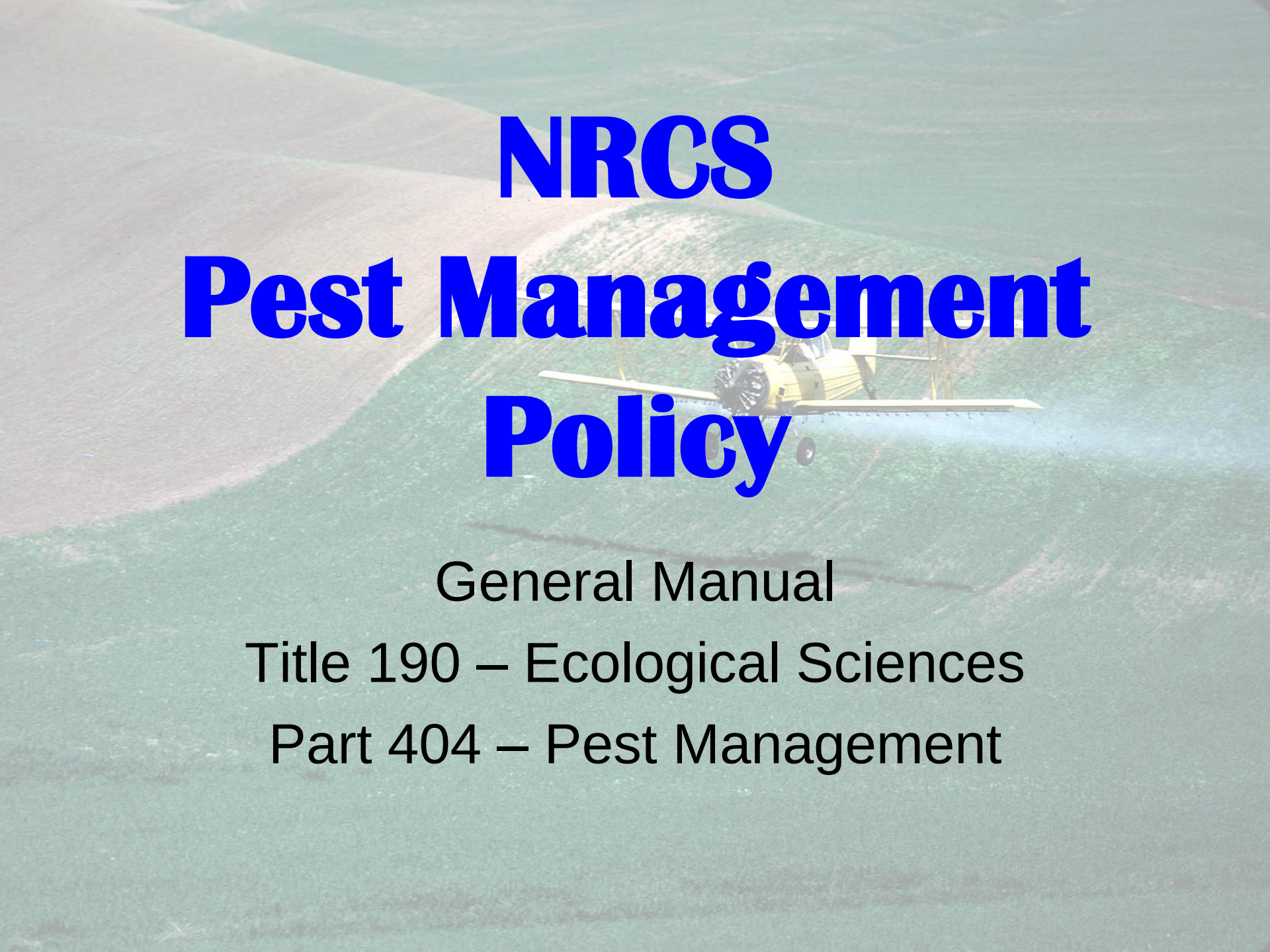




USDA - NRCS West National Technology Support Center

Giulio Ferruzzi
Conservation Agronomist

A yellow biplane is flying over a green field with a brown path. The biplane is positioned in the center-right of the image, flying towards the left. The field is green with some brown patches, and the path is a light brown color. The background is a soft, out-of-focus landscape.

NRCS Pest Management Policy

General Manual

Title 190 – Ecological Sciences

Part 404 – Pest Management

NRCS Roles in Pest Mgt.

(404.10 Pest Mgt. & Technical Assist.)

1. Evaluate environmental risk associated with a clients probable pest suppression strategies.
2. Provide technical assistance to clients to mitigate the identified environmental risk of pest suppression strategies through mitigation practices and activities.



NRCS Roles in Pest Mgt. (cont.)

- 
3. Assist clients to adopt IPM techniques that protect natural resources.
 4. Assist clients to:
 - i. Inventory, assess and suppress noxious and invasive weeds on non-cropland.
 - ii. Suppress weeds to ensure successful implementation and/or maintenance of permanent vegetative conservation practices.

1. Evaluate environmental risk associated with a clients probable pest suppression strategies.

404.32 Pest Management Environmental Risk Analysis

A. Environmental risk of pest management activities must be evaluated in the conservation planning process, including:

- (1) The potential impacts of pesticides in ground and surface water on humans and non-target plants and animals [WIN-PST].
- (2) The potential impacts of mechanical pest suppression techniques on on-site soil loss and potential offsite resource effects [RUSLE2/WEPS].
- (3) The potential impacts of biological pest suppression techniques on natural resources (use land grant university publications or other appropriate literature).
- (4) The potential impacts of cultural pest suppression techniques (e.g., burning) on natural resources, specifically air and soil quality resources.

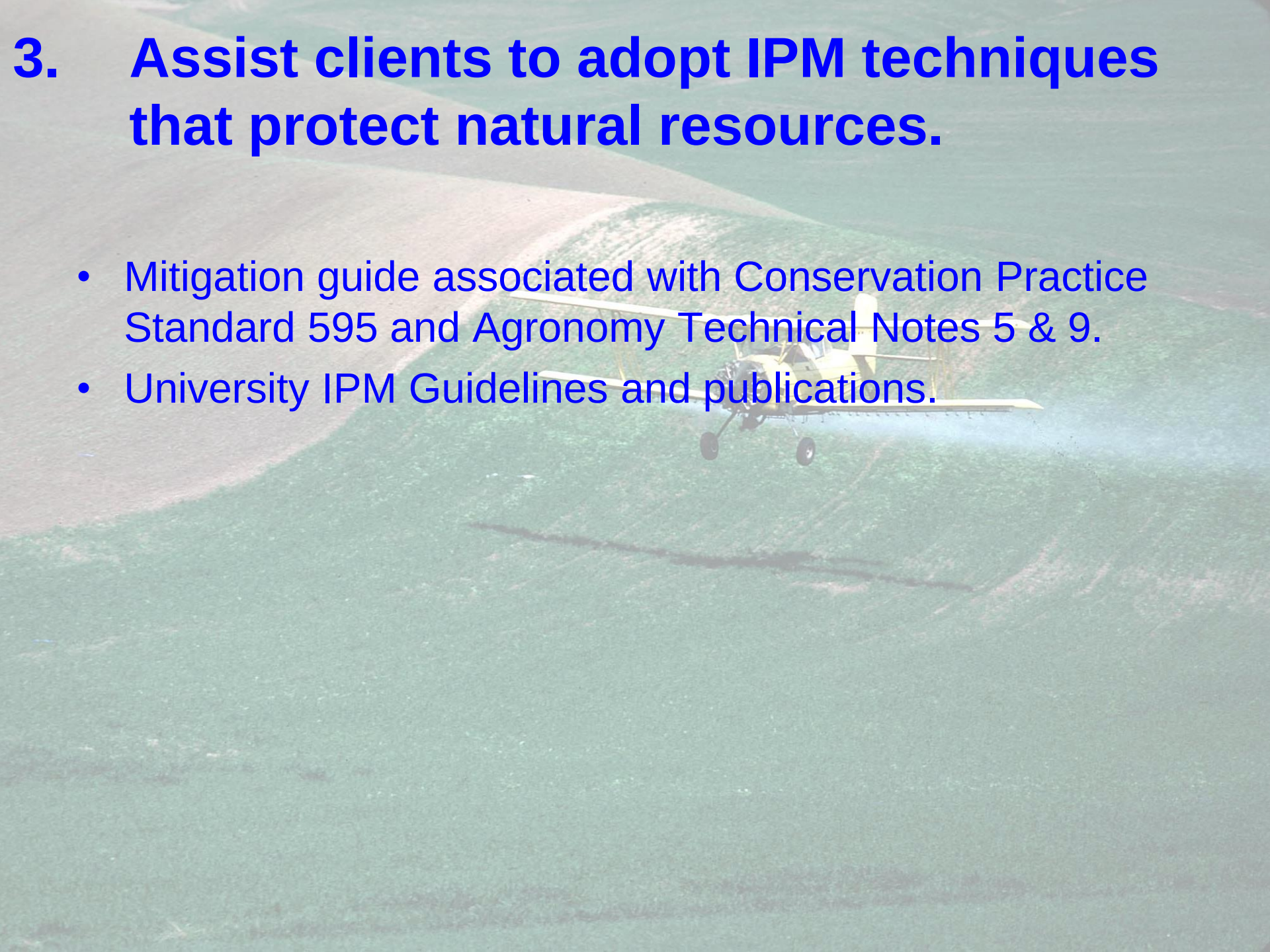
2. Provide technical assistance to clients to mitigate the identified environmental risk of pest suppression strategies through mitigation practices and activities.

- Mitigation guide associated with Conservation Practice Standard 595 and Agronomy Technical Notes 5 & 9.



3. Assist clients to adopt IPM techniques that protect natural resources.

- Mitigation guide associated with Conservation Practice Standard 595 and Agronomy Technical Notes 5 & 9.
- University IPM Guidelines and publications.



4. Assist clients to:

i. Inventory, assess and suppress noxious and invasive weeds on non-cropland.

- University publications.
- This is mainly to bring Conservation Practice Standards such as Brush Management (315) and Herbaceous Weed Management (314) under the umbrella of the Pest Management Policy.



4. Assist clients to:

ii. Suppress weeds to ensure successful implementation and/or maintenance of permanent vegetative conservation practices.

- University publications.
- This is mainly to allow NRCS to reference publications that detail weed management for practices such as Conservation Cover, Filter Strip, Field Border, etc. so that successful stands are established and are not overrun by weeds because of improper site preparation or vegetation management.



An aerial photograph of a yellow biplane flying over a green field. A brown path or road runs diagonally across the field. The text "NRCS Conservation Planning Policy" is overlaid in large, bold, blue letters.

NRCS Conservation Planning Policy

General Manual

Title 180 – Conservation Planning and Application

Part 409 – Conservation Planning Policy

WIN-PS Analysis

Develop CPS 595 (if needed)

I. Collection and Analysis

II. Decision Support

III. Application & Evaluation

Identify Problems

Inventory Resources

Analyze Resource Data

Determine Objectives

Formulate Alternatives

Evaluate Alternatives

Make Decisions

Implement the Plan

Evaluate the Plan

An illustration of the dynamic nature of the planning process.

An illustration of the dynamic nature of the planning process.

Pest Management Risk Mitigation Planning

START

Initial Contact with the Client

1. Are they currently using IPM? If so document currently adopted techniques (University IPM).
2. What Pesticides are they currently using to manage pests? If a decision was made to use one pesticide over another to avoid impacts to non-target organisms, document this (University IPM)

1. WIN-PST Interaction Report
2. Ag. Tech. Notes 5 & 9 (pollinators, volatilization and drift)

Hazards of
I, H or X?

NO

CPS 595 water quality minimum
criteria met.

YES

Complete the "Conservation Planning" worksheet of the Pest Mgt
Excel workbook.

Are there
any remaining Hazards that require
additional mitigation to meet
criteria in the 595/ Ag.Tech.
Notes 5 & 9?

NO

CPS 595 & Ag. Tech. Notes 5 & 9
minimum criteria met.

YES

Will you be mitigating the remaining
Hazards SOLELY with the adoption
of additional NRCS practice(s)?

YES

CPS 595 & Ag. Tech. Notes 5 & 9
minimum criteria met with the
implementation of other practice(s).

NO

YES

Will some or all of the pesticide
hazards be prevented by pesticide
substitution (Client/CCA/Ext.
Specialist choice only)?

NO

Develop a 595 Risk Prevention plan with the client and their CCA/Coop. Ext. Agent/Pest Mgt. Specialist that prevents pesticide hazards from being realized by substituting a pesticide that poses a hazards with IPM prevention/avoidance techniques or an alternative pesticide. REMEMBER , PESTICIDE CHOICE IS THE CLIENT'S DECISION ONLY! The plan will also address any remaining mitigation needed for the identified resource concerns (the Jobsheet worksheet of the Pest Mgt Excel workbook). Note: if a pesticide has been substituted, the hazards associated with the original pesticide no longer apply and the new pesticide must be evaluated anew and any new hazards must be adequately mitigated for also.

Phase I

Phase II



Develop a 595 Risk Mitigation plan with the client and their CCA/Coop. Ext. Agent/Pest Mgt. Specialist that addresses the remaining mitigation needed for the identified resource concerns (the Jobsheet worksheet of the Pest Mgt Excel workbook).

Re-evaluate as necessary

Phase III

I. Collection and Analysis

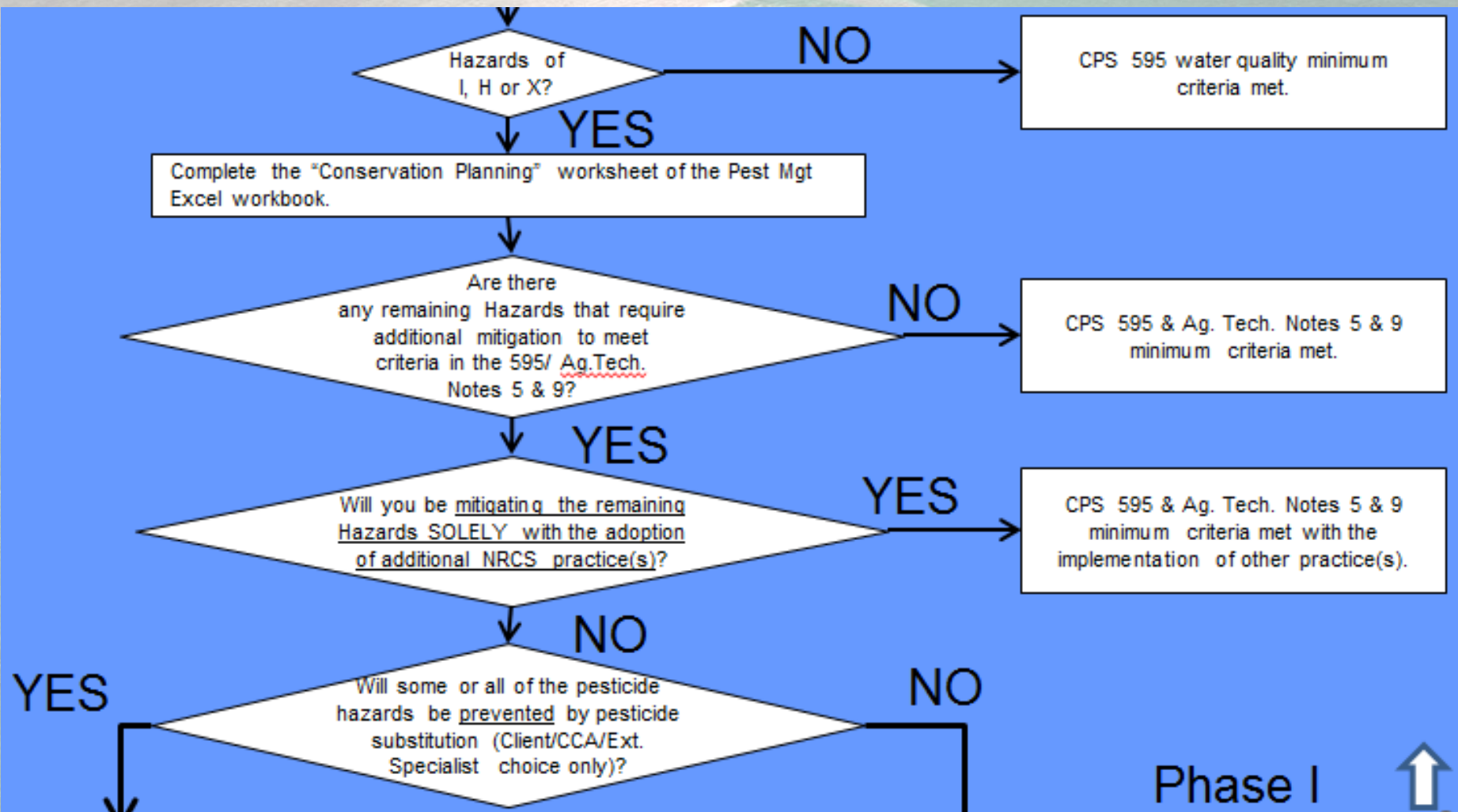
START

Initial Contact with the Client

1. Are they currently using IPM? If so document currently adopted techniques (University IPM).
2. What Pesticides are they currently using to manage pests? If a decision was made to use one pesticide over another to avoid impacts to non-target organisms, document this (University IPM)

1. WIN-PST Interaction Report
2. Ag. Tech. Notes 5 & 9 (pollinators, volatilization and drift)

I. Collection and Analysis



II. Decision Support

Develop a 595 Risk Mitigation plan with the client and their CCA/Coop. Ext. Agent/Pest Mgt. Specialist that addresses the remaining mitigation needed for the identified resource concerns (the Jobsheet worksheet of the Pest Mgt Excel workbook).

Develop a 595 Risk Prevention plan with the client and their CCA/Coop. Ext. Agent/Pest Mgt. Specialist that prevents pesticide hazards from being realized by substituting a pesticide that poses a hazards with IPM prevention/avoidance techniques or an alternative pesticide. REMEMBER , PESTICIDE CHOICE IS THE CLIENT'S DECISION ONLY! The plan will also address any remaining mitigation needed for the identified resource concerns (the Jobsheet worksheet of the Pest Mgt Excel workbook). Note: if a pesticide has been substituted, the hazards associated with the original pesticide no longer apply and the new pesticide must be evaluated anew and any new hazards must be adequately mitigated for also.

NRCS Pesticide Risk Prevention and Mitigation with CPS 595



9/23/2013

10:42AM

Page 1 of 2

Soil / Pesticide Interaction Loss Potential and Hazard Rating Report

BEB Bandera
70% GR-L Hydro: B
Apache County, Arizona, Central
Part: AZ635

OM% 1.5 H1 Depth: 2

BDB Bandera
95% GR-L Hydro: B
Apache County, Arizona, Central
Part: AZ635

OM% 1.5 H1 Depth: 2

GARLON XRT

Reg No: 62719-553

83.9% Butoxyethyl triclopyr

	Loss Potential	Human Hazard	Fish Hazard
Leaching:	I (<dry>)	V	I
Solution:	I (<dry>)	V	I
Adsorbed:	L (<dry>)		V

	Loss Potential	Human Hazard	Fish Hazard
I (<dry>)	V	I	
I (<dry>)	V	I	
L (<dry>)			V

REMEDY ULTRA

Reg No: 62719-552

60.45% Butoxyethyl triclopyr

	Loss Potential	Human Hazard	Fish Hazard
Leaching:	I (<dry>)	V	I
Solution:	I (<dry>)	V	I
Adsorbed:	L (<dry>)		V

	Loss Potential	Human Hazard	Fish Hazard
I (<dry>)	V	I	
I (<dry>)	V	I	
L (<dry>)			V

NRCS Pesticide Risk Prevention and Mitigation with CPS 595

USDA NRCS		Pest Management Considerations in Conservation Planning Worksheet				Version 1.80 February, 2011												
Client:	Sample Farms	Tract:	9419	Field No.:	1													
Planner:	SK Worm	Date:	2/23/11	Acres:	115													
Consultant:	Any Consultants International	Crop:	Cotton	Get WIN-PST Data		Clear Imported Data	Clear All Data & Reset Worksheets											
Pesticide-Related Resource Concerns (from cons. plan):																		
Pesticides leaching to groundwater:		☒ Humans/Fish		Crop Rotation: Cotton/covercrop														
Pesticides in runoff water:		☒ Humans/Fish		Landuse: ☒ Cropland ☐ Hayland ☐ Rangeland ☐ Forestland ☐ Other														
☒ Pesticide-laden sediment																		
☐ Pesticide drift from field																		
Existing or Planned Conservation Practices in or around the field:																		
Conservation Practice		Description				Existing/Planned												
Irrigation System, Surface and Subsurface (443)		Reduces exposure potential - efficient and uniform irrigation reduces pesticide transport to ground and surface water.				Existing												
Irrigation Water Management (449)		Reduces exposure potential - water is applied at rates that minimize pesticide transport to ground and surface water, promotes healthy plants which can better tolerate pests.				Existing												
Cover Crop (340) that is incorporated into the soil.		Increases infiltration, reduces soil erosion, builds soil organic matter. Assumes at least 4000 lbs/ac of live biomass at the time of tillage.				Existing												
Deep Tillage (324)		Increases infiltration and deep percolation. Not applicable if pesticide leaching to groundwater is an identified natural resource concern.				Existing												
Purposes (from the 595 practice standard):																		
Prevent or mitigate off-site pesticide risks to water quality from leaching, solution runoff and adsorbed runoff losses.																		
☒ to soil, water, air, plants, animals and humans from drift and volatilization losses.																		
Prevent or mitigate on-site pesticide risks to pollinators and other beneficial species through direct contact.																		
☒ to pollinators and other beneficial species through direct contact.																		
Prevent or mitigate cultural, mechanical and biological pest suppression risks to soil, water, air, plants, animals & humans.																		
Describe any waters of concern (river, irrigation ditch, stream, pond, etc.): None																		
WIN-PST Hazard Ratings																		
Send to JS	Soil Map Unit	Soil Name	Target Pest Name(s)	Product Name	Active Ingredient (a.i.)	Leaching (ILP)	Solution Runoff (ISRP)	Adsorbed Runoff (IARP)	Area	Ap. Method	Rate	Pesticide-Specific Resource Concern	Existing IPM Techniques	Mitigation Index Score				
														Leaching	Solution Runoff	Adsorbed Runoff	Drift and Volatilization	Pollinator - Direct Contact
☒	Cm	Comoro	TREFLAN E.C.	Trifluralin	Human	L	Human	L		Broadcast	Surface Applied	☒ Volatilization		25	30		0	0
					Fish	H	Fish	H	Fish	Standard		☐ Pollinators-DC		25	30	30	0	0
☐	Cm	Comoro	FUSILADE DX HERBICIDE	Fluazifop-P-butyl	Human	L	Human	L		Broadcast	Surface Applied	☐ Volatilization	NO MITIGATION NEEDED	25	30		0	0
					Fish	L	Fish	L	Fish	Standard		☐ Pollinators-DC		25	30	30	0	0
☐	Cm	Comoro	LIBERTY HERBICIDE	Glufosinate-ammonium	Human	V	Human	V		Broadcast	Surface Applied	☐ Volatilization	NO MITIGATION NEEDED	25	30		0	0
					Fish	V	Fish	V	Fish	Standard		☐ Pollinators-DC		25	30	30	0	0
☐	Cm	Comoro	ROUNDUP ULTRA MAX HERBICIDE	Glyphosate isopropylamine salt	Human	V	Human	V		Broadcast	Surface Applied	☐ Volatilization	NO MITIGATION NEEDED	25	30		0	0
					Fish	V	Fish	L	Fish	Standard		☐ Pollinators-DC		25	30	30	0	0
☒	Cm	Comoro	PIX DF PLANT REGULATOR	Mepiquat chloride	Human	V	Human	V		Broadcast	Foliar	☒ Volatilization		25	30		0	0
					Fish	V	Fish	V	Fish	Ultra Low		☐ Pollinators-DC		25	30	30	0	0
☒	m	Comoro	ASSAIL 70 WP	Acetaminophen	Human	V	Human	V		Broadcast	Low	☐ Volatilization		25	30		0	0

NRCS Pesticide Risk Prevention and Mitigation with CPS 595

1		2		3		4		5		6		7		8			
USDA Natural Resources Conservation Service		Integrated Pest Management Jobsheet										Version 1.8		February, 2011			
Conservation Practice 595 Worksheet		Client:		Tract:		Field #:		Crop Rotation:		Landuse:		Soil types to which this mitigation applies:		Add Soils			
Planner:		Date:		6/21/13		Acres:											
Consultant:		Crop:															
Purpose(s):																	
		When these pesticides are applied to this field in this manner...				...the pesticides are expected to pose the following potential Hazards...				... and even with the existing level of mitigation (listed in the Cons. Planning Worksheet) require the following additional level of mitigation ...				...to achieve the below mitigation index scores and for full implementation of the practice standard.			
Pesticide Information		WIN-PST Hazard Ratings						Planned IPM Mitigation Techniques		Clarifications & Comments		Mitigation Index Score					
Product Name	Active Ingredient (a.i.)	Ap. Area	Ap. Method	Ap. Rate	Leaching (ILP)	Solution Runoff (ISRP)	Adsorbed Runoff (IARP)			Leaching	Solution Runoff	Adsorbed Runoff	Drift and Volatilization	Pollinator - Direct Contact			
TREFLAN E.C.	Trifluralin	Broadcast	Surface Applied	Standard	Human L	Human L		Monitoring + Economic Pest Thresholds	Monitor and map weed populations to determine which areas need application of pesticide and which areas do not need an application.	40	45		15	0			
					Fish H	Fish H	Fish L			40	45	45	15				
PIX DF PLANT REGULATOR	Mepiquat chloride	Broadcast	Foliar	Ultra Low	Human V	Human V		Application Timing - Ambient Temperature	Apply pesticide during coolest period of the day.	25	30		5	0			
					Fish V	Fish V	Fish V			25	30	30	5				
Practices that must be maintained in or around the field for this mitigation analysis to be valid:																	
Conservation Practices		Description								Mitigation Index Legend							
Irrigation System, Surface and Subsurface (443)		Reduces exposure potential - efficient and uniform irrigation reduces pesticide transport to ground and surface water.								Meaning			Shading				
Irrigation Water Management (449)		Reduces exposure potential - water is applied at rates that minimize pesticide transport to ground and surface water, promotes healthy plants which can better tolerate pests.								Not an identified resource concern/pesticide loss pathway combination.							
Cover Crop (340) that is incorporated into the soil.		Increases infiltration, reduces soil erosion, builds soil organic matter. Assumes at least 4000 lbs/ac of live biomass at the time of tillage.								Resource concern/pesticide loss pathway combination exists and minimum mitigation criteria HAS been satisfied.							
		Increases infiltration and deep percolation. Not applicable if pesticide leaching to groundwater is an								Resource concern/pesticide loss pathway							