

# 2016 Western Invasive Weed Short Course

## Agenda

April 18-21, 2016

Loveland, Colorado



The Short Course targets local, state, federal government, and other land managers throughout the western region who desire a better understanding of weed management. The intensive course will stress ecologically-based plant management and include prevention, cultural, mechanical and chemical plant management, and restoration and revegetation. Classroom, laboratory and field exercises will be utilized and the program will encourage interaction between instructors and participants. The Short Course will benefit those new to invasive plant management and experienced professionals seeking a comprehensive update in western invasive weeds and their management.

### Monday, April 18, 2016

3:00 pm		Registration – <i>Sylvan Dale Guest Ranch, Loveland, CO</i>
4:00 pm	60 min	Pre-Test
5:00 pm	20 min	Welcome & Introductions - Sandra McDonald
5:20 pm	30 min	Introduction to the Problem (Course Introduction) - Scott Nissen
5:50 pm	55 min	New Invaders - Tim Miller
6:45 pm		Group Dinner at Sylvan Dale

## Tuesday, April 19, 2016

		BREAKFAST - on your own (Sylvan Dale or La Quinta)	
8:00 am	60 min	Key Weeds of the West - Tim Miller <i>(based on participant survey)</i>	
9:00 am	5 min	BREAK	
		Land Manger Track <i>(based on survey)</i>	Pesticide Applicator Track <i>(based on survey)</i>
9:05 am	30 min	Introduction to Weed Identification - Joe DiTomaso	ID and IPM – Sandra McDonald & Janet Hardin
9:35 am	15 min	BREAK – morning snack	
9:50 am	60 min	Hands-on Weed ID with Live Specimens Part 1 – Tim Miller	
10:50 am	10 min	BREAK	
11:00 am	60 min	Strategies to Manage Key Western Weeds – Tim Miller & Andrew Kniss	
12:00 pm		LUNCH – Group lunch at Sylvan Dale	
1:00 pm	90 min	Sprayer Operation & Calibration – CSU Team	
2:30 pm	15 min	BREAK – afternoon snack	
2:45 pm	60 min	Herbicide Mode-of-Action - Andrew Kniss & Scott Nissen	
3:45 pm	5 min	BREAK	
3:50 pm	20 min	Introduction of Group Activity - “Invasive Weed Educational Materials for Sylvan Dale Guest Ranch” - Sandra McDonald with Chad Clark	
4:10 pm	50 min	Q&A / Discussion – Managing Western Weeds - facilitated by Scott Nissen with all trainers	
5:00 pm		ADJOURN	
6:00 pm		DINNER – group dinner at Sylvan Dale	
7:00 pm		Wacky Weed Games	

### Wednesday, April 20, 2016

		BREAKFAST - on your own (Sylvan Dale or La Quinta)	
8:00 am	60 min	Hands-on Weed ID with Live Specimens Part 2 - Tim Miller	
9:00 am	5 min	BREAK	
9:05 am	60 min	Bareground Herbicides - Scott Nissen	
10:05 am	15 min	BREAK – morning snack	
		Land Manger Track	Pesticide Applicator Track
10:20 am	60 min	Weeds & Disturbance – Tim Miller	Laws & Regulations - State Pesticide Rules National Overview - Sandra McDonald
11:20 am	5 min	BREAK	
11:25 am	35 min	Group activity work time - Can continue through lunch	
12:00 pm	60 min	LUNCH - group lunch at Sylvan Dale	
1:00 pm	50 min	Scavenger Hunt	
1:50 pm	10 min	BREAK	
2:00 pm	30 min	Restoration and Revegetation of Weed Infested Areas - Scott Nissen	
2:30 pm	15 min	BREAK – afternoon snack	
2:45 pm	15 min	Weed Walk to WSWS Weed Plots	
3:00 pm	90 min	Restoration and Revegetation of Weed Infested Areas - Scott Nissen	
4:30 pm		ADJOURN – Plants for Weed ID & Herbicide MOA available for self-study	
6:00 pm		DINNER – group dinner at Sylvan Dale	
7:00 pm		Evening activity (optional) – Dave Armstrong, Resident Naturalist Sylvan Dale Guest Ranch	

## Thursday, April 21, 2016

		BREAKFAST - on your own ( <i>Sylvan Dale or La Quinta</i> )	
		Land Manger Track	Pesticide Applicator Track
8:00 am	60 min	Early Detection/Rapid Response - Tim Miller	PPE – Selection, Use and Maintenance - Sandra McDonald
9:00 am	5 min	BREAK	
9:05 am	60 min	Inventory Techniques for Range & Wildland Sites - CSU Team	
10:05 am	15 min	BREAK – morning snack	
10:25 am	60 min	Environmental Concerns when Managing Weeds - Tim Miller	
11:25 am	5 min	BREAK	
11:30 am	60 min	Short Course Evaluation & Post-Test – Sandra McDonald	
12:30 pm	135 min	LUNCH at Sylvan Dale Working lunch for Group Activity "Invasive Weed Educational Materials "	
2:15 pm	15 min	BREAK – afternoon snack	
2:30 pm	90 min	Present Group Activity	
4:00 pm		ADJOURN – Safe Travels!	

Pesticide continuing education units (CEUs) are approved for CO and WY (as requested by participants)

### Core Credits

- Laws & Regulations (only 1) -- we will only discuss federal laws
- Applicator Safety
- Environmental Protection
- Use of Pesticides
- Pesticides & Their Families

### Category Credits

- 107 - Rangeland
- 109 - Industrial & Right-of-Way

# 2016 Western Invasive Weed Short Course

Trainers

April 18-21, 2016

Loveland, Colorado



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**The Short Course is taught by outstanding trainers representing the Western Society of Weed Science.**

**Course Coordinator:** Sandra K. McDonald, Pesticide Education Specialist, Mountain West PEST

**Course Assistants:** Janet Hardin, Research Associate, Colorado State University (CSU)

Chad Clark, Specialty Area Manager, Van Diest Supply Company

**Trainers:** Joe DiTomaso – Weed Identification & Management; University of California, Davis, Weed Specialist  
Andrew Kniss – Herbicide Mode-of-Action & Symptomology; University of Wyoming, Weed Specialist  
Tim Miller – Weed Identification & Management; Washington State University, Weed Specialist  
Sandra McDonald – Applicator Safety; Labels; Formulations; Public Perception; Mountain West PEST  
Scott Nissen - Herbicide Mode-of-Action & Symptomology, Revegetation, Aquatics; CSU Weed Specialist

**Special Guest Trainer:** Dave Armstrong, Resident Naturalist Sylvan Dale Guest Ranch

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## Live Weed Specimens

<u>Species</u>	<u>Common Name</u>
<i>Acroptilon repens</i>	Russian knapweed
<i>Aegilops cylindrica</i>	jointed goatgrass
<i>Cardaria draba</i>	whitetop
<i>Carduus acanthoides</i>	plumeless thistle
<i>Carduus nutans</i>	musk thistle
<i>Centaurea solstitialis</i>	yellow starthistle
<i>Centaurea maculosa</i>	spotted knapweed
<i>Cirsium arvense</i>	Canada thistle
<i>Conium maculatum</i>	poison hemlock
<i>Epilobium ciliatum</i>	willowherb
<i>Euphorbia esula</i>	leafy spurge
<i>Euphorbia cyparissias</i>	cypress spurge
<i>Hieracium aurantiacum</i>	orange hawkweed
<i>Hypericum perforatum</i>	St. Johnswort
<i>Lepidium latifolium</i>	perennial pepperweed
<i>Leucanthemum vulgare</i>	oxeye daisy
<i>Linaria dalmatica</i>	Dalmatian toadflax
<i>Linaria vulgaris</i>	yellow toadflax
<i>Lythrum salicaria</i>	purple loosestrife
<i>Onopordium acanthium</i>	scotch thistle
<i>Polygonum cuspidatum</i>	Japanese knotweed
<i>Potentilla recta</i>	sulfur cinquefoil
<i>Salvia aethiopsis</i>	Mediterranean sage
<i>Sorghum halepense</i>	johnsongrass
<i>Tamarix</i> sp.	tamarisk / saltcedar
<i>Triticum aestivum</i>	wheat

## Common Range and Pasture Herbicides

Herbicide Trade Name	Common Chemical Name	General Uses	Mode of Action	WSSA Herbicide Group
<b>Roundup Rodeo Touchdown &amp; generics</b>	glyphosate	POST-Emergence non-selective weed control	Amino acid inhibitor (aromatic amino acids)	9
<b>Telar</b>	chlorosulfuron	Canada thistle, white top, perennial pepperweed	Amino acid inhibitor (branched chain amino acids)	2
<b>Escort</b>	metsulfuron-methyl	Canada thistle, white top, perennial pepperweed	Amino acid inhibitor (branched chain amino acids)	2
<b>Plateau</b>	imazapic	cheatgrass, leafy spurge	Amino acid inhibitor (branched chain amino acids)	2
<b>Matrix</b>	rimsulfuron	POST-cheatgrass control	Amino acid inhibitor (branched chain amino acids)	2
<b>Paramount</b>	quinclorac	Field bindweed, leafy spurge	Plant Growth Regulator	4
<b>Milestone</b>	aminopyralid	Canada thistle, knapweeds	Plant Growth Regulator	4
<b>Vista</b>	fluroxypyr	Kochia, nightshades	Plant Growth Regulator	4
<b>2,4-D amine &amp; esters</b>	2,4-dichloro phenoxy acetic acid	Many broadleaf weeds both annual and perennial	Plant Growth Regulator	4
<b>Transline</b>	clopyralid	Canada thistle, knapweeds	Plant Growth Regulator	4
<b>Tordon</b>	picloram	Canada thistle, knapweeds, bindweed, leafy spurge	Plant Growth Regulator	4
<b>Payload</b>	flumioxazin	Kochia, many annual broadleaf weeds seedling, some soil activity	PROTOX inhibitor	14
<b>Aim</b>	carfentrazone-ethyl ester	Kochia, many annual broadleaf weed seedlings, POST only	PROTOX inhibitor	14