small trees can be controlled by applying a 2% solution of or triclopyr (e.g., Garlon) and water plus a 0.5% non-ionic surfactant to thoroughly wet all leaves. A. EPSP synthase C. Glyphosate (Roundup™) B. Nonglyphosate herbicides D. None of the above
 Because Mimosa spreads by suckering, resprouts are common after treatment. Cutting is an initial control measure and will require either an herbicidal control or repeated cutting for resprouts. True B. False
 5. Whenever possible, efforts should be taken to prevent the introduction or encroachment of For example, recently disturbed beach habitat may be planted with native vegetation to prevent this species from invading. A. Silk tree(s) C. Australian pine B. Carrotwood D. None of the above
6. Clumps of seedlings suggest dispersal by small mammals. In its native range,is pollinated by bees, which are the likely pollinators in Florida. A. Silk tree(s) C. Princess tree(s) B. Carrotwood D. None of the above
7kills broadleaf (dicotyledonous) plants but causes little or no damage to grasses and is useful for areas where desirable grasses are to be maintained. A. Triclopyr C. Glyphosate (Roundup™) B. Dithiopyr D. None of the above
8. Unfortunately, seedlings often grow in low litter areas, unsuitable for frequent prescribed fire. In dense stands, seedlings and saplings may be cut and dropped on site, creating fuel for future fires. A. Buckthorn C. Princess tree(s) B. Ailanthus D. None of the above
9 seedlings appear vulnerable to fire, perhaps due to their poorly established root structure. Fire will top kill a mature plant, but resprouting does occur. A. Buckthorn C. Princess tree(s) B. Carrotwood D. None of the above

10. Uprooting of 1/2 inch diameter seedlings by hand or up to 1 1/2 inch diameter using a weed wrench is effective, but care should be taken to avoid excessive disturbance to the soil, which can

seeds stored in the soil.

C. Princess tree(s)
D. None of the above

release

A. Buckthorn

B. Ailanthus

Weed Management and Control Section Topic 7
1 is necessary following mechanical or chemical control. Digging and chopping cause soil disturbance and desired plants need to be reestablished before the invader can get a foothold. The same is true of chemical control, the desired vegetation must be reestablished. Moreover, you must remember that the invader was able to gain a toehold under the management regime that had been in place on that land. A. Chemical control C. Cultural Control B. Environmental and economic problem D. None of the above
Cultural Control 2. Controlling weeds on such sites can be futile without, as weeds will readily re-invade the disturbed area. A. Vegetative restoration
are available as concentrated liquids, (2 to 8 lb/gal) which need to be mixed with water before applying; as wettable powders which are from 50 to 100% active ingredient and need to be dispersed in water for uniform application, or as granules which are from 1 to 10% active ingredient and which are applied dry with granular applicators. See the label for all instructions on labeled crops and timings. A. Vegetative control chemicals C. Weed control chemicals B. Persistence control chemicals D. None of the above
4. Most effective control of broadleaf weeds is obtained when applied in early fall (August 15–October 15) or in spring (May 1–June 1). For some weeds, repeated application at 20–30 day intervals may be required for control. A. Perennial C. Summer and winter annual(s) B. Biennial(s) D. None of the above
5kill all plants, both desirable and undesirable. These herbicides can be used to spot treat perennial grassy weeds that are not affected by selective herbicides. To spot treat an area, thoroughly wet the weed foliage with herbicide solution. A. Broad spectrum, non-selective herbicide B. Systemic herbicides C. Nonselective postemergence herbicides D. None of the above
6is referred to as a desiccant because it causes a leaf or an entire plant to dry out quickly. It is used to desiccate potato vines and seed crops, to control flowering of sugarcane, and for industrial and aquatic weed control. It is not residual; that is, it does not leave any trace of herbicide on or in plants, soil, or water. A. Dithiopyr C. Diquat dibromide B. Nonglyphosate herbicides D. None of the above
 7. The product Agent Orange, used extensively throughout Vietnam, was about 50% 2,4-D. However, the controversies associated with the use of Agent Orange were associated with a contaminant () in the 2,4,5-T component of the defoliant. A. Triclopyr C. Glyphosate (Roundup™) B. Dioxin D. None of the above
Imazapyr (Trade name Habitat®). 8. Although imazapyr is a, a good applicator can somewhat selectively remove targeted plants by focusing the spray only on the plants to be removed. A. Broad spectrum, non-selective herbicide B. Systemic herbicides D. None of the above

Persistence of Pesticides 9. Persistence is usually expressed as the "half-life" (T1/2) of a pesticide. A. True B. False		
10. Pesticides can be degraded by sunlight (photodecomposition), high air or water temperatures (thermal degradation), moisture conditions, biological action (microbial decay), and soil conditions (pH)break down slowly and may be more available to aquatic animals. A. Persistent (long-lasting) pesticides		
Introduction to Wetlands Section Topic 8		
Filamentous Algae 1. Unlike microscopic algae,are frequently a problem in pond management and are usually visible to the naked eye as a floating mat of thread-like filaments often called "pond moss". They usually begin growth on the pond bottom in shallow water, later float to the surface and may completely cover the pond surface. A. Filamentous algae		
Biological Control 2. Grass carp do not control planktonic algae. A. True B. False		
Economic Importance 3 are a severe environmental and economic problem in all of the gulf coast states and in many other areas of the world with a sub-tropical or tropical climate. This species has rapidly spread throughout inland and coastal freshwater bays, lakes, and marshes in the United States and in other countries. A. Water lettuce		
 4. When big floating bladderwort is flowering it is easily distinguished from its native cousins by large spoke-like floats that radiate out from the base of the flower stalk. During the rest of the year, however, it can be confused with, both of which are rather robust and can appear almost bushy underwater. A. Water lettuce		
Control 5. Years of research to find insect biocontrols has resulted in the successful introduction of two insects which are believed to be helpful in keeping water lettuce under maintenance control in many places; however, biocontrol fish which are able to control submersed plants are ineffective against the A. Floating water lettuce C. Algae B. Water hyacinths D. None of the above		
6. An aquatically registered surfactant (see the label) will improve the effectiveness of triclopyr.A. True B. False		
7. Systemic herbicides are absorbed and move within the plant to the site of action.A. True B. False		

 8. Systemic herbicides tend to act more slowly than contact herbicides. An aquatically registered surfactant (see the label) will improve the effectiveness of A. Glyphosate herbicide C. Dithiopyr B. Triclopyr D. None of the above
9 benefit other plants growing near them by taking nitrogen out of the air and depositing it in the soil in usable form; fallen alder leaves make very rich compost. A. Water lettuce
10. Aeration, particularly at night, for several days after treatment may help control the oxygen depletion.A. True B. False
Submersed (underwater) Aquatic Weed Section Topic 9 1. Renovate is a liquid triclopyr formulation that is effective on It is a selective broadleaf, systemic herbicide. A. Water lettuce C. Parrotfeather B. Hydrilla D. None of the above
 A variety of physical, chemical, and biological control methods have been used in attempts to manage infestations of Eurasian watermilfoil, fortunately, complete eradication is common. True B. False
 Navigate and Aqua-Kleen is a liquid triclopyr formulation and has been effective on Eurasian watermilfoil. True B. False
4. Reward is is a contact herbicide.A. True B. False
5. Renovate is a that is effective on Eurasian watermilfoil. It is a selective broadleaf, systemic herbicide. A. Copper C. Granular butoxyethyl ester of 2,4-D B. Liquid triclopyr formulation D. None of the above
 6. Aquathol, Aquathol K, and Aquathol Super K areand comes in both liquid and granular formulations. A. Liquid triclopyr formulation C. Dipotassium salts of endothall B. Liquid diquat formulation D. None of the above
7. Sonar and Avast are fluridone compounds, come in both liquid and granular formulations, and have not been effective on Eurasian watermilfoil.A. True B. False
8. Any aquatic plant identified asshould be sent to a specialist for positive identification since hydrilla is such a serious threat to fresh water habitats. It is only through early identification and concentrated control methods that there is any hope of eliminating hydrilla. A. Hydrilla C. Eurasian watermilfoil B. Egeria, elodea, or hydrilla D. None of the above
Pond Water Chemistry 9. In soft waters (below 50 parts per million hardness) some herbicides are more toxic to fish and plants. A. True B. False

10. Copper and some heavy metals, can be toxic to fish.A. True B. False
Aquatic Herbicides and Controls Section Topic 10 1 is used as a defoliant for a wide range of crops and as an herbicide for both terrestrial and aquatic weeds. A. Glyphosate herbicide C. Endothall B. Dithiopyr D. None of the above
 2. Field and laboratory tests show that usually remains in the top inch of soil for long periods of time after it is applied. A. Fluridone C. Diquat B. 2,4-D D. None of the above
3. Glyphosate itself is a base, never used in salt form.A. True B. False
4. Some formulations of are highly toxic to fish while others are less so. For example, the LC50 ranges between 1.0 and 100 mg/L in cutthroat trout, depending on the formulation used. Channel catfish had less than 10% mortality when exposed to 10 mg/L for 48 hours. A. Reward C. Fluridone B. 2,4-D D. None of the above
5can be effective for spot treatment of Eurasian watermilfoil and is relatively selective to Eurasian watermilfoil when used at the labeled rate. A. Glyphosate herbicide B. Dithiopyr D. None of the above
6 can show good control of submersed plants where there is little water movement and an extended time for the treatment. Its use is most applicable to whole-lake or isolated bay treatments where dilution can be minimized. It is not effective for spot treatments or areas less than five acres. A. Fluridone C. Diquat B. 2,4-D D. None of the above
7. Most species of algae can be controlled with very low concentrations of It is available in crystalline nuggets the size of rock salt or as a finely ground "snow" grade. A. Glyphosate herbicide C. Copper sulfate B. Dithiopyr D. None of the above
8, under field conditions, is effective in controlling a broad range of algae including Chara, Spirogyra, Cladophora, Vaucheria, Ulothrix, Microcystis, and Oscillatoria. Effective in hard water. A. Glyphosate herbicide B. Copper sulfate C. Cutrine Plus D. None of the above
9 is a concentrated liquid aquatic herbicide effective against a wide variety of submersed, emergent, and floating aquatic plants including duckweed, naiads, and cattails. A. Reward C. A concentrated liquid aquatic herbicide B. Fluridone D. None of the above

10poses virtually no environmental risk in aquatic application herbicide concentration rapidly decreases as it is absorbed onto soil, vege matter.	
A. Glyphosate herbicide B. Dithiopyr C. Reward D. None of the above	
Invasive Plant Rule Section Topic 11 Harm and impact	
Yellow starthistle is a source of nectar for bee producers. But the displace other desirable plant species caused by yellow starthistle leads to dramatical for wildlife and livestock, which severely disrupts the profitability of assomore greatly overshadow the positive effects and thus, define harm starthistle and explain why it is considered an invasive species. A. Population of non-native plants C. These negative effects B. An invasive species D. None of the above	ly decreased forage ociated businesses.
California 2. The California Invasive Plant Inventory is a vital resource for those wo state's natural areas. The Inventory summarizes the impacts, potential for spre of more than 200 that invade wildlands in California. A. Invasive species	
Herbicide and Insecticide Safety Precautions 3. The Federal Environmental Pesticide Control Act of 1972 in part prohibit any pesticide in a manner inconsistent with its labeling. A. True B. False	ts the application of
 4. The pesticide APPLICATOR is always responsible for the effects of	
 When using pesticides and/or herbicides, always avoid prolonged chemic Wash exposed skin areas with generous amounts of soap and water. Lauduring application in hot water using a phosphate detergent. A. True B. False 	
6. Any contaminated food should be discarded, and dishes and utensils shwashed.A. TrueB. False	nould be thoroughly
7kill certain weeds with little or no injury to the crop. It is the d response that determines the effectiveness of the herbicide and safety to the cA. Mutual herbicide(s) C. Selective herbicides B. Nonselective herbicide(s) D. None of the above	
8 are those which will kill or injure virtually all kinds of version A. Mutual herbicide(s) C. Selective herbicides B. Nonselective herbicide(s) D. None of the above	egetation.

hazard may arise from the herbicid	e application is by foliar spray. When the soil is treated, a e persisting in the soil longer than intended and interfering wi The movement of a
	er possibility. Typical 2,4 D injury symptoms on grape leaves
A. Mutual herbicide(s)	C. Selective herbicides
B. Nonselective herbicide(s)	D. None of the above
local industries of the presence and cooperation of neighbors in the use	not obligated to inform operators of surrounding farms and sensitivity of their crops, but it is advisable to seek the of Reporting incidents of pesticide damage. sercise regulatory powers in situations of herbicide misuse.
A. Hazardous pesticides	C. Selective herbicides
B. Nonselective herbicide(s)	D. None of the above

When Finished with Your Assignment

REQUIRED DOCUMENTS

Please scan the **Registration Page**, **Answer Key**, **Survey and Driver's License** and email it to info@TLCH2O.com.

IPhone Scanning Instructions

If you are unable to scan, take a photo of these documents with your **iPhone** and send these photos to TLC, info@TLCH2O.com.

FAX

If you are unable to scan and email, please fax these to TLC, if you fax, call to confirm that we received your paperwork. (928) 468-0675

Invasive Plant Identification CEU Conventional Assignment #4

You will have 90 days from the start of this course to have successfully completed this CEU assignment with a score of 70%. You may e-mail the answers to TLC, info@tlch2o.com, you can also find a copy of this assignment in Word on the Assignment Page on TLC's website or fax the answers to TLC (928) 468-0675. Course assistance is available on the Assignment Page under Course Assistance at www.abctlc.com. Write your answers on the Answer Key found in the front of first assignment.

Write your answers on the Answer Key found in the front section of this assignment.

(s) Means the answer can be plu	ıral or singular.
1 weeds ge one year.	erminate from seed, grow, flower, and produce seed in less than
A. Perennial C. Annu	ual(s)
B. Biennial(s) D. None	e of the above
	ate in the spring and mature in the fall, whereas winter annuals
germinate in fall or late winter and	
A. Perennial C. Sumi	mer annuals (AKA warm season annuals)
B. Biennial(s) D. None	e of the above
3. germina mature, set seed and die the folko A. Winter annual(s) C. Sumi	ate in the fall, overwinter as seedlings or small rosettes and owing spring or early summer.
B. Perennial D. None	e of the above
4. Some weeds are capable of _A. Perennial C. Both	lifecycles.
A. Perennial C. Both	summer and winter annual
B. Summer annual(s) D. None	e of the above
Understanding Weed Terms	
strategy and which also limits ne	in a way that complements rather than hindersin the
Δ Other elements	C. Direct habitat destruction
B Ecovar development process	C. Direct habitat destruction D. None of the above
b. Ecoval development process	D. None of the above
the pest is the a	the life cycle of a pest so that the pesticide can be applied when aim is to achieve maximum effect at minimum levels of pesticide. C. Ecovar development process D. None of the above
B. Negative crivilorimental crice	B. None of the above
7 are ma	aintained via controlled pollination or vegetative means, so that
cultivar characteristics are passe	d to ensuing generations.
A. Cultivars	C. Direct habitat destruction
B. Minimum levels of pesticide(s	C. Direct habitat destruction D. None of the above
8. To maintainthe ecovar development process	in ensuing generations, little to no selection is done during
A. Genetic diversity	. C. Negative environmental effects
B. Minimum levels of pesticide	D. None of the above

 9. An ecovar is an intermediate step between a wild-growing plant and a A. Cultivar
10may include using row covers or trenches to prevent insects from reaching the crop, baited or pheromone traps to capture insects, or cultivation or mowing for weed control. A. Tactics
Invasive Plant Species Introduction Topic 2 Federally Listed Invasive Plant Species 1 has elliptic to lanceolate leaves, its branches are usually thorny, and its fruit is yellow, dry and mealy. A. Russian olive
Combining control methods is the best form ofmanagement. Persistence is imperative so the weed is continually stressed, forcing it to exhaust root nutrient stores and eventually die. Canada thistle
3was easy to establish and homesteaders liberally landscaped their properties with this drought resistant plant, continually spreading it in their migration to the Western frontier. A. Snapdragon C. Toadflax B. Spurge laurel D. None of the above
4. The broad and pointed leaves can be mistaken for Broadleaf dock (Rumex obtusifolia), but docks lack rhizomes and the tall, spreading habit of Japanese knotweed. Other less invasive relatives (such as P. virginianum) grow from similar rhizomes and are difficult to eradicate. A. Japanese knotweed
5 is difficult to control. Its extensive root system has vast nutrient stores that let it recover from control attempts. Combine control methods into a system to achieve best results. A. Leafy spurge C. Toadflax B. Spurge laurel D. None of the above
6. As an annual, reproduces solely by seed. Seeds generally do not remain viable past one year. Repeated hoeing, tilling, or mowing of young plants will prevent seed production. Hand-pulling (with gloves) can also be effective for small infestations. A. Snapdragon
7 is a branched, robust biennial (or sometimes annual) that often grows 8 feet or more in height and 6 feet in width. Main stems may be up to 4 inches wide at the base. Stems have vertical rows of prominent, spiny, ribbon-like leaf material or "wings" that extend to the base of the flower heads. A. Spurge laurel B. Russian thistle D. None of the above

8 is a	an attractive ornamental plant known for its spiraling evergreen leaves and
greenish-yellow, bitter	f-fragrant flowers. Larger patches of this species emit a strong unpleasant is in late winter-early spring, producing clusters of blue berries during the
spring.	
A. Spurge laurel	C. Autumn olive
B. Russian thistle	D. None of the above
	is a perennial with erect, smooth, herbaceous stems that are less than 2
	clumps from a spreading root system. Soft, gray-green leaves, which are 1
to 1 1/2 inches long ar	nd narrow, are crowded onto each stem.
A. Leafy spurge	C. Toadflax D. None of the above
B. Spurge laurei	D. None of the above
about 1 inch long and orange throat that a reproduces by seeds a	
	C. Toadflax D. None of the above
b. Autumn onve	D. None of the above
Commonly Fou	and Invasive and/or Noxious Weeds - Topic 3
	es are usually large and compact with a large, corky taproot that is hollow
near the	Leaves have consistent shape, sometimes expressing a frosted
	e leaf margins, and often have a cream-colored midrib.
A. Rosettes	
B. Flowers	D. None of the above
	rs and starts to produce seed 45 to 55 days after it bolts. Musk thistle has eath flowers that are armed with sharp spines and shoots beneath flowers
A. Mid-ribs	C. Leaves
B. Flowers	D. None of the above
3	will not tolerate tillage and can be removed easily by severing its root shovel or hoe. Mowing can effectively reduce seed output if plants are cut
	ad is in the late-flowering stage. Gather and burn mowed debris to destroy
	C. Canada thistle
· ·	D. None of the above
1 In natural areas w	here Canada thistle is interspersed with desirable native plants, targeted
	mic herbicide such as, which carries plant toxins to the
roots, may be effective	
A. Triclopyr (e.g., Garl	
B. Glyphosate (e.g., R	
5 Multiple treatments	are necessary every year for several years, making leafy spurge control an
extremely expensive	undertaking. If left uncontrolled for a single year, can re-
infest rapidly. Prescrib	ed burning, in conjunction with herbicides, may also be effective.
A. Mullein	C. Leafy spurge
B. Loosestrife	D. None of the above

	surfactant at a concentration of 0.5% improves the effectiveness of have been shown to be effective in controlling Chinese lespedeza.
A. Triclopyr (e.g., Garlon)	C. Chlorpyralid (e.g. Transline)
B. Triclopyr and clopyralid	D. None of the above
produce a showy display of mag	
	el loads, which increases the intensity and spread of a fire, and ive, dry forest species adapted to less extreme fire regimes. nese lespedeza ne of the above
9. First year plant that range from 4-12 inches in A. Mullein C. Chi B. Loosestrife D. Nor	nese lespedeza
management, because they ca	ome one of the most insidious problems in the field of wildlife an totally dominate pasture and prairie lands once established, aving no room for native plants.
1. When glyphosate is applied preventing the production of est Roundup Ready, a modified EP continue growing. There is little Roundup Ready alfalfa.	vasive Species Topic 4 to susceptible plants, glyphosate blocks EPSP synthase sential amino acids and the plant dies. However, in plants that are SP synthase is unaffected by glyphosate and allows the plant to or no crop injury associated with application and C. Glyphosate D. None of the above
2. If the glyphosate application to the competitive effects of the done.A. 1 to 3 trifoliate stageB. 5 to 8 trifoliate stage	weed on the crop; in other words, the damage has already been C. 3 to 5 trifoliate stage
Glyphosate Stewardship 3. Rotation to non-Roundup Reis also effective in reducing the	eady crops using after Roundup Ready crops potential for glyphosate-resistant weeds. C. Dithiopyr
4is mo	st commonly used. However, herb Robert often occurs initially as
part of a mosaic alongside desi	
A. EPSP synthase B. Nonglyphosate herbicides	D. None of the above

5. Grass Family (Poaceae).	l oothache grass is a
A. Winter annual C. V	Varm-season, perennial bunch grass
B. Biennial grass D. N	lone of the above
6. is a	postemergence herbicide that is slowly translocated within the plant.
t can offoctively control tillor	posternergence herbicide that is slowly translocated within the plant ed crabgrass with a single application.
A Quinclorae	C Dithiopyr
A. Quinclorac B. Fenoxaprop-p-ethyl	D. None of the above
В. Генохаргор-р-ситу	b. Notice of the above
7.	acts as a preemergence and postemergence herbicide. It provides
	abgrass only up to the one-tiller stage of development, but it can be
combined with fenoxaprop-p-	ethyl when two or more tillers are present.
A. Quinclorac	C. Dithiopyr
A. Quinclorac B. Fenoxaprop-p-ethyl	D. None of the above
8 is a postproadleaf weeds.	ostemergence herbicide effective in controlling crabgrass and some
A Quinclorae	C. Dithiopyr
A. Quinclorac B. Fenoxaprop-p-ethyl	D. None of the above
В. Гепохаргор-р-ешуг	b. Notice of the above
9. Quinclorac can be mixe	ed with other herbicides, including, to improve weed
	ly quinclorac in combination with a methylated seed oil according to
directions on the label.	
A. Quinclorac	C. Pendimethalin and phenoxy herbicides
B. Fenoxaprop-p-ethyl	D. None of the above
10. leaves,	in comparison, are smooth or only sparsely hairy; and the lear
	nded, and lance-shaped. The somewhat rounded terminal clusters o
	ow are normally white to cream-colored and have an extended bloom
period from May to September	
A. Canada thistle B. Dalmatian toadflax	D. None of the above
Vine Section Alien	Plant Invaders Topic 5
	nfestations, use of a labeled systemic herbicide, such as glyphosate
	e.g., Garlon), is probably the most effective method to control
akebia. An herbicidal soap,	such as, which provides a burndown of plant
tissues, may also provide soi	me control.
A. Dithiopyr	C. Pelargonic acid (e.g., Scythe)
B. Chlorpyralid (e.g. Translin	e) D. None of the above
2. Once established the vin	a quickly everybelms and destroys native vegetation by sheding out
	e quickly overwhelms and destroys native vegetation by shading out ting native vegetation for water and nutrients. Urban parks, with
	eighboring landscaped residential and private property, are
especially vulnerable to invas	
A. Mile-a-minute weed	
	D. None of the above
	flowers emerge from leaf axils, allowing each plant to produce large
	y, globular, green to yellow fruits split open to reveal three red-
	ain the seeds. These showy fruits have made very
popular for use in floral arran A. Mile-a-minute weed	
B. Kudzu	D. None of the above

	are available for management of climbing euonymus.
•	thod, is effective for small populations or environmentally
sensitive areas where herbicides canno	
A. Systemic herbicide(s)B. Mechanical and chemical methods	C. Herbicide applications
B. Mechanical and chemical methods	D. None of the above
	n vine, and remains active during the winter, any time of year as long as temperatures are above 55 or
60°Fahrenheit for a few days.	
A. Systemic herbicide(s)	C. Herbicide applications
B. Mechanical and chemical methods	D. None of the above
	d or minimize impacts to many native plant species. ely to be needed and follow-up monitoring should be
A. Systemic herbicide(s)B. Mechanical and chemical methods	D. None of the above
7. Several (e.g., glywhen applied to the leaves or stems an A. Systemic herbicide(s) B. Mechanical and chemical methods	yphosate and triclopyr) move through the plant to the roots d have been used effectively on Japanese honeysuckle. C. Herbicide applications D. None of the above
and other perching locations. Other ani chipmunks, squirrel and deer. A. Mile-a-minute weed C. Clin	for dispersal under utility lines, bird feeders, fence lines mals observed eating fruits are hbing bittersweet vine (Celastrus scandens) ne of the above
9. Cut can be fed to a landfill. If conducted in the spring, the plant's stored carbohydrate reserve A. Kudzu C. For B. Porcelainberry D. No	I to livestock, burned or enclosed in plastic bags and sent cutting must be repeated as regrowth appears to exhaust s. untain grass ne of the above
aster, buckwheat, and pea families. (at a concentration of 0.5% and is selective to plants in the Caution should be taken with chlorpyralid as groundwater blem with certain soil types. Do not apply spray so heavily C. Dithiopyr D. None of the above
shade out and discourage establishment control will help reduce spread of	oreferably native and non-invasive) or grass sod will help out of ailanthus seedlings. Targeting large female trees for by seed. ee(s) e above
	sing a variety of mechanical and chemical controls. Hand dlings. Plants should be pulled as soon as they are large

3. Princess tree seedlings and small trees can be controlled by applying a 2% solution of or triclopyr (e.g., Garlon) and water plus a 0.5% non-ionic surfactant to
thoroughly wet all leaves.
A. EPSP synthase C. Glyphosate (Roundup™)
B. Nonglyphosate herbicides D. None of the above
4. Because Mimosa spreads by suckering, resprouts are common after treatment. Cutting is an
initial control measure and will require either an herbicidal control or repeated cutting for
resprouts. A. True B. False
A. Tue B. Faise
5. Whenever possible, efforts should be taken to prevent the introduction or encroachment of For example, recently disturbed beach habitat may be planted with native
vegetation to prevent this species from invading.
A. Silk tree(s) C. Australian pine
B. Carrotwood D. None of the above
6. Clumps of seedlings suggest dispersal by small mammals. In its native range,is pollinated by bees, which are the likely pollinators in Florida. A. Ailanthus C. Australian pine
A. Ailanthus C. Australian pine B. Carrotwood D. None of the above
7kills broadleaf (dicotyledonous) plants but causes little or no damage to grasses and is useful for areas where desirable grasses are to be maintained.
 A. Triclopyr B. Dithiopyr C. Glyphosate (Roundup™) D. None of the above
B. Dithiopyr D. None of the above
8. Unfortunately, seedlings often grow in low litter areas, unsuitable for frequent prescribed fire. In dense stands, seedlings and saplings may be cut and dropped on site, creating fuel for future fires.
A. Buckthorn C. Princess tree(s)
B. Ailanthus D. None of the above
9 seedlings appear vulnerable to fire, perhaps due to their poorly established root structure. Fire will top kill a mature plant, but resprouting does occur. A. Buckthorn C. Princess tree(s) B. Australian pine D. None of the above
10. Uprooting of 1/2 inch diameter seedlings by hand or up to 1 1/2 inch diameter using a weed wrench is effective, but care should be taken to avoid excessive disturbance to the soil, which can
release seeds stored in the soil.
A. Buckthorn C. Princess tree(s)
B. Ailanthus D. None of the above
Wood Management and Central Section Tonic 7
Weed Management and Control Section Topic 7 1 is necessary following mechanical or chemical control. Digging
and chopping cause soil disturbance and desired plants need to be reestablished before the
invader can get a foothold. The same is true of chemical control, the desired vegetation must be reestablished. Moreover, you must remember that the invader was able to gain a toehold under the management regime that had been in place on that land.
A. Chemical control C. Cultural Control
R. Environmental and economic problem D. None of the above

Cultural Control 2. Controlling weeds on such sites can be futile without, as weeds will readily re-invade the disturbed area. A. Chemical control C. Weed control chemicals B. Vegetative restoration D. None of the above
are available as concentrated liquids, (2 to 8 lb/gal) which need to be mixed with water before applying; as wettable powders which are from 50 to 100% active ingredient and need to be dispersed in water for uniform application, or as granules which are from 1 to 10% active ingredient and which are applied dry with granular applicators. See the label for all instructions on labeled crops and timings. A. Chemical control C. Weed control chemicals B. Vegetative restoration D. None of the above
4. Most effective control of broadleaf weeds is obtained when applied in early fall (August 15–October 15) or in spring (May 1–June 1). For some weeds, repeated application at 20–30 day intervals may be required for control. A. Perennial C. Summer and winter annual(s) B. Biennial(s) D. None of the above
kill all plants, both desirable and undesirable. These herbicides can be used to spot treat perennial grassy weeds that are not affected by selective herbicides. To spot treat an area, thoroughly wet the weed foliage with herbicide solution. A. Broad spectrum, non-selective herbicide C. Nonselective postemergence herbicides B. Systemic herbicides D. None of the above
is referred to as a desiccant because it causes a leaf or an entire plant to dry out quickly. It is used to desiccate potato vines and seed crops, to control flowering of sugarcane, and for industrial and aquatic weed control. It is not residual; that is, it does not leave any trace of herbicide on or in plants, soil, or water. A. Triclopyr C. Glyphosate (Roundup™) B. Diquat dibromide D. None of the above
7. The product Agent Orange, used extensively throughout Vietnam, was about 50% 2,4-D. However, the controversies associated with the use of Agent Orange were associated with a contaminant () in the 2,4,5-T component of the defoliant. A. Triclopyr C. Glyphosate (Roundup™) B. Dioxin D. None of the above
mazapyr (Trade name Habitat®). 3. Although imazapyr is a, a good applicator can somewhat selectively remove argeted plants by focusing the spray only on the plants to be removed. 4. Broad spectrum, non-selective herbicide 5. Systemic herbicides C. Nonselective postemergence herbicides D. None of the above
Persistence of Pesticides 9. Persistence refers to the length of time a pesticide remains in the environment. A. True B. False
10. Pesticides can be degraded by sunlight (photodecomposition), high air or water temperatures (thermal degradation), moisture conditions, biological action (microbial decay), and soil conditions (pH)break down slowly and may be more available to aquatic animals. A. Persistent (long-lasting) pesticides C. Persistent (short-lasting) pesticides B. Environmental and economic problem D. None of the above

Introduction to Wetlands Section Topic 8 Filamentous Algae 1. Unlike microscopic algae, are frequently a problem in pond management and are usually visible to the naked eye as a floating mat of thread-like filaments often called "pond moss". They usually begin growth on the pond bottom in shallow water, later float to the surface and may completely cover the pond surface. A. Filamentous algae C. Parrotfeather D. None of the above B. Hydrilla **Biological Control** 2. Grass carp control planktonic algae. A. True B. False **Economic Importance**

are a severe environmental and economic problem in all of the gulf coast states and in many other areas of the world with a sub-tropical or tropical climate. This species has rapidly spread throughout inland and coastal freshwater bays, lakes, and marshes in the United States and in other countries. A. Big floating bladderwort C. Eurasian watermilfoil B. Water hyacinths D. None of the above 4. When big floating bladderwort is flowering it is easily distinguished from its native cousins by large spoke-like floats that radiate out from the base of the flower stalk. During the rest of the year, however, it can be confused with ______, both of which are rather robust and can appear almost bushy underwater. A. Water lettuce C. Common bladderwort D. None of the above B. Water hyacinths Control 5. Years of research to find insect biocontrols has resulted in the successful introduction of two insects which are believed to be helpful in keeping water lettuce under maintenance control in many places; however, biocontrol fish which are able to control submersed plants are ineffective against the A. Floating water lettuce C. Algae B. Water hyacinths D. None of the above are absorbed and move within the plant to the site of action. A. Glyphosate herbicides C. Broad spectrum, non-selective herbicides B. Systemic herbicides D. None of the above 7. Systemic herbicides are not absorbed and do not move within the plant to the site of action. A. True B. False 8. Systemic herbicides tend to act more slowly than contact herbicides. An aquatically registered surfactant (see the label) will improve the effectiveness of C. Dithiopyr A. Glyphosate herbicide B. Triclopyr D. None of the above benefit other plants growing near them by taking nitrogen out of the air and depositing it in the soil in usable form; fallen alder leaves make very rich compost.

D. None of the above

C. Alders

A. Water lettuce

B. Big floating bladderwort

10. If the pond is heavily infested with weeds it may be possible (depending on the herbicide chosen) to treat the pond in sections and let each section decompose for about two weeks before treating another section.A. True B. False
Submersed (underwater) Aquatic Weed Section Topic 9 1. Renovate is a liquid triclopyr formulation that is effective on It is a selective broadleaf, systemic herbicide. A. Water lettuce
 A variety of physical, chemical, and biological control methods have been used in attempts to manage infestations of Eurasian watermilfoil. Unfortunately, complete eradication is rare. True B. False
 3. Navigate and Aqua-Kleen is a granular butoxyethyl ester of 2,4-D and has been effective on Eurasian watermilfoil are systemic herbicides. A. Liquid triclopyr formulations
4. Reward is act quickly and kill all plants cells that they contact.A. True B. False
5. Renovate is a that is effective on Eurasian watermilfoil. It is a selective broadleaf, systemic herbicide. A. Liquid triclopyr formulation C. Copper B. Lliquid formulation D. None of the above
 6. Aquathol, Aquathol K, and Aquathol Super K areand comes in both liquid and granular formulations. A. Liquid triclopyr formulation B. Liquid diquat formulation C. Dipotassium salts of endothall D. None of the above
7. Sonar and Avast are fluridone compounds, come in both liquid and granular formulations, and have been effective on Eurasian watermilfoil.A. True B. False
8. Any aquatic plant identified asshould be sent to a specialist for positive identification since hydrilla is such a serious threat to fresh water habitats. It is only through early identification and concentrated control methods that there is any hope of eliminating hydrilla. Fishermen or boaters in waters known to have hydrilla should make every effort not to accidentally transport hydrilla from one lake or pond to another. A. Water lettuce C. Parrotfeather B. Egeria, elodea, or hydrilla D. None of the above
Pond Water Chemistry 9. The water hardness should not be considered when using herbicides containing copper. A. True B. False
10. Some herbicides contain copper and should be used with caution in soft water ponds (less than 50 parts per million water hardness).A. True B. False

1is used a	nd Controls Section Topic 10 as a defoliant for a wide range of crops and as a herbicide for both
terrestrial and aquatic weeds. A. Glyphosate herbicide B. Nonglyphosate herbicide	C. Endothall D. None of the above
long periods of time after it is ap	oncentrated liquid aquatic herbicide
3. Glyphosate is generally distriA. True B. False	ibuted as water-soluble concentrates and powders.
4. Some formulations ofexample, the LC50 ranges be formulation used. Channel catfi hours. A. Reward C. Flur B. 2,4-D D. Nor	are highly toxic to fish while others are less so. For tween 1.0 and 100 mg/L in cutthroat trout, depending on the sh had less than 10% mortality when exposed to 10 mg/L for 48 idone te of the above
	be effective for spot treatment of Eurasian watermilfoil and is vatermilfoil when used at the labeled rate. C. Dithiopyr D. None of the above
movement and an extended tir	good control of submersed plants where there is little water ne for the treatment. Its use is most applicable to whole-lake or dilution can be minimized. It is not effective for spot treatments of oncentrated liquid herbicide se of the above
available in crystalline nuggets t A. Glyphosate herbicide	the controlled with very low concentrations of It is the size of rock salt or as a finely ground "snow" grade. C. Copper sulfate D. None of the above
8, under including Chara, Spirogyra, Clad Effective in hard water. A. Glyphosate herbicide B. Copper sulfate	er field conditions, is effective in controlling a broad range of algae dophora, Vaucheria, Ulothrix, Microcystis, and Oscillatoria. C. Cutrine Plus D. None of the above
	ncentrated liquid aquatic herbicide effective against a wide variety pating aquatic plants including duckweed, naiads, and cattails.
	virtually no environmental risk in aquatic applications because the decreases as it is absorbed onto soil, vegetation, and organic
A. Glyphosate herbicide B. Dithiopyr	C. Reward D. None of the above

Invasive Plant Rule Section Topic 11
 Invasion can be thought of as a process that in our example, a plant must go through to become a successful, yet harmful invadermust be overcome for a plant to be considered an invasive weed. Invasive weeds are invasive species. Population of non-native plants Application of any pesticide None of the above
Large-scale geographical barriers 2. First, a geographical barrier must be overcome, which often occurs as a mountain range, ocean, or similar physical barrier to movement of seeds and other reproductive plant parts. Plants that overcome are known as alien plants or alien species. A. Population of non-native plant(s) C. Geographical barrier(s) B. An invasive species D. None of the above
3 are non-native plants and alien species are non-native species. Therefore, non-native plants are those that occur outside their natural range boundaries, and this most often is mediated by humans either deliberately or unintentionally. A. Population of non-native plants C. Alien plants B. Non-native plant D. None of the above
Survival barriers 4. The second set of obstacles that amust overcome is barriers to germination and survival in its new location. These typically are environmental barriers such as adequate moisture availability to allow successful germination and survival of seedlings that will continue to grow to maturity. A. An invasive species
5. Other physical barriers might be, or competition for resources from neighboring plants. A. pH, nutrient availability C. Noxious weed B. Several barriers D. None of the above
Establishment barriers 6. The third obstacle that a non-native plant must overcome to be considered an invasive weed, is to form a population that is self-sustaining and does not need re-introduction to maintain a population base such that it continues to survive and thrive in its new environment. Once this occurs, this is considered to be established. Environmental barriers to survival and establishment are similar. A. Population of non-native plants C. Noxious weed(s) B. Non-native plant D. None of the above
Dispersal and spread barriers 7. Established non-native plants must overcome barriers to dispersal and spread from their site of establishment to be considered invasive plants. Additionally, the rate of spread must be relatively fast. However, this movement or spread alone does not necessarily make this non-native plant an invasive weed or A. Alien plant C. Invasive species B. Non-native plant D. None of the above

Harm	and	impa	ıct

A. Population of non-native plants

C. An invasive species

B. These negative effectsB.

D. None of the above

California

9. The California Invasive Plant Inventory is a vital resource for those working to protect the state's natural areas. The Inventory summarizes the impacts, potential for spread, and distribution of more than 200 that invade wildlands in California.

A. Invasive species
C. Non-native plant(s)
B. Alien plant(s)
D. None of the above

Federal Weed Rule 7 CFR 360.100 Definitions 360.200 Designation of noxious weeds.

10. Pursuant to the provisions of section 10 of the Federal Noxious Weed Act of 1974 (7 U.S.C. 2809) the definition of a "______" in section 3(c) of the Act (7 U.S.C. 2802(c)) and that their dissemination in the United States may reasonably be expected to have, to a serious degree, an effect specified in said section 3(c) of the Act:

A. Population of non-native plants

C. Noxious weed(s)

B. Invasive species

D. None of the above

When Finished with Your Assignment

REQUIRED DOCUMENTS

Please scan the **Registration Page, Answer Key, Survey and Driver's License** and email it to info@TLCH2O.com.

IPhone Scanning Instructions

If you are unable to scan, take a photo of these documents with your **iPhone** and send these photos to TLC, info@TLCH2O.com.

FAX

If you are unable to scan and email, please fax these to TLC, if you fax, call to confirm that we received your paperwork. (928) 468-0675

Invasive Plant Identification CEU Conventional Assignment Exam #5

You will have 90 days from the start of this course to have successfully completed this CEU assignment with a score of 70%. You may e-mail the answers to TLC, info@tlch2o.com, you can also find a copy of this assignment in Word on the Assignment Page on TLC's website or fax the answers to TLC (928) 468-0675. Course assistance is available on the Assignment Page under Course Assistance at www.abctlc.com. Write your answers on the Answer Key found in the front of first assignment.

Write your answers on the Answer Key found in the front section of this assignment.

Weed Identification Section Topic 1 (s) Means the answer can be plural or singular.

B. Biennial(s)

(b) Modrio trio driowor o	an be plaid of enig	aidi.
Invasions of non-nation A. True B. Falso		ast threat to native.
To maintain the ecovar development Genetic diversity	process.	suing generations, little to no selection is done during Direct habitat destruction
B. Negative environmer		None of the above
for the caterpillars of ma taproot. These elongate	ny butterflies. In the ed leaves have wavy stems, 2-4 feet tall. F C. Leaves	offee substitute. It is also a very important food plant a spring, basal emerge from a stout of margins, thus the name "curly" dock. In summer, the Flower stems have greenish flowers.
queen butterflies. The a caterpillars that hatch wi	adult females seek Il remain on the plai tterflies. It is a C. Summer and wi	ias family, are the only host plant for the monarch and out these plants on which they lay their eggs. The nts and eat the leaves until they enter the pupal stage, herb with long-spreading rhizomes. Inter annual(s)
yellow flowers with 5 pet	als.	ing It has small leaflets and small
A. Perennial B. Biennial(s)	C. Summer annualD. None of the about	(s) ve
6 wone year.	/eeds germinate fro	m seed, grow, flower, and produce seed in less than
A. Summer annual(s)B. Biennial(s)	C. Annual(s) D. None of the abo	ve
7 mature, set seed and die	the following sprin	fall, overwinter as seedlings or small rosettes and g or early summer.
A. Winter annual(s)	C. Perennial	

D. None of the above

The key is to use p strategy and which also			t complements rather than hinders numental effects	in the
A. Other elements	Jillillo Hogalivo	C11V11C	Direct habitat destruction	
B. Ecovar developmer	nt process	D. 1	None of the above	
9	are maintain	ed via	controlled pollination or vegetative means	s, so that
cultivar characteristics	are passed to e	nsuing	generations.	
A. Cultivars		C. I	Direct habitat destruction	
B. Ecovar developmer	nt process(s)	D. N	None of the above	
			the buckwheat family. Fairly pleasant tastin	
			amins A and C, and can be eaten raw or co	oked.
A. Perennial				
B. Biennial(s)	D. None of the	e abov	e	
Invasive Plant S	Species Int	rodu	ıction Topic 2	
1	is a perennial v	vith er	ect, smooth, herbaceous stems that are le	ss than 2
			ing root system. Soft, gray-green leaves, wh	
to 1 1/2 inches long and	d narrow, are cr	owded	onto each stem.	
A. Leafy spurge	C. Toadflax			
B. Spurge laurel	D. None of the	e abov	e	
			clusters of 15 to 20 snapdragon-like flowers	
			g the sides of a flower opens its 2 lips rev	
			sects to nectar produced in the spur. 7	īhe plant
reproduces by seeds a	nd creeping roo	s.		
A. Snapdragon	C. Toadflax			
B. Russian thistle	D. None of the	e abov	е	
3. The broad and poir	nted		leaves can be mistaken for Broadleaf docl	k (Rumex
			e tall, spreading habit of Japanese knotwe	
	(such as P. vir	ginian	um) grow from similar rhizomes and are o	difficult to
eradicate.				
A. Canada thistle	C. Toa			
B. Japanese knotweed	d D. No	ne of t	he above	
			extensive root system has vast nutrient stor	
results.	•		control methods into a system to achieve be	est
A. Leafy spurge	C. Toadflax			
A. Leafy spurge B. Spurge laurel	D. None of the	e abov	е	
5. As an annual,		re	produces solely by seed. Seeds generall	y do not
			eing, tilling, or mowing of young plants wi	ll prevent
seed production. Hand-	-pulling (with glo	ves) c	an also be effective for small infestations.	
A. Spurge laurel	C. Autumn oli	ve		
B. Russian thistle	D. None of the	e abov	e	
6I	has elliptic to lar	ceolat	te leaves, its branches are usually thorny, a	nd its
fruit is yellow, dry and r	mealy.			
A. Russian olive	C. Autumn oli	ve		
B. Russian Knotflax	D. None of the	e abov	e	

	ethods is the best form ofr is continually stressed, forcing it to exhau	
A. Canada thistle	C. Toadflax	
	D. None of the above	
D. Capaness informesa	B. Home of the above	
properties with this dro Western frontier. Also,		it in their migration to the to give everlasting beauty
or more in height and 6 have vertical rows of proof the flower heads.	branched, robust biennial (or sometimes anr feet in width. Main stems may be up to 4 inch minent, spiny, ribbon-like leaf material or "win	nes wide at the base. Stems
	C. Scotch thistle	
B. Russian thistle	D. None of the above	
greenish-yellow, bitter-fr	n attractive ornamental plant known for its spi agrant flowers. Larger patches of this specie in late winter-early spring, producing clusters	es emit a strong unpleasant
A. Snapdragon		
B. Spurge laurel	D. None of the above	
 Multiple treatments a extremely expensive und infest rapidly. Prescribed A. Mullein Loosestrife The addition of a nor foliar treatments. Triclopyr (e.g., Garlor 	re necessary every year for several years, madertaking. If left uncontrolled for a single year, burning, in conjunction with herbicides, may C. Leafy spurge D. None of the above -ionic surfactant at a concentration of 0.5% in have been shown to be effective in control of C. Triclopyr and clopyralid naline) D. None of the above	king leafy spurge control an can realso be effective.
produce a showy display	ants grow from four to ten feet high, depending of magenta-colored flower spikes throughouten petals. Mature plants can have from 30 to	much of the summer.
	C. Canada thistle	
B. Loosestrife	D. None of the above	
near the	are usually large and compact with a large, c	orky taproot that is hollow
A. Rosettes	C. Crown	
B. Leaves	D. None of the above	

b. Musk thistle flowers and starts to produce seed 45 to 55 days after it bolts. Musk thistle has very large bracts beneath flowers that are armed with sharp spines and shoots beneath flowers are almost devoid of
Δ Mid-ribe C Leaves
are almost devoid of A. Mid-ribs
will not tolerate tillage and can be removed easily by severing its root below ground with a shovel or hoe. Mowing can effectively reduce seed output if plants are cut when the terminal head is in the late-flowering stage. Gather and burn mowed debris to destroy any seed that has developed. A. Fountain grass C. Canada thistle D. None of the above
7. First year plants are low-growing rosettes of bluish gray-green, felt-like leaves that range from 4-12 inches in length and 1-5 inches in width. A. Mullein
8. Exotic grasses have become one of the most insidious problems in the field of wildlife management, because they can totally dominate pasture and prairie lands once established, having little wildlife value and leaving no room for native plants. A. True B. False
 In natural areas where Canada thistle is interspersed with desirable native plants, targeted application of a systemic herbicide such as, which carries plant toxins to the roots, may be effective.
A. Triclopyr (e.g., Garlon) C. Glyphosate (e.g., Roundup or Rodeo) B. Chlorpyralid (e.g. Transline) D. None of the above
raises fuel loads, which increases the intensity and spread of a fire, and results in severe damage to native, dry forest species adapted to less extreme fire regimes. A. Fountain grass C. Canada thistle B. Loosestrife D. None of the above
Herbs and Related Invasive Species Topic 4 1. There is little or no crop injury associated with application and Roundup Ready alfalfa.
A. EPSP synthase C. Glyphosate B. Nonglyphosate herbicides D. None of the above
2. If the glyphosate application is made after the, some yield loss may occur due to the competitive effects of the weed on the crop; in other words, the damage has already been done.
A. 1 to 3 trifoliate stage C. 3 to 5 trifoliate stage D. None of the above
3. Rotation to non-Roundup Ready crops using after Roundup Ready crops is also effective in reducing the potential for glyphosate-resistant weeds. A. EPSP synthase

4is most con	nmonly used. However, herb Robert often occurs initially as
	le native species. In these situations, alternative control
methods that have the ability to targe	t individual plants can more successfully meet all goals of a
project.	
A. EPSP synthase C. Gl	yphosate (Roundup™)
B. Nonglyphosate herbicides D. N	one of the above
5. Grass Family (Poaceae). Toothac	
A. Winter annual C. Warm-sea	ason, perennial bunch grass
B. Biennial grass D. None of the	ne above
	rgence herbicide that is slowly translocated within the plant.
It can effectively control tillered crabgi	
A. Quinclorac C. Fenoxapro	
B. Dithiopyr D. None of the	ne above
_	
	a preemergence and postemergence herbicide. It provides
	only up to the one-tiller stage of development, but it can be
combined with fenoxaprop-p-ethyl wh	
A. Quinclorac C. Fenoxapr B. Dithiopyr D. None of the	op-p-ethyl
B. Dithiopyr D. None of the	ne above
	and the state of t
8 is a postemerg	ence herbicide effective in controlling crabgrass and some
broadleaf weeds.	
A. Quinclorac C. Fenoxapr	
B. Dithiopyr D. None of the	ne above
O Octobrations and the society of with	athere to take the control of the co
	other herbicides, including, to improve weed
	orac in combination with a methylated seed oil according to
directions on the label.	halin and mhanann haghiaida
A. Quinclorac C. Pendimet	nalin and phenoxy herbicides
B. Dithiopyr D. None of the	ie above
10 legyes in semn	arison are emosth or only energely being and the loof
	arison, are smooth or only sparsely hairy; and the leaf diance-shaped. The somewhat rounded terminal clusters of
	ormally white to cream-colored and have an extended bloom
period from May to September.	officially write to cream-colored and have an extended bloom
	urasian watermilfoil
_	one of the above
b. Common yarrow D. N	one of the above
Vina Coation Alian Dlant	luvedere Tenie F
Vine Section Alien Plant	
	en vine, and remains active during the winter,
	it any time of year as long as temperatures are above 55 or
60°Fahrenheit for a few days.	
• • • • • • • • • • • • • • • • • • • •	lechanical and chemical methods
B. Systemic herbicide(s) D. N	one of the above
	pid or minimize impacts to many native plant species.
	kely to be needed and follow-up monitoring should be
conducted to evaluate the success of	
• •	lechanical and chemical methods
B. Systemic herbicide(s) D. N	one of the above

when applied to the leaves or st	e.g., glyphosate and triclopyr) move through the plant to the roots ems and have been used effectively on Japanese honeysuckle. C. Mechanical and chemical methods D. None of the above
complete removal, regular mon large infestations, use of a lab triclopyr (e.g., Garlon), is proba	lug up, removing as much of the roots as possible. To ensure its itoring and repeated cutting, digging or pulling is necessary. For eled systemic herbicide, such as glyphosate (e.g., Roundup) or ably the most effective method to control akebia. An herbicidal, which provides a burndown of plant tissues, may also provide
	C. Pelargonic acid (e.g., Scythe) D. None of the above
smaller plants and outcompeting	uickly overwhelms and destroys native vegetation by shading out g native vegetation for water and nutrients. Urban parks, with aboring landscaped residential and private property, are
A. Mile-a-minute weed B. Porcelainberry	C. Climbing bittersweet vine (Celastrus scandens)
numbers of seeds. At maturity, g	owers emerge from leaf axils, allowing each plant to produce large globular, green to yellow fruits split open to reveal three redthe seeds. These showy fruits have made very ments. C. Climbing bittersweet D. None of the above
Grubbing, a rather labor intens sensitive areas where herbicide	C. Mechanical and chemical methods
and other perching locations. Of chipmunks, squirrel and deer.	portant for dispersal under utility lines, bird feeders, fence lines ther animals observed eating fruits are C. Climbing bittersweet vine (Celastrus scandens) D. None of the above
	n be fed to livestock, burned or enclosed in plastic bags and sent spring, cutting must be repeated as regrowth appears to exhaust reserves. C. Fountain grass D. None of the above
aster, buckwheat, and pea fam	ffective at a concentration of 0.5% and is selective to plants in the nilies. Caution should be taken with chlorpyralid as groundwater be a problem with certain soil types. Do not apply spray so heavily es. C. Dithiopyr D. None of the above

Trees- Alien Plant Invaders Topic 6 1. Establishing a thick cover of trees (preferably native and non-invasive) or grass sod will help shade out and discourage establishment of ailanthus seedlings. Targeting large female trees for control will help reduce spread of by seed. A. Ailanthus C. Australian pine B. Carrotwood D. None of the above
 Princess tree(s) can be controlled using a variety of mechanical and chemical controls. Hand pulling may be effective for young seedlings. Plants should be pulled as soon as they are large enough to grasp. True B. False
 Because Mimosa spreads by suckering, resprouts are common after treatment. Cutting is an initial control measure and will require either an herbicidal control or repeated cutting for resprouts. True B. False
 4. Princess tree seedlings and small trees can be controlled by applying a 2% solution of or triclopyr (e.g., Garlon) and water plus a 0.5% non-ionic surfactant to thoroughly wet all leaves. A. EPSP synthase C. Glyphosate (Roundup™) B. Nonglyphosate herbicides D. None of the above
 5. Clumps of seedlings suggest dispersal by small mammals. In its native range,is pollinated by bees, which are the likely pollinators in Florida. A. Ailanthus C. Australian pine B. Carrotwood D. None of the above
 6. Whenever possible, efforts should be taken to prevent the introduction or encroachment of For example, recently disturbed beach habitat may be planted with native vegetation to prevent this species from invading. A. Silk tree(s) C. Australian pine B. Carrotwood D. None of the above
 7kills broadleaf (dicotyledonous) plants but causes little or no damage to grasses and is useful for areas where desirable grasses are to be maintained. A. Triclopyr C. Glyphosate (Roundup™) B. Dithiopyr D. None of the above
8. Unfortunately, seedlings often grow in low litter areas, unsuitable for frequent prescribed fire. In dense stands, seedlings and saplings may be cut and dropped on site, creating fuel for future fires. A. Buckthorn C. Princess tree(s) B. Ailanthus D. None of the above
9 seedlings appear vulnerable to fire, perhaps due to their poorly established root structure. Fire will top kill a mature plant, but resprouting does occur. A. Buckthorn C. Princess tree(s) B. Carrotwood D. None of the above

10. Uprooting of 1/2 inch diameter seedlings by hand or up to 1 1/2 inch diameter using a weed wrench is effective, but care should be taken to avoid excessive disturbance to the soil, which can

seeds stored in the soil.

C. Princess tree(s)

D. None of the above

release _____ A. Buckthorn

B. Ailanthus

Weed Management and Control Section Topic 7	Diamina
is necessary following mechanical or chemical control and chopping causes soil disturbance and desired plants need to be reestablished be invader can get a foothold. The same is true of chemical control, the desired vegetation reestablished. Moreover, you must remember that the invader was able to gain a toeh the management regime that had been in place on that land. A. Chemical control C. Cultural Control B. Environmental and economic problem D. None of the above	efore the n must be
Controlling weeds on such sites can be futile without, as weeds v re-invade the disturbed area.	vill readily
A. Chemical control B. Vegetative restoration C. Persistent (long-lasting) pesticides D. None of the above	
are available as concentrated liquids, (2 to 8 lb/gal) which need to with water before applying; as wettable powders which are from 50 to 100% active ingreneed to be dispersed in water for uniform application, or as granules which are from active ingredient and which are applied dry with granular applicators. See the labinstructions on labeled crops and timings. A. Weed control chemicals C. Dithiopyr B. Nonglyphosate herbicides D. None of the above	edient and 1 to 10%
4. Most effective control of broadleaf weeds is obtained when a early fall (August 15–October 15) or in spring (May 1–June 1). For some weeds, application at 20–30 day intervals may be required for control. A. Perennial C. Summer and winter annual(s) B. Biennial(s) D. None of the above	applied in repeated
5kill all plants, both desirable and undesirable. These herbicid used to spot treat perennial grassy weeds that are not affected by selective herbicides treat an area, thoroughly wet the weed foliage with herbicide solution. A. Broad spectrum, non-selective herbicide B. Systemic herbicides C. Nonselective postemergence herbicide D. None of the above	s. To spot
is referred to as a desiccant because it causes a leaf or an ent to dry out quickly. It is used to desiccate potato vines and seed crops, to control flowerin sugarcane, and for industrial and aquatic weed control. It is not residual; that is, it does r any trace of herbicide on or in plants, soil, or water. A. Triclopyr C. Dithiopyr B. Diquat dibromide D. None of the above	g of
7. The product Agent Orange, used extensively throughout Vietnam, was about 50 However, the controversies associated with the use of Agent Orange were associate contaminant () in the 2,4,5-T component of the defoliant. A. Triclopyr C. Dithiopyr B. Dioxin D. None of the above	
8. Although imazapyr is a, a good applicator can somewhat selective targeted plants by focusing the spray only on the plants to be removed. A. Broad spectrum, non-selective herbicide B. Systemic herbicides O. Nonselective postemergence herbicide D. None of the above	
9. Persistence is usually expressed as the "half-life" (T1/2) of a pesticide.	

(thermal degradation), moisture (pH)break d	conditions, biolo lown slowly and cides	otodecomposition), high air or water temperatures ogical action (microbial decay), and soil conditions may be more available to aquatic animals. C. Persistent (short-lasting) pesticides D. None of the above
Introduction to Wetla	nds Sectio	n Topic 8
and are usually visible to the r	naked eye as a in growth on the ver the pond surf rotfeather	_are frequently a problem in pond management floating mat of thread-like filaments often called e pond bottom in shallow water, later float to the face.
Biological Control 2. Grass carp do not control pla A. True B. False	anktonic algae.	
states and in many other areas	of the world with nland and coasta tries. C. Eurasian wa	
large spoke-like floats that radi	ate out from the sed withwater.	is easily distinguished from its native cousins by a base of the flower stalk. During the rest of the house, both of which are rather robust and adderwort above
insects which are believed to b	e helpful in kee	
6 are absorbed. Glyphosate herbicides B. Systemic herbicides		within the plant to the site of action. rum, non-selective herbicides above
Systemic herbicides are absorb True B. False	orbed and move	within the plant to the site of action.
8. An aquatically registered surA. Glyphosate herbicideB. Triclopyr		ove the effectiveness of above

 9 benefit other plants growing near them by taking nitrogen out of the air and depositing it in the soil in usable form; fallen alder leaves make very rich compost. A. Water lettuce C. Alders
B. Big floating bladderwort D. None of the above
10. One danger with any chemical control method is the chance of oxygen depletion after the treatment caused by the decomposition of the dead plant material.A. True B. False
Submersed (underwater) Aquatic Weed Section Topic 9 1. Renovate is a liquid triclopyr formulation that is effective on It is a selective broadleaf, systemic herbicide. A. Water lettuce
 A variety of physical, chemical, and biological control methods have been used in attempts to manage infestations of Eurasian watermilfoil. Complete eradication is common. A. True B. False
 3. Navigate and Aqua-Kleen is a granular butoxyethyl ester of 2,4-D and has been effective or Eurasian watermilfoilare systemic herbicides. A. Liquid triclopyr formulations C. 2,4-D compounds B. Liquid formulations D. None of the above
4. Reward is a liquid diquat formulation that has been effective on Eurasian watermilfoil and is very effective if mixed with a copper compound.A. True B. False
5. Renovate is a that is effective on Eurasian watermilfoil. It is a selective broadleaf, systemic herbicide. A. Liquid triclopyr formulation
6. Aquathol, Aquathol K, and Aquathol Super K areand comes in both liquid and granular formulations. These endothall products have been effective on Eurasian watermilfoil and can be mixed with copper compounds for additional effectiveness. Contact herbicides act quickly and kill all plant cells that they contact. A. Liquid triclopyr formulation C. Dipotassium salts of endothall B. Liquid diquat formulation D. None of the above
 Sonar and Avast are fluridone compounds, come in both liquid and granular formulations, and have not been effective on Eurasian watermilfoil. True B. False
8. Any aquatic plant identified asshould be sent to a specialist for positive identification since hydrilla is such a serious threat to fresh water habitats. It is only through early identification and concentrated control methods that there is any hope of eliminating hydrilla Fishermen or boaters in waters known to have hydrilla should make every effort not to accidentally transport hydrilla from one lake or pond to another. A. Water lettuce C. Parrotfeather B. Egeria, elodea, or hydrilla D. None of the above
9. In soft waters (below 50 parts per million hardness) some herbicides are more toxic to fish and plants.A. True B. False

10. Some herbicides contain copper and should be used with caution in water ponds less than 500 parts per million water hardness. A. True B. False Aguatic Herbicides and Controls Section Topic 10 is used as a defoliant for a wide range of crops and as a herbicide for both terrestrial and aquatic weeds. A. Glyphosate herbicide C. Endothall B. Dithiopyr D. None of the above 2. Field and laboratory tests show that _____ usually remains in the top inch of soil for long periods of time after it is applied. A. Fluridone C. Diquat B. 2,4-D D. None of the above 3. Diquat itself is an acid, but it is commonly used in salt form, most commonly the isopropylamine salt A. True B. False 4. Some formulations of _____ are highly toxic to fish while others are less so. For example, the LC50 ranges between 1.0 and 100 mg/L in cutthroat trout, depending on the formulation used. Channel catfish had less than 10% mortality when exposed to 10 mg/L for 48 hours. A. Fluridone C. Diquat B. 2,4-D D. None of the above can be effective for spot treatment of Eurasian watermilfoil and is relatively selective to Eurasian watermilfoil when used at the labeled rate. C. Dithiopyr A. Triclopyr B. Nonglyphosate herbicide D. None of the above can show good control of submersed plants where there is little water movement and an extended time for the treatment. Its use is most applicable to whole-lake or isolated bay treatments where dilution can be minimized. It is not effective for spot treatments of areas less than five acres. A. Reward C. Fluridone B. Diquat D. None of the D. None of the above B. Diquat 7. Most species of algae can be controlled with very low concentrations of available in crystalline nuggets the size of rock salt or as a finely ground "snow" grade. A. Copper sulfate C. Dithiopyr B. Cutrine Plus D. None of the above ___, under field conditions, is effective in controlling a broad range of algae including Chara, Spirogyra, Cladophora, Vaucheria, Ulothrix, Microcystis, and Oscillatoria. Effective in hard water. A. Cutrine Plus
B. Copper sulfate C. Dithiopyr D. None of the above is a concentrated liquid aquatic herbicide effective against a wide variety of submersed, emergent, and floating aquatic plants including duckweed, naiads, and cattails. A. Reward C. Fluridone B. Diquat D. None of the above

10. herbicide concer		virtually no environmental risk in aquatic applications because the decreases as it is absorbed onto soil, vegetation, and organic
matter.		desired de la le absorbed ente cen, vegetation, and erganic
A. Reward		
B. Fluridone I	D. None of the	above
Invasive Pla	ant Rule S	ection Topic 11
1. Any contam		ould be discarded, and dishes and utensils should be thoroughly
washed. A. True	P Foloo	
A. True	D. Faise	
weeds with little effectiveness of	or no injury to tl the herbicide ar	ed as either selective or nonselectivekill certain ne crop. It is the difference in plant response that determines the nd safety to the crop. C. Selective herbicides D. None of the above
		e which will kill or injure virtually all kinds of vegetation. C. Nonselective herbicide(s)
B. Light Herbicio	de(s)	D. None of the above
4 - 1/-1-425		for hook to be a second to the forest and the second
	s to the ability of B. False	of an herbicide to vaporize and to mix freely with the air.
area to other cro target area. A rov A. Herbicide use	p sites. Such he w of grapevines e(s)	oduce vapors that can be carried great distances from the target erbicide volatility can also reduce the rate of application to the severely injured by herbicides used to clear the nearby railroad. C. Volatile herbicides D. None of the above
-		
group includes 2	,4-D, 2,4,5-T, 2	most often involved in crop injury by off-target drift. The phenoxy ,4-DB, 2,4,5-TP (Silvex) and MCPA. These herbicides are most f broad-leaved weeds in crops and for the control of undesirable
A. Ester(s)		C. The phenoxy group of herbicides
B. Non-selective	herbicides	D. None of the above
		ligation for herbicide applicators to take stock of sensitive crops in ensult and cooperate with neighbors in matters of to do so.
A. Herbicide use B. Greater conc	e(s)	C. Herbicide volatility
	f the presence	re not obligated to inform operators of surrounding farms and and sensitivity of their crops, but it is advisable to seek the
A. Hazardous pe B. Non-selective	esticides	C. Registration and labeling of a particular pesticide(s) D. None of the above
9mixing, during ar	nd after applicat	
A. Non-selectiveB. Nonglyphosat		C. Phenoxy herbicidesD. None of the above

10. The use of a pesticide in any way contrary to the label is a violation of federal law.A. TrueB. False

When Finished with Your Assignment

REQUIRED DOCUMENTS

Please scan the **Registration Page, Answer Key, Survey and Driver's License** and email it to info@TLCH2O.com.

IPhone Scanning Instructions

If you are unable to scan, take a photo of these documents with your **iPhone** and send these photos to TLC, info@TLCH2O.com.

FAX

If you are unable to scan and email, please fax these to TLC, if you fax, call to confirm that we received your paperwork. (928) 468-0675