

PEST MANAGEMENT PLAN

RED RIVER ARMY DEPOT

PREPARED 1 OCTOBER	1988
REVISED 30 JANUARY	1990
REVISED 01 OCTOBER	1991
REVISED OCTOBER	1993
REVISED OCTOBER	1994
REVISED OCTOBER	1995
REVISED OCTOBER	1996
REVISED AUGUST	1999
REVISED NOVEMBER	2000

MANAGEMENT APPROVAL:

Full approval is extended by management at a level with authority to commit the necessary resources to the Installation Integrated Pest Management Plan (IIPMP) implemented as herein described.

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I. EXECUTIVE SUMMARY

The Installation Integrated Pest Management Plan (IIPMP) for Red River Army Depot, Texarkana, Texas, is a comprehensive document describing the pest control program. The pest management functions at Red River Army Depot are either performed or monitored by the Environmental Division, Land Management Team. The IIPMP uses an integrated pest management approach. IPM controls used range from live trapping to chemical control. Mechanical, physical, biological, and chemical controls are listed where applicable for specific pests in the pest control work sheets. Its implementation will prevent or manage pests which interfere with the Supply, Maintenance, and Ammunition Missions of RRAD, adversely affect health, or damage property, structures, or material. The IIPMP contains applicable policies, requirements, environmental documentation, and major actions which impact the Pest Management Program. Also contained in the plan are provisions for the safety of personnel, equipment, materials, and facilities.

The implementation of this plan will provide for an environmentally safe program that adheres to regulatory requirements and applicable laws, both Federal and State. The IIPMP was approved by the AMC Pest Management Coordinator (AMCPMC) and is now reviewed and approved by Dr. Steve Bennett, Senior Pest Management Consultant, Army Environmental Center (AEC).

II. INTRODUCTION

A. The IIPMP for Red River Army Depot is a guide to establish and maintain safe, efficient and environmentally sound integrated pest management programs. Its implementation will prevent or manage pests which interfere with the Supply, Maintenance, and Ammunition Missions of RRAD, adversely affect health, or damage property, structures, or material.

B. RRAD is geographically located in Bowie County 18 miles west of Texarkana, Texas. The average annual rainfall is 49.19 inches. The average daily temperature ranges from a record high of 75.1 degrees F to 53.5 degrees F. The average growing season is 238 days covering an average frost free period from 19 March to 11 November. There is a total of 18,446 acres of land on Red River Army Depot. The Pest Management Program at Red River Army Depot controls structural damage due to pests at over 1000 buildings, controls vegetation on 702 earth covered igloos, 200 miles of fences, 57 miles of railroad tracks, aquatic vegetation in two lakes consisting of over 385 acres, health hazard pests at industrial sites, recreation facilities, military quarters, food handling facilities, and controls other nuisance pests.

C. During the BRAC process 635 acres of land were transferred to a local reuse authority (LRA) in June, of 1999. This transfer changed the workload of the pest control activities. The major changes included:

1. There is no longer a golf course on RRAD.
2. There is only one housing unit on RRAD, the commander's quarters.
3. RRAD now does pest control on buildings leased from the LRA. This is inside work only. Exterior work is performed by LRA.
4. There is a 635 acre reduction in total land of which 150 acres were in the high maintenance area.

D. The current IIPMP was written 1 October 1988 and had a major revision 30 January 1990. The IIPMP is updated on an annual basis. Throughout the year, pen and ink changes are made if necessary. These changes are coordinated with the AMCPMC. These changes are included in the annual update.

III. PRIORITY OF PEST CONTROL WORK.

The Pest Management Program at RRAD includes a variety of pests. Pest control is prioritized below. Specific controls for each pest can be found in the pest control work sheets.

(1) Priority 1. Public health pests are the number one priority to control. This includes disease vectors and medically important pests. Specific pests controlled include mosquitoes, ticks, fleas, flies, louse, and spiders.

- (2) Priority 2. Included in this category are pests that destroy structural property. Subterranean termites are the main pests treated in this category.
- (3) Priority 3. Undesirable vegetation is the third priority at RRAD. This includes broadleaf weeds, woody plants, aquatic weeds, and grasses.
- (4) Priority 4. Stored products pests would be the number 4 priority at RRAD but there are no problems with these pests at the current time. Due to the nature of RRAD's missions, there are very few perishable items stored at the installation.
- (5) Priority 5. This category includes ornamental and turf pests. Pests included are scale, rust, aphids, fungi, bacteria, bagworms, and armyworms. The current landscape plan at RRAD requires native plants that are more resistant to these problems. In FY 98, the only pest in this category treated was armyworms.
- (6) Priority 6. This category includes animal pests. Pests included in this category are rats, mice, moles, gophers, birds, cats, dogs, skunks, raccoons, snakes, opossums, coyotes, and armadillos. Vertebrate pests continue to be a reoccurring problem at RRAD.
- (7) Priority 7. This category includes household and nuisance pests. Pests included are ants, cockroaches, silverfish, leafhoppers, mites, bees, crickets and wasps.

IV. PEST CONTROL DEFINITION WORK SHEETS

1. OBJECTIVE

a. Target Pest: Mosquito
Life Stages: Larvae

b. Purpose of Control: Health and Safety of personnel

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: Apr- Sep weekly

Techniques: Shallow water dipping for larvae count

Locations: Standing water in ditches, tires and artificial containers

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Ditching and draining

Locations: Low areas holding water

Type treatment: Preventive

b. Chemical Controls

Common Name: Bacillus thuringiensis

EPA Reg. #: 37100-43-2217

Formulation: Granules

Concentration: 2.5%

Source: Local Purchase

NSN: None

1. Application Data

Finished Formulation: 2.5%

Use strength: 2.5%

Diluent: None

Rate: 2-10 lb./acre

Method of Dispersal: Disbursed by hand

Treatment: Corrective

Locations: Standing water and ditches

Climatic Conditions: When weather warrants eggs to hatch

Sensitive Areas:

(1) Treated with Caution: In and around potable water, food and feed

(2) Avoided: Water Plant area

Special Safety Measures: Wear proper safety equipment, rubber gloves

- c. Manpower Requirements Determined by Past Experience: 75 Man-hours annually
- d. Remarks: A 7-14 Day interval between applications should be employed. Higher rates should be used in polluted water. Only in and around where people normally work is surveyed or treated.

1. OBJECTIVE

- a. Target Pest: Mosquito
Life Stages: Adult
- b. Purpose of Control: Health and safety of personnel

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: Apr-Sep.
Techniques: (complaints) on bite count surveys
Locations: Industrial and Office areas

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Ditching and draining
Type treatment: Preventive
Locations: Areas that have water standing for long periods of time

b. Chemical Controls

Common Name: Malathion
EPA Reg. #: 4787-8-655
Formulation: Solution
Concentration: 95%
Source: Federal Supply System NSN: 6840-926-1481

1. Application Data

Finished Formulation: 95%
Use strength: 95%
Diluent: None
Rate: 1-2 fluid ounces per minute at 5 miles per hour
Method of Dispersal: ULV
Treatment: Corrective
Locations: Family housing, supply area and bay shop area
Climatic Conditions: Wind not to exceed 5 MPH. Ground temps cooler than air temp. Temp not to exceed 85 degrees F.

Sensitive Areas:

(1) Treated with Caution: Around family housing area and playground

(2) Avoided: Child Care Center

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 80 man-hours annually
- d. Remarks: This method of control is the most effective and least expensive at present at RRAD. ULV dispersal for adult mosquitoes is accomplished when survey shows the need for control. Only treat areas where people are likely to be affected by mosquitoes. Bite count surveys are conducted in these areas and treatment should begin when counts are 4 per 15 min or 8 per hour.

1. OBJECTIVE

- a. Target Pest: Ticks
Life Stages: Nymph & Adult
- b. Purpose of Control: Health & safety of depot personnel

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: Mar through Oct
Techniques: On-call basis
Locations: Areas to include playgrounds & recreation

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Mowing
Type treatment: Preventive
Locations: Yards, playgrounds, & recreation areas

b. Chemical Controls

Common Name: Carbaryl
EPA Reg. #:264-316
Formulation: Suspension
Concentration: 80%
Source: Federal Supply System NSN: 6840-932-7297

1. Application Data

Concentration: 80%
Use strength: 1.0%
Diluent: Water
Rate: 12.5 pounds per 100 gals/water as per label to make a 1.0% suspension
Method of Dispersal: 300 gallon sprayer
Treatment: Corrective
Locations: In and around Family Housing, playgrounds & recreation areas
Climatic Conditions: Do not use when rain is expected within 2 days

Sensitive Areas:

(1) Treated with Caution: Playgrounds, areas at Family Housing

(2) Avoided: Surfaces where visible residue and water stains will occur

Special Safety Measures: Follow label directions.

- c. Manpower Requirements Determined by Past Experience: 15 man-hours annually
- d. Remarks: Ticks are controlled at RRAD on an on-call basis. Only places where people are exposed in developed areas should be considered for treatment.

1. OBJECTIVE

a. Target Pest: Fleas

Life Stages: Larva, Pupa, Adult

b. Purpose of Control: Health & safety of depot personnel

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: Year round on-call basis

Techniques: On-call basis

Locations: recreation areas, offices, and other buildings as needed

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Removing, washing or burning debris (brush)

Locations: Family Housing, playgrounds, recreation areas, and other buildings as needed

Type treatment: Preventive

b. Chemical Controls

TRADE NAME	SEVIN	FICAM W	DURSBAN
CHEMICAL	carbaryl	bendiocarb	chlorpyrifos
FORMULATION	suspension	suspension	emulsion
EPA #	264-316	45639-1	464-571
DILUENT	water	water	water
STOCK #	6840-932-7297	6840-01-0876672	6840-01-122651
CONCENTRATION	80%	76%	41.5%
USE STRENGTH	1.0%	.25%	.25%

NOTE: mixed and applied in accordance with manufacturer 's label

Locations: Family Housing, playgrounds, recreation areas and other buildings

Climatic Conditions: Do not use Sevin when possibility of rain within 2 days

Sensitive Areas:

(1) Treated with Caution: playgrounds

(2) Avoided: Areas where visible residue and stains will occur

Special Safety Measures: Follow label directions

c. Manpower Requirements Determined by Past Experience: 80 man-hours annually

- d. Remarks: Fleas are a primary concern in buildings that have feral animals. Vertebrate animal control should be performed at the same time as flea control is performed. Dursban no longer registered for flea control indoors.

1. OBJECTIVE

a. Target Pest: Flies
Life Stages: Adult

b. Purpose of Control: Health and well being of personnel, and sanitation purposes

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: Seasonal

Techniques: Steam Cleaning Dumpsters

Locations: Around dumpsters, cafeterias and recreation areas

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

1. Type: Steam cleaning dumpsters

Type Treatment: Preventive

Locations: Around dumpsters, cafeterias, recreation areas

2. Type: Wind barriers on doors

Type Treatment: exclusion

Locations: Cafeterias

3. Type: Window screens

Type Treatment: Exclusion

Locations: Windows on buildings that can be opened

b. Chemical Controls

Common Name: Methomyl (Apache)

EPA Reg. #: 270-255

Formulation: Granules

Concentration: 1.025%

Source: Federal Supply System

NSN: 6840-01-183-7244

1. Application Data

Finished Formulation: Granule

Use strength: 1.025%

Diluent: None

Rate: 1/4 lb. per 500 sq. ft.

Method of Dispersal: By Hand

Treatment: Corrective

Locations: Food-handling establishments, dumpsters, recreation areas

Climatic Conditions: None

Sensitive Areas: Playgrounds and Child Care Centers

(1) Treated with Caution: Playgrounds and Child Care Centers

(2) Avoided: Standing water, food preparation sites

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 80 man-hours annually
- d. Remarks: Flies are a continuing problem around canteens, mess halls and dumpsters at RRAD.

1. OBJECTIVE

a. Target Pest: Spiders

Life Stages: Nymph & Adult

b. Purpose of Control: For the health of personnel at RRAD

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: On-call basis

Techniques: On-call basis

Locations: Depot offices, industrial areas and Warehouses

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Vacuuming webs & egg sacs

Locations: Offices, warehouses and Family Housing

Type treatment: Preventive

b. Chemical Controls

TRADE NAME	DEMON WP	FICAM W	DIAZINON 4E
CHEMICAL	Cypermetherin	Bendiocarb	Diazinon
EPA #	10182-100	45639-1	655-457-6830
FORMULATION	SUS	SUS	EML
STOCK #	NONE ASSIGNED	6840-01-087- 6672	6840-00-782-3925
DILUENT	WATER	WATER	WATER
CONCENTRATION	35.6%	76%	47.5%
USE STRENGTH	.2%	0.25%	1.0%

NOTE: Mix and apply in accordance with the label.

Method of dispersal: 2 gallon hand held sprayer

Treatment: Corrective

Locations: Warehouses, Depot offices and Family Housing

Climatic Conditions: None

Sensitive Areas: Playgrounds and child care centers

(1) Treated with Caution: Playgrounds and child care centers

(2) Avoided: Areas where children and pets can come in contact with spray

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 40 man-hours annually
- d. Remarks: Spiders are mainly a concern in warehouses where there is access to unopened boxes and other places to hibernate.

1. OBJECTIVE

a. Target Pest: Louse

Life Stages: Egg, Nymph, Adult

b. Purpose of Control: Health and morale of employees, and prevention of disease

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: On-call basis

Techniques: On-call basis

Locations: Reserve Quarters, Rest Rooms

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Wash clothing and bedding

Locations: Reserve Quarters

Type treatment: Preventive

Methods of application: Appropriate detergent and disinfectant

b. Chemical Controls: None

c. Manpower Requirements Determined by Past Experience: 3 hours annually

d. Remarks: Refer individuals to USA health clinic. No personnel delousing to be accomplished by pest control activity.

1. OBJECTIVE

- a. Target Pest: Termites
Life Stages: Nymph and Adult
- b. Purpose of Control: Protect wooden structures and material

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: Annual Inspection
Techniques: Visual Inspection
Locations: All structures and buildings that have wooden construction material or store any paper or cellulose.

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Remove wood from under and around buildings
Locations: All wooden structures
Type treatment: Preventive
Methods of application: None Applied

b. Chemical Controls

Trade Name: Dursban TC
Chemical: Chlorpyrifos
EPA Reg. #: 62719-47
Formulation: Emulsion
Concentration: 42.8%
Source: Local Purchase
NSN: 6840-01-270-9766
Finished Formulation: 1.0%
Diluent: Water
Rate: 1 gal of dilution per 10 sq ft
Method of Dispersal: 300 Gallon Sprayer,
low pressure

Trade Name: Tim Bor
Chemical: Octaborate
EPA Reg. #: 1624-39
Formulation: Dust
Concentration: 98%
Source: Local Purchase
NSN: none assigned
Finished Formulation: 98%
Diluent: None
Rate: Per label instructions
Method of Dispersal: Aerosol

Treatment: Preventive/Corrective
Locations: Wooden Structures around piers and foundations, Subslab Injections and Pre Construction Treatment
Climatic Conditions: Avoid water saturated or frozen soil

Sensitive Areas:

- (1) Treated with Caution: Family Housing and Child care centers
- (2) Avoided: Playgrounds

Special Safety Measures: Wear proper respirator and rubber gloves. Follow label directions.

- c. Manpower Requirements Determined by Past Experience: 1000 man-hours annually
- d. Remarks: Most pre-construction treatment is applied by Contractors. Subslab injection and crawl space treatment is conducted by Certified Pest Control Personnel. Termite inspection has been reduced to biannual except in buildings and structures with a history of problems. This was based on Army Ideas of Excellence Program -Idea No.AMVA000234. See Appendix T for a copy of this document.

1. OBJECTIVE

- a. Target Pest: Broadleaf Weeds
Life Stages: All Stages
- b. Purpose of Control: Essential for health of personnel and Family Housing occupants and to reduce upkeep around buildings, fence lines, and railroads.

2. Surveillance: Seasonable

Responsible Off: Cert. Pest Controller
Schedules: Mar-Sep
Techniques: Visual Inspections of unwanted vegetation
Locations: Fence lines, railroads and around buildings

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Mowing and burning
Locations: Around buildings, fences, and railroads
Type treatment: Preventive
Methods of application: None

b. Chemical Controls

NAME	BANVEL	BROMAX	24D	TORDON	OUST
EPA#	55947-1	2393-298	42545-43-9779	62719-5-87120	352-401
STOCK#	6840-181-7106	6840-00577-4192	6840-00-577-4194	NONE ASSIGNED	NONE ASSIGNED
DILUENT	WATER	WATER	WATER	WATER	WATER
FORMULATION	EML	EML	EML	EML	SUS
CONCENTRATION	48.2%	40.8%	61.7%	10.2%PICLO RAM	75%
USE STRENGTH	1.0%	5 TO 8 LB AI PER AC	1.0%	¾ TO 1½ GAL PER AC	1 TO 5 OZ PER AC

Method of Dispersal: 300 gallon power sprayer, 500 gallon boom sprayer
Treatment: Corrective
Locations: Around buildings, fence lines, and railroads
Climatic Conditions: Do not spray when winds are in excess of 5 mph, or temperature exceeds 85 degrees F.

Sensitive Areas:

(1) Treated with Caution: around air conditions or other external ductwork.

(2) Avoided: Playgrounds, child care centers

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 240 man-hours annually
- d. Remarks: Broadleaf weeds are a problem around most Depot warehouses and railroad ballast. Occasionally these weeds are a problem around Depot office buildings. Also, weeds are a problem on igloos. Oust is the preferred bare ground treatment due to low PAI required.

1. OBJECTIVE

- a. Target Pest: Woody Plants
Life Stages: All Stages
- b. Purpose of Control: Reduces upkeep cost around buildings and structures in and along fence lines and along railroad tracks, and in streams and ditches.

2. Surveillance: Seasonable

Responsible Off: Cert. Pest Controller
 Schedules: Growing season
 Techniques: Visual inspections
 Locations: Around buildings, along fence lines, along railroads

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Bush hogging and burning
 Locations: Around buildings railroad tracks, and fence lines
 Type treatment: Preventive
 Methods of application: None

b. Chemical Controls

NAME	RODEO	BANVEL	ESCORT	ROUND-UP	TORDON
EPA #	524-343	55947-1	352-439	524-308-AA	62719-5-87120
FORMULATION	EML	EML	SUS	SOL	EML
CONCENTRATION	53.8%	48.2%	60%	41%	10.2% PICLORAM
STOCK #	NONE ASSIGNED	NONE ASSIGNED	NONE ASSIGNED	6480-01- 108-9578	NONE ASSIGNED
DILUENT	WATER	WATER	WATER	WATER	WATER
USE STENGTH	1.5%	1 to 8 LBS. A.I. PER AC	1 OZ. PER AC OF ESCORT	2%	¾ TO 1½ GAL PER AC

Method of Dispersal: 300 gallon sprayer, 500 gallon boom sprayer
 Treatment: Corrective
 Locations: Around buildings, fence lines and railroad tracks and igloos.
 Climatic Conditions: Do not use in periods of excess rainfall, or winds in excess of 15 mph.

Sensitive Areas:

(1) Treated with Caution: Family Housing and Child Care Centers

(2) Avoided: Playgrounds

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 600 man-hours annually
- d. Remarks: Woody plants are a problem during early spring and summer months in and around the areas noted. Special care is taken around recreational areas. Rodeo is for use in aquatic areas where woody growth is a problem.

1. OBJECTIVE

a. Target Pest: Aquatic Weeds
Life Stages: All Stages

b. Purpose of Control: Reduce mosquito population, better water drainage

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: Seasonable
Techniques: Visual inspections
Locations: Ditches, creeks, lake and low areas

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Dredging and mowing
Locations: Ditches, creeks, lakes, and low areas
Type treatment: Preventive
Methods of application: None

b. Chemical Controls

NAME	RODEO	24D
EPA#	524-343	42545-43-9779
STOCK #	NONE ASSIGNED	6840-00577-4192
FORMULATION	EML;	EML
CONCENTRATION	53.8%	61.7%
DILUENT	WATER	WATER
USE STRENGTH	1.5%	1%

Climatic Conditions: Avoid rainfall within 6 hours of application

Sensitive Areas:

(1) Treated with Caution: Family Housing, Child Care Centers, areas where drift will affect crops

(2) Avoided: Playgrounds

Special Safety Measures: Follow label directions

c. Manpower Requirements Determined by Past Experience: 240 man-hours annually

- d. Remarks: Aquatic weeds are a continual problem in ditches and lakes at RRAD. Special care is taken at the depot lakes that supply water and recreation to depot personnel.

1. OBJECTIVE

a. Target Pest: Grasses
Life Stages: All Stages

b. Purpose of Control: Fire Hazards, Helps Control Insects and Depot Beautification

2. Surveillance

Responsible Off: Environmental Division, Land Management Team

Schedules: As Needed

Techniques: Mowing and weed eating

Locations: Lawns around all buildings

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Mowing and Weed Eaters

Locations: Lawns around all buildings; and, Ammo and Supply storage areas

Type treatment: Preventive

Methods of application: None

b. Chemical Controls

NAME	ROUND -UP	BROMAX 4L	BANVEL	OUST	MSMA	ARSENAL
EPA#	524- 308-AA	2393-298	55947-1	352-401	19713-42	241-273
STOCK#	6840- 01108- 9768	6840-181- 7106	NONE ASSIGNED	NONE ASSIGNED	NONE ASSIGNED	NONE ASSIGNED
FORMULATION	EML	EML	EML	SUS	EML	EML
CONCENTRATION	41%	40.8%	48.2%	75%	47.6%	27.6%
DILUENT	WATER	WATER	WATER	WATER	WATER	WATER
USE STRENGTH	1 %	1%	1%	1%	.5%	.5%

Method of Dispersal: 300 gallon sprayer, 500 gallon boom sprayer

Treatment: Corrective

Locations: Lawns and around all buildings

Climatic Conditions: Winds not in excess of 5 mph and temperatures not in excess of 85 degrees F to avoid drift. Avoid application to frozen ground.

Sensitive Areas:

(1) Treated with Caution: Family Housing, ChildCare centers and areas where drift could harm crops.

(2) Avoided: Playgrounds, sidewalks, driveways and tennis courts

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 600 man-hours annually
- d. Remarks: Grasses are controlled for the overall upkeep of Depot property. Other grasses are controlled for the purpose of maintaining existing turf.

1. OBJECTIVE

a. Target Pest: Scale

Life Stages: All stages

b. Purpose of Control: To protect Depot shrubbery and trees

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: On-call basis

Techniques: On-call basis

Locations: Improved Grounds

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Pruning

Locations: All Depot areas

Type treatment: Corrective

Methods of application: None

b. Chemical Controls

Common Name: Malathion

EPA Reg. #: 6830-35

Formulation: Emulsion

Concentration: 57%

Source: Federal Supply System NSN: 6840-685-5438

1. Application Data

Finished Formulation: Emulsion

Use strength: 25%

Diluent: Water

Rate: 1 pint per 25 gallons

Method of Dispersal: 300 gallon sprayer

Treatment: Corrective

Locations: All Depot areas

Climatic Conditions: Do not use when weather conditions favor drift

Sensitive Areas:

(1) Treated with Caution: Family Housing, Child Care centers

(2) Avoided: Areas accessible to children

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 40 man-hours annually
- d. Remarks: Scale insects are not a continuing problem at RRAD.

Sensitive Areas:

(1) Treated with Caution: Family Housing and Child Care centers

(2) Avoided: Areas that may have runoff

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 1 man-hours annually
- d. Remarks: Rust is seldom encountered at RRAD. It is only seen on winter grasses.

1. OBJECTIVE

a. Target Pest: Aphids
Life Stages: Adults

b. Purpose of Control: To prevent the destruction of ornamentals on Depot property

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: On-call basis

Techniques: On-call basis

Locations: All ornamentals depot wide

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Pruning

Locations: Depot ornamentals

Type treatment: Preventive

Methods of application: Accomplished by Land Management personnel

b. Chemical Controls

Common Name: Sevin

EPA Reg. #:264-316

Formulation: Suspension

Concentration: 80%

Source:Federal Supply System NSN: 6840-932-7297

1. Application Data

Finished Formulation: Suspension

Use strength: 0.12%

Diluent: Water

Rate: 1.25 pounds per 100 gallon

Method of Dispersal: 300 gallon sprayer

Treatment: Corrective

Locations: All Depot ornamentals

Climatic Conditions: Do not use when excessive rainfall is expected within 2 days.

Sensitive Areas:

(1) Treated with Caution: Family Housing Child Care centers

(2) Avoided: Playgrounds and any site at or near where honeybees are kept.

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 5 man-hours annually
- d. Remarks: Aphids have not been a problem at RRAD since ornamental fruit trees were removed from landscaped areas.

1. OBJECTIVE

a. Target Pest: Fungi
Life Stages: All

b. Purpose of Control: Control of fungi is performed for the health of turf grasses and
ornamentals on RRAD

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: On-call basis

Techniques: On-call basis

Locations: On all lawns, and ornamental trees and shrubs

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team.

a. Nonchemical Controls

Type: Cultural

Locations: Depot improved grounds

Type treatment: Corrective/preventive

Methods of application: Use resistant plant varieties, native species, and cut grass at
proper height

b. Chemical Controls

Common Name: Daconil

EPA Reg. #: 50534-4

Formulation: Suspension

Concentration: 75%

Source: Local Purchase

NSN: None Assigned

1. Application Data

Finished Formulation: Suspension

Use strength: 2 to 10 gals per 1000 sq.ft. to provide complete coverage

Diluent: Water

Rate: 3 to 8 oz. of Daconil per acre

Method of Dispersal: 3 gallon hand-held sprayer, 300 gallon sprayer

Treatment: Corrective

Locations: Turfgrasses and ornamentals depot wide

Climatic Conditions: Avoid spraying when conditions favor drift

Sensitive Areas:

(1) Treated with Caution: Family Housing, Child care centers

(2) Avoided: Playgrounds

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 2 man-hours annually
- d. Remarks: Fungi are especially a problem on the headquarters lawn. Watering times, watering amounts and cut heights should be adjusted when fungus becomes a problem, or when the temperature and humidity sum reaches 180.

1. OBJECTIVE

- a. Target Pest: Bagworms
Life Stages: Larva and Adults
- b. Purpose of Control: Control of bagworms is necessary to protect trees and
ornamentals from being destroyed.

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: On-call basis
Techniques: On-call basis
Locations: Ornamentals and trees Depot wide

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: plant selections, hand picking
Locations: depot wide
Type treatment: cultural
Methods of application: cedar family, trees removed from plant list in landscape
plan

b. Chemical Controls

Common Name: Sevin
EPA Reg. #: 264-316
Formulation: Water wettable powder
Concentration: 80%
Source: Federal Supply System NSN: 6840-932-7297

1. Application Data

Finished Formulation: Suspension
Use strength: .12%
Diluent: Water
Rate: 1.25 pound per 100 gallon
Method of Dispersal: 300 gallon sprayer
Treatment: Corrective
Locations: Trees and ornamentals Depot wide
Climatic Conditions: Avoid use when heavy rainfall is expected within 2 days.

Sensitive Areas:

(1) Treated with Caution: Family housing, Child Care centers

(2) Avoided: Any site at or near where honeybees are kept

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 10 man-hours annually
- d. Remarks: Bagworms are especially a problem on the cedar and juniper plants at RRAD.

1. OBJECTIVE

a. Target Pest: Armyworms
Life Stages: All

b. Purpose of Control: To protect turf and ornamentals from destruction.

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: On-call basis
Techniques : On-call basis
Locations: Turf and ornamentals Depot wide

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: None
Locations:
Type treatment: Corrective/protective
Methods of application

b. Chemical Controls

Common Name: Sevin
EPA Reg. #:264-316
Formulation: Water wettable powder
Concentration: 80%
Source: Federal Supply System NSN: 6840-932-7297

1. Application Data

Finished Formulation: Suspension
Use strength: 0.12%
Diluent: Water
Rate: 1.25 pounds per 100 gallon
Method of Dispersal: 300 gallon sprayer
Treatment: Corrective
Locations: Trees and ornamentals Depot wide
Climatic Conditions: Avoid use when excess rain is expected within 2 days.

Sensitive Areas:

(1) Treated with Caution: Family Housing, Child care centers

(2) Avoided: Any site at or near where honeybees are kept

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 60 man-hours annually
- d. Remarks: Armyworms are a problem on depot lawns.

1. OBJECTIVE

a. Target Pest: Rats

Life Stages: All stages

b. Purpose of Control: Rats are disease carriers as well as nuisance pest

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: On-call basis

Techniques: Continual visual inspections and on-call basis

Locations: All depot buildings and structures

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Sticky and snap traps, rodent proofing by filling entry/exit holes, sanitation

Locations: All Depot buildings

Type treatment: Preventive

Methods of application: Carried out by Depot pest controllers

b. Chemical Controls

TRADE NAME	TALON PELLETS	RODENT CAKE	EATON BAITES
CHEMICAL	diphacinone	diphacinone	diphacinone
EPA#	10182-41	12455-14	56-23
STOCK#	6840-01-151-4884	6840-00-089-4664	
FORM	Baits	Baits	Baits
CONC	.005	.005	.001
DILUENT	None	None	None
USE STRENGTH	.005	.005	.001

Method of Dispersal: Hand

Rate: 8 ounces per 30 feet, 8 blocks per 30 feet

Treatment: Corrective

Locations: Buildings and structures Depot wide

Climatic Conditions: None

Sensitive Areas:

(1) Treated with Caution:, child care centers, dispensary, and cafeterias

(2) Avoided: None

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 40 man-hours annually
- d. Remarks: Rat bait is distributed in tamper proof boxes labeled " RAT BAIT"
in areas where it can be tampered with by children.

1. OBJECTIVE

a. Target Pest: Mice

Life Stages: Any age

b. Purpose of Control: Mice, like rats are a nuisance pest as well as a disease carrier.

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: Year round, on-call

Techniques : Continual visual inspections and on-call basis

Locations: All depot buildings and structures

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Sticky and snap traps, sanitation, rodent proofing by filling entry/exit holes

Locations: All depot buildings and structures

Type treatment: Preventive

Methods of application: Accomplished by depot pest controllers

b. Chemical Controls

Common Name: Talon rodent pellets

EPA Reg. #:10182-41

Formulation: Baits

Concentration: 0.005%

Source: Federal Supply System

NSN: 6840-01-151-4884

Federal Supply System

6840-00-089-4664

1. Application Data

Finished Formulation: Baits

Use strength: 0.005%

Diluent: None

Rate: ½ ounce per 12 feet

Method of Dispersal: Hand

Treatment: Corrective

Locations: All depot buildings and structures

Climatic Conditions: None

Sensitive Areas:

(1) Treated with Caution: Family housing, childcare centers, dispensary and cafeterias

(2) Avoided: None

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 150 man-hours annually
- d. Remarks: Mice bait is distributed in tamper proof boxes as are the blocks in recreation areas and other areas where they can be disturbed by children.

1. OBJECTIVE

a. Target Pest: Gophers
Life Stages: Any age

b. Purpose of Control: To protect road shoulders, lawns, turf areas and golf courses

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: On call basis

Techniques: Visual inspection

Locations: Roadways, golf courses and other turf areas

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: None

b. Chemical Controls

Trade name: B&G Gopher Bait Chemical Name: Strychnine

EPA Reg. #:8612-21

Formulation: Granules

Concentration: 00.35%

Source: Local Purchase

NSN: None Assigned

1. Application Data

Finished Formulation: Granules

Use strength: 00.35%

Diluent: None

Rate:

Method of Dispersal: Hand probe into runway add 1 tablespoon of granule and cover opening with soil

Treatment: Corrective

Locations: All depot roadways, turf areas and golf courses

Climatic Conditions: None

Sensitive Areas:

(1) Treated with Caution: Family housing, child care centers and recreational areas

(2) Avoided: Bare ground

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 5 man-hours annually
- d. Remarks: Gophers are a problem around Depot igloos because of soil erosion. This product may be used underground only.

1. OBJECTIVE

- a. Target Pest: Cats
Life Stages: Kittens and Adult
- b. Purpose of Control: Cats are potential disease carriers, hosts of other pests, as well as nuisance pests.

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: On call basis
Techniques: Continual visual inspections and on call basis
Locations: Depot warehouses and other depot buildings

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Live traps
Locations: All depot buildings
Type treatment: Corrective
Methods of application: Live traps are set to induce cats to enter in search of food.

b. Chemical Controls

Common Name: No chemicals used
Sensitive Areas:
(1) Treated with Caution: Areas where employees feed cats

Special Safety Measures: Capture sticks, gloves

- c. Manpower Requirements Determined by Past Experience: 20 man-hours annually
- d. Remarks: Cats, after capture, are taken to a local veterinarian to be adopted or humanely destroyed. Steel snap traps, snares, and other traps that cause injury to animals are not used at RRAD for cats.

1. OBJECTIVE

- a. Target Pest: Dogs
Life Stages: Any age
- b. Purpose of Control: Dogs are potential disease carriers, hosts to other pests as well as nuisance pests

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: On-call basis
Techniques: On-call basis
Locations: Inside buildings and structures, as well as outside these locations

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Live traps and capture with control noose
Locations: All Depot buildings and structures, inside and outside
Type treatment: Corrective
Methods of application:
Sensitive Areas:
(1) Treated with Caution:
(2) Avoided:
Special Safety Measures: Gloves and capture sticks

b. Chemical Controls: No chemical control is used

c. Manpower Requirements Determined by Past Experience: 20 man-hours annually

d. Remarks: Every effort is made to return dogs to their rightful owners. After these efforts fail, then these animals are sent to the local vet for disposal. Steel snap traps, snares, and other traps that cause injury to animals are not used at RRAD for dogs.

1. OBJECTIVE

a. Target Pest: Snakes

Life Stages: All stages

b. Purpose of Control: Snakes are a potentially hazardous pest {poisonous species}.

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: On-call basis

Techniques: On-call basis

Locations: All buildings and structures and family housing

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Capture and removal

Locations: All buildings and structures and family housing

Type treatment: Corrective

Methods of application: Capture stick

Sensitive Areas: None

Special Safety Measures: Leather gloves, capture sticks

b. Chemical Controls: No chemicals used

c. Manpower Requirements Determined by Past Experience: 20 man-hours annually

d. Remarks: Reptiles are removed from area and released; poisonous species are disposed of on site.

1. OBJECTIVE

a. Target Pest: Skunks
Life Stages: Any age

b. Purpose of Control: Skunks are a potential disease carrier and a nuisance pest

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: On call basis

Techniques: Visual inspections and on-call basis

Locations: All Depot buildings interior and exterior basis

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

(1) Type: Live-trap and exclusion

Locations: Interior and exterior of Depot buildings

Type treatment: Corrective

Methods of application: Livetraps are placed around entry points so skunks enter traps as they enter building

(2) Type: shooting

Locations: Open grounds

Methods: care must be taken to prevent property damage

b. Chemical Controls: No chemical used

c. Special Safety Measures: Heavy gloves

d. Manpower Requirements Determined by Past Experience: 100 man-hours annually

e. Remarks: Traps are used in warehouses and other Depot buildings when other methods prove unsuccessful. Bait is used to lure skunks into traps not covering entry/exit holes. A pellet rifle has been obtained to shoot skunks that have been un-trappable. Trapped animals are relocated.

1. OBJECTIVE

a. Target Pest: Armadillo
Life Stages: All

b. Purpose of Control: To prevent the erosion of igloos and to prevent destruction of lawn areas.

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: On call basis

Techniques: On call basis year round

Locations: Depot wide

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team.

a. Nonchemical Controls

Type: Live traps

Locations: Depot wide

Type treatment: Corrective

Methods of application: Traps are placed on den openings to trap armadillos entering or leaving den.

Special Safety Measures: Leather gloves

b. Chemical Controls: No chemicals used

c. Manpower Requirements Determined by Past Experience: 20 man-hours annually

d. Remarks: Armadillos are trapped Depot wide with special attention given to ammunition igloo areas and lawns. Trapped animals are relocated.

1. OBJECTIVE

- a. Target Pest: Coyotes
Life Stages: All stages
- b. Purpose of Control: Coyotes are a potential disease carrier as well as a predator of wildlife.

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: Year round
Techniques: Visual inspections on-call basis
Locations: Depot Ammo areas and around other depot buildings

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Snare traps
Locations: Fence lines in Depot Ammo areas and around other depot buildings
Type treatment: Corrective
Methods of application: Traps are placed in gaps in the fence where coyote signs are found.
Special Safety Measures: Leather gloves

b. Chemical Controls: No chemicals used

c. Manpower Requirements Determined by Past Experience: 40 man-hours annually

d. Remarks: Depot pest controllers were given instructions on the proper placement of snare traps by a member of the Texas Animal Control Agency. Traps must be checked daily. Trapped animals are disposed of.

1. OBJECTIVE

- a. Target Pest: Raccoons
Life Stages: All stages
- b. Purpose of Control: Raccoons are a potential disease carrier as well as a nuisance pest.

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: Year round
Techniques: On-call basis, visual inspection
Locations: All Depot buildings

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team.

a. Nonchemical Controls

Type: Live traps
Locations: All Depot buildings
Type treatment: Corrective
Methods of application: Live traps are baited and placed so raccoons will enter seeking food and will be captured unharmed.
Sensitive Areas: None
Special Safety Measures: Leather gloves

b. Chemical Controls: No chemicals used

c. Manpower Requirements Determined by Past Experience: 100 man-hours annually

d. Remarks: Raccoons, when trapped are taken to a wooded location, away from Depot operations and released. Raccoons are not removed from the depot.

1. OBJECTIVE

a. Target Pest: Opossums
Life Stages: All stages

b. Purpose of Control: Opossums are a generally nuisance pests.

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: Year round

Techniques: On-call basis, visual inspections

Locations: All Depot buildings

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Live traps

Locations: All Depot buildings

Type treatment: Corrective

Methods of application: Live traps are baited and placed so opossums will enter looking for food.

Sensitive Areas: None

Special Safety Measures: Leather gloves

b. Chemical Controls: No chemicals used

c. Manpower Requirements Determined by Past Experience: 5 man-hours annually

d. Remarks: After trapping, opossums are taken to a remote location and released.

1. OBJECTIVE

a. Target Pest: Pigeons

Life Stages: All stages

b. Purpose of Control: Pigeons are a nuisance pest as well as a potential disease carrier.

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: Year round

Techniques: On-call basis

Locations: All Depot buildings and structures

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

(1) Type: shooting

Locations: warehouses, attics and storage sheds

Type treatment: corrective

Method: shoot with pellet gun on roost

(2) Type: exclusion

Locations: All Depot buildings and structures

Type treatment: Corrective

Methods of application: Screens are placed over openings to deter pigeons from entering buildings or bird entry ways are filled with wood, sheet metal or caulk.

b. Chemical Controls

Common Name: Avitrol

Active Ingredient: 4-Aminopyridine

EPA Reg. #: 11649-7

Formulation: Bait

Concentration : 0.5%

NSN: None Assigned

1. Application Data

Finished Formulation: Baits

Use strength: 0.17%

Diluent: Grain

Rate: 1 lb. Treated grain per 29 lbs. of untreated grain.

Method of Dispersal: Bait is placed by hand

Treatment: Corrective

Locations: In areas where pigeons feed such as railroad tracks and open fields.

Climatic Conditions: Do not apply when raining or when rain is forecasted.

Sensitive Areas:

(1) Treated with Caution: Work sites and recreation areas.

(2) Avoided: Areas accessible to children

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 50 man-hours annually
- d. Remarks: Exclusion is the preferred method of control. Avitrol is more of a scare tactic, it does not kill many pigeons. It works as a flock exciter.

1. OBJECTIVE

- a. Target Pest: Cockroaches
Life Stages: Nymphs and Adult
- b. Purpose of Control: Cockroaches are nuisance pests in cafeterias and buildings

2. Surveillance

Responsible Off: Cert. Pest Controller
 Schedules: Year round
 Techniques: Sticky traps placed to detect infestations
 Locations: Cafeterias, canteens, offices, dispensary, industrial areas and warehouses

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Sanitation, sticky traps, harborage elimination
 Location: Cafeterias, canteens, and other areas harborages are found
 Type treatment: Corrective
 Methods of application: Traps are placed to determine infestations

b. Chemical Controls

TRADE NAME	DIAZINON	FICAM	DEMON WP	PT 240	BAYGON	INSECT TAPE	TEMPO	COMBAT	ULD BP-100
CHEMICAL	Diazinon	Bendiocarb	Cypermethrin	Boric Acid	Methylcarbamate	Methylcarbamate	Cynao	Fipronil	Pyrethrin
EPA#	655-457-6830	45639-1	10182-100	499-220	3125-121	87350-5-13283	3125-372		11540-9
STOCK#	6840-00-782-3625	6840-01-087-6672	NONE ASSIGNED	NONE ASSIGNED	NONE ASSIGNED	NONE ASSIGNED	NONE ASSIGNED	6840-01-180-0167	NONE ASSIGNED
FORM	EML	SUS	SUS	AER	BTS	BTS	EML	BTS	SOL
CONC	47.5%	76%	35.6%	20%	2%	10%	24.3%	2%	3%
DILUENT	WATER	WATER	WATER	WATER	NONE	NONE	WATER	NONE	NONE
USE STRENGTH	1%	0.25%	1%	20%	2%	10%	0.05%	2%	3%

Method of Dispersal: 1 and 2 gallon hand sprayer
 Treatment: Corrective
 Locations: Canteens, cafeterias, offices, dispensary, other Depot buildings.

Climatic Conditions: None

Sensitive Areas:

(1) Treated with Caution: Dispensary, and Food Handling areas

(2) Avoided: none

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 1200 man-hours annually
- d. Remarks: Cockroaches are a continuing problem in depot cafeterias and canteens. Every effort is made to control cockroaches by other means before chemical control is used.

1. OBJECTIVE

a. Target Pest: Ants
Life Stages: adults

b. Purpose of Control: Ants are a nuisance pest and must be controlled

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: Year round

Techniques: Visual inspections, on-call basis

Locations: Cafeterias, canteens, offices, recreational areas, and other depot buildings.

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Sanitation

Locations: Cafeterias, canteens, offices, recreation areas, other depot buildings

Type treatment: Preventive

Methods of application:

b. Chemical Controls

TRADE NAME	DIAZINON	FICAM W	DEMON	BAYGON	DIAZINON 2D	MAX FORCE	DUAL CHOICE
CHEMICAL	Diazinon	Bendiocarb	Cypermethrin	Methylcarbamate	Diazinon	Hydramethylnon	Perfluorooctanes
EPA#	655-457-6830	45639-1	10182-100	3125-121	6720-198	1730-72	499-459
STOCK#	6840-01-782-3925	6840-01-087-6672	NONE ASSIGNED	NONE ASSIGNED	6840-00-287-3913	NONE ASSIGNED	NONE ASSIGNED
FORMULATION	EML	SUS	SUS	BTS	AER	BTS	BTS
CONCENTRATION	47.5%	76%	35.6	2%	2%	0.9	0.5
DILUENT	WATER	WATER	WATER	WATER	LABEL	NONE	NONE
USE STRENGTH	1%	.25%	1%	2%	2%	0.9	0.5

Method of Dispersal: 1 and 2 gallon hand sprayer and hand

Treatment: Corrective

Locations: Cafeterias, canteens, offices, recreation areas, industrial sites and warehouses.

Climatic Conditions: None

Sensitive Areas:

(1) Treated with Caution: dispensary, cafeterias

(2) Avoided: None

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 100 man-hours annually
- d. Bait stations and sanitation are the preferred methods of control.

1. OBJECTIVE

a. Target Pest: Silverfish
Life Stages: Adult

b. Purpose of Control: Silverfish are controlled on a on call basis

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: On-call basis

Techniques: On-call basis

Locations: All Depot buildings

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls: None

b. Chemical Controls

TRADE NAME	FICAM W	DEMON WP
CHEMICAL NAME	Bendiocarb	Cypermethrin
EPA#	45639-1	10182-100
STOCK#	6840-01-210-3392	6840-01-087-6672
FORM	EML	EML
CONCENTRATION	41.5%	76%
DILUENT	WATER	WATER
USE STRENGTH	.50%	.25%

Method of Dispersal 1 and 2 gallon hand sprayer

Treatment: Corrective

Locations: All Depot buildings

Climatic Conditions: None

Sensitive Areas:

(1) Treated with Caution: Family housing, child care center

(2) Avoided: Food handling establishments

Special Safety Measures: Follow label directions

c. Manpower Requirements Determined by Past Experience: 1 man-hour annually

d. Remarks: Silverfish are not a continuing problem at RRAD.

1. OBJECTIVE

- a. Target Pest: Leafhoppers
Life Stages: Nymphs and Adults
- b. Purpose of Control: Control of leafhoppers is performed to prevent the destruction of turf and ornamentals.

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: On-call basis
Techniques: On-call basis
Locations: Depot wide

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

- a. Nonchemical Controls: none
- b. Chemical Controls

Trade Name: Sevin WWP
Chemical Name: Carbaryl
EPA Reg. #:264-316
Formulation: Water wettable powder
Concentration: 80%
Source: Federal Supply System NSN:6840-932-7297

1. Application Data

Finished Formulation: Suspension
Use strength: 1%
Diluent: Water
Rate: 1.25 lbs. per gallon
Method of Dispersal: 300 gallon FMC sprayer
Treatment: Corrective
Locations: Depot wide
Climatic Conditions: None
Sensitive Areas:
(1) Treated with Caution: None
(2) Avoided: Any site at or near where honeybees are kept
Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 1 man-hours annually

d. Remarks: Leafhoppers can be a problem on most depot lawns and turf areas.

1. OBJECTIVE

- a. Target Pest: Crickets
Life Stages: Nymphs and Adults
- b. Purpose of Control: Crickets are nuisance pests.

2. Surveillance

Responsible Off: Cert. Pest Controller
 Schedules: On-call basis
 Techniques: On-call basis
 Locations: All Depot buildings and structures

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Exclusion
 Locations: Depot wide
 Type treatment: (corrective/preventive)
 Methods of application: Screening entries

b. Chemical Controls

TRADE NAME	DIAZINON	FICAM W	DURSBAN
CHEMICAL NAME	Diazinon	Bendiocarb	Chlorpyrifos
EPA#	655-457-6830	45639-1	464-571
STOCK#	6840-782-3925	6840-01-087-6672	6840-01-210-3392
FORM	EML	SUS	EML
CONC	47.5%	76%	41.5%
DILUENT	WATER	WATER	WATER
USE SRENGTH	2%	.25%	.50%

Method of Dispersal: 1 and 2 gallon hand sprayer
 Treatment: Corrective
 Locations: All Depot buildings
 Climatic Conditions: None
 Sensitive Areas:
 (1) Treated with Caution: Family housing, Child care centers
 (2) Avoided: None
 Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 20 man-hours annually
- d. Remarks: Crickets are a problem mainly in warehouses and in industrial locations.

1. OBJECTIVE

- a. Target Pest: Wasps
Life Stages: Adults
- b. Purpose of Control: Wasps are a nuisance pest and a potential danger to personnel because of allergic reactions.

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: On-call basis
Techniques: On-call basis, visual
Locations: Depot wide inspections

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Cultural
Locations: Depot-wide materials.
Type treatment: Preventive
Methods of application: Remove old shrubbery and scrap

b. Chemical controls

Common Name: Wasp and hornet spray
EPA Reg. #:10807-48-70463
Formulation: Aerosol
Concentration 0.1%
Finished Formulation: Aerosol
Use strength: 0.1%
Diluent: None
Rate: Follow label directions

Wasp and Hornet Spray
EPA Reg. #44446-9
Formulation: Aerosol
Concentration 0.25%
Finished Formulation: Aerosol
Use strength: 0.25%
Diluent: None
Rate: Follow label directions

Method of Dispersal: By hand
Treatment: Corrective
Locations: All Depot buildings
Climatic Conditions: None
Source: Local Purchase

Sensitive Areas: None

Special Safety Measures: Follow label directions

c. Manpower Requirements Determined by Past Experience: 50 man-hours annually

d. Remarks: Wasps are a recurring problem during spring and summer months.

1. OBJECTIVE

- a. Target Pest: Bees
Life Stages: Adults
- b. Purpose of Control: Bees are a nuisance pest and a potential danger because of allergic reactions to their stings.

2. Surveillance

Responsible Off: Cert. Pest Controller
Schedules: On-call basis
Techniques: Visual inspections, on-call basis
Locations: All Depot buildings

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Mechanical
Locations: All Depot buildings
Type treatment: Preventive
Methods of application: Removal of unwanted bees, exclusion

b. Chemical Controls

Common Name: Wasp and hornet spray
EPA Reg. #: 10807-48-70463
Formulation: Aerosol
Concentration: 0.10%
Source: Local Purchase NSN: None Assigned

1. Application Data

Finished Formulation: Aerosol
Use strength: 0.10%
Diluent: None
Rate: Follow label directions
Method of Dispersal: By hand
Treatment: Corrective
Locations: In and around all Depot buildings
Climatic Conditions: None

Sensitive Areas: None

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 20 man-hours annually
- d. Remarks: Honeybees are captured and relocated to remote sites on other parts of the Depot or given to local beekeepers.

1. OBJECTIVE

a. Target Pest: Fire Ants
Life Stages: adults

b. Purpose of Control: Ants are a nuisance pest and must be controlled

2. Surveillance

Responsible Off: Cert. Pest Controller

Schedules: Year round

Techniques: Visual inspections, on-call basis

Locations: Cafeterias, canteens, offices, recreational areas, other depot buildings

3. Treatment Applied

Responsible Organization: Environmental Division, Land Management Team

a. Nonchemical Controls

Type: Sanitation

Locations: Cafeterias, canteens, offices, recreation areas, other depot buildings

Type treatment: Preventive

Methods of application:

b. Chemical Controls

TRADE NAME	DIAZINON	FICAM W	DEMON	DIAZINON 2D	AMDRO	LOGIC	AWARD
CHEMICAL	Diazinon	Bendiocarb	Cypermethrin	Diazinon	Tetrahydramethyl	Fenoxycarb	Fenoxycarb
EPA#	655-457-6830	45639-1	10182-100	6720-198	241-260	100-722-1386	100-722
STOCK#	6840-01-782-3925	6840-01-087-6672	NONE ASSIGNED	6840-00-287-3913	6840-01287-3913	NONE ASSIGNED	NONE ASSIGNED
FORMULATION	EML	SUS	SUS	DUST	BTS	BTS	BTS
CONCENTRATION	47.5%	76%	35.6	2%	073%	1%	1%
DILUENT	WATER	WATER	WATER	NONE	NONE	NONE	NONE
USE STRENGTH	1%	.25%	1%	2%	0.73%	1%	1%

Method of Dispersal: 1 and 2 gallon hand sprayer and hand

Treatment: Corrective

Locations: Cafeterias, canteens, offices, recreation areas, industrial sites and warehouses.

Climatic Conditions: None

Sensitive Areas:

(1) Treated with Caution: dispensary, cafeterias

(2) Avoided: None

Special Safety Measures: Follow label directions

- c. Manpower Requirements Determined by Past Experience: 100 man-hours annually
- d. When chemical control is used on Fire Ants, they should be baited first to eliminate the queen before treating mounds with residual chemicals.

V. ADMINISTRATION

A. The workload of the pest management personnel at RRAD is based on past records and forecasted needs. The time spent on surveillance and control measures for pests are determined from past records. Job orders are called directly to the Work Planning Section. Forecasted needs are made by the depot Agronomist and Forester for special weed or brush control. Standing job orders are issued from Resource Management Branch for pest management work. These job orders are contained in Appendix A.

B. A portion of the pest management work at RRAD is accomplished using contracts. At the present time, the major contracts include igloo vegetation control and pre-construction termite treatment. Normally pre-treatment is a portion of the overall contract for building construction. Pest management personnel act as COR on contracts involving pesticide applications and obtain required information for proper completion of DD Form 1532. A copy of the specifications used on pre-construction termite control can be found in Appendix B. All contract specifications are forwarded to United States Army Environmental Agency (USAEA) for approval.

C. There are no agricultural outleases on RRAD at the present. There is a possibility of some outleasing in the future. There will be no chemical applications made on these leases.

D. The annual budget for the Pest Management Program is determined in conjunction with the Program and Budget Branch, Admin Services and Resource Management Division. Pest management personnel determine the quantity of pesticides to be purchased based on past usage and surveillance of problem areas. Breakdown of the resources available to the Pest Management Program are as follows:

1. The funding for the program in FY 00 was \$101,601.00
2. Job descriptions of Pest Control personnel and the Pest Management coordinator can be found in Appendix C.

a. Certified Personnel

NAME	CERT. #	CATEGORIES OF CERT.#	EXPIRATION DATE
Thomas Coleman	A-112-88-0499	2,3,5,6,7,8	30 April 02
James Brown	A-286-94-0700	2,3,5,6,7,8	31 July 03

- b. Copies of the approved manning chart and the TDA listing can be found in Appendix D.
- c. There is a memorandum of understanding between the Texas Dept. of Agriculture and the Dept. of Defense which allows DOD certified personnel to

acquire, purchase, use or supervise the use of restricted use and/or state limited use pesticides in the state of Texas on land that is owned or controlled by the United States Government. Reference Appendix P.

3. A current list of materials and equipment used in the Pest Control operations may be found in Appendixes E and F respectively.
4. The pest control facility at RRAD is located in Building 286. It consists of an office, restroom, change room, mixing room, and storage/shop area. The storage/shop area is surrounded by three-inch curbing and the slab is designed to contain any spills. Pesticides are stored on stainless steel shelving with access provided by aisles four feet wide. The storage area is secured by a ten-foot fence. An emergency eye lavage and shower is located in the shop area along with a ventilator. The mixing room contains three large sinks and a ventilator to be used when mixing chemicals. The sinks are equipped with a shut-off valve to prevent any spills from entering the sewer system. An emergency eye lavage and shower are located in the room. The change room consists of two lockers for each pest controller to keep his coveralls and clothing separate and also contains laundry facilities. A shower for decontamination is also located in this room. This room is also equipped with a ventilator. The office is used for storing records and reports, and for conducting day-to-day activities. A sketch of the pest control shop can be found in Appendix G. The exact location of the shop is indicated on the Installation Map in Appendix H.

E. The activities of the Pest Control personnel are entered into a data base on a daily basis. Historical data concerning pesticides, buildings, pest, sites and other pertinent information can be extracted from this database. Information for the DD Form 1532 is extracted on a monthly basis. This database also contains the chemical inventory. All records concerning pest control are maintained in this database.

F. All certified pest controllers attend a training/re-certification course once every three years. This training is received at Ft. Sam Houston School of Medical Science, San Antonio, Texas. In addition the following workshops and schools are attended on a funds/space available basis.

1. Texas Mosquito Control Association Annual Conference
2. B & G Annual Work Shop
3. Texas Agricultural Extension Service Training when available
4. National Society of Agronomists Conference

VI. Health and Safety

A. The health and safety of employees is monitored by the US Army Health Clinic and the Safety Office of RRAD. Pest Control Personnel must adhere to the requirements of the Respiratory Protection Program (Appendix I). Medical surveillance is performed by the US Army Health Clinic. Information concerning the surveillance program may be obtained at the Health Clinic, Building 468.

B. Personnel protective equipment available to each Pest Controller includes:

- 1 each rubber apron
- 2 each cap
- 2 pair rubber gloves
- 1 each respirator Wilson AR 700, NIOSH Approval # TC-23C-54
3M model 7800, NIOSH Approval # TC-23C-685
3M 7257 NIOSH Approval # TC-23C-439
- 1 doz. Pre-filters
- 1 pair boots
- 1 pair rubber boots
- 6 each coveralls acid-resistant
- 2 each safety goggles
- 12 each respirator cartridges (R-21 chemical cartridge) TC-23C-435
(3M 7251 chemical cartridge) TC-23C-40
- 1 each face shield

In addition, personnel have access to an emergency spill kit which contains a respirator, rubber gloves, goggles, soap and a hand towel. Personnel are required to wear appropriate safety equipment in accordance with the label of the chemical being used.

C. Copies of material safety data sheets for all chemicals used are maintained in the Pest Management Facility and are readily available to all employees. In addition, copies are forwarded to the US Army Health Clinic, the RRAD Safety Office, and the RRAD Fire Department. An annual inventory of chemicals on hand is forwarded to the Fire Department, the US Army Health Clinic, the Safety Office, and the Environmental Office.

D. The Pest Control Shop has one vehicle assigned that is used for pest control operations only. For a complete description of the vehicles and other pest control equipment see the equipment inventory, Appendix F.

VII. Pest Management Program at RRAD is controlled in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act. All chemicals are handled, stored, and applied in accordance with label instructions.

Applicable laws, State and Federal may be obtained in the law library, Building 15.

Additional information is obtained from:

A. Army Regulations

AR 200-5

AR 200-1

AR 420-74

AR 11-34

AR 40-5

AR 40-574

AR 200-2

AR 385-10

AR 420-47

MIL-STD-903C

MIL-STD-904A

MIL-STD-909

HSC REG40-30

HSC PAM 40-3

B. Technical Manuals

TM 5-632

TM 5-630

TM 5-639 C. Other References

SB 3-40

Pest Control Operations, third edition, copyright 1982

TM 5-629

TM 5-633

ARMED FORCES PEST MANAGEMENT TIM NO.14

ARMED FORCES PEST MANAGEMENT TIM NO.15

ARMED FORCES PEST MANAGEMENT TIM NO.16

ARMED FORCES PEST MANAGEMENT TIM NO.17

ARMED FORCES PEST MANAGEMENT TIM NO.21

ARMED FORCES PEST MANAGEMENT TIM NO.29

ARMED FORCES PEST MANAGEMENT TIM NO.39

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VIII. The IIPMP is coordinated with the following personnel:

A. Installation Personnel

- | | |
|--|----------------|
| (1) Director of Public Works, Mr. Paul Addington | 1-903-334-3115 |
| (2) Medical Officer, Rotated Position | 1-903-334-2155 |
| (3) Industrial Hygienist, Mr. Jerry Jones | 1-903-334-2155 |
| (4) Safety Officer, Mr. James S. Schooler | 1-903-334-2371 |
| (5) Depot Fire Chief, Mr. Shelby Grimes | 1-903-334-3627 |

B. Federal, State, and Local

- | | |
|--|----------------|
| USDA, Animal and Predator Controls, John Steubor | 1-903-595-4127 |
| United States Army Environmental Agency (USAEA) | |
| Mr. Steve Bennett | (DSN) 584-1565 |
| United States Army Environmental Hygiene Agency (USAEHA) | |
| Mr. Denny Kuhr | (DSN) 572-2564 |

IX. Environmental Considerations

A. Environmental considerations have been addressed at RRAD by the Environmental Division. A copy of these documents can be seen in Appendix N. Currently the Fort Worth District Corp. of Engineers is conducting an environmental analysis on the IIPMP.

B. At the present time, no endangered or threatened species of plants or animals are known to be located on RRAD. The habitat mapping by the EPA has not been completed for Bowie County, Texas.

C. Excess or unused pesticides are disposed of in accordance with property disposal regulations after the Army Environmental Center Senior Pest Management Consultant is contacted for possible redistribution. Pesticides are only mixed in accordance with what can be used on a daily basis. No pesticides are left mixed overnight. Pesticide containers are destroyed in accordance with label directions.

D. An updated Spill Contingency Plan is kept on file in Building 286. Pertinent pages are listed in Appendix J.

X. The only pesticides distributed at RRAD in the Self-Help Program are pesticides issued in the installation Self Service Supply Center. Only EPA-Registered general use pesticides are distributed. The Self Service Supply Center provides a listing of customers who are issued pesticides for addition to the DD Form 1532. The only materials issued are Wasp and Hornet Spray and Deet insect repellent. Instructions for use are contained on the label.

XI. In addition to providing pest control services to Red River Army Depot, the Pest Control Program also provides services to the following:

A. Pest Control Program at RRAD provides services to all tenant activities located on RRAD. These activities are identified on the organizational chart, Appendix Q. No special work orders are needed for this work as this service is part of the tenant agreements.

B. Pest control work has been accomplished at the Texarkana Municipal Airport in the past at RRAD's storage building. Services are required at this facility on a less than annual basis.

C. Camp Stanley Storage Activity (CSSA) is included in RRAD's IIPMP. In accordance with AR200-5, Pest Management, Tables 3-1, CSSA can be included in RRAD's IIPMP as they have less than one-half man-year of recognized requirements. Specific information concerning CSSA can be found in Appendix Q of this plan.

D. RRAD has a lease on several buildings that were transferred to local reuse authority in June of 1999. These buildings are being vacated as soon as possible.

XII. The Pest Control Shop, Building 286, is equipped with a fire alarm system that is connected with the fire dispatch control room. In addition, the building contains a sprinkler system. A response card with special instructions concerning this building is maintained by the Fire Department. A copy of this response card is contained in Appendix M. The Pest Control shop is surrounded by a ditch that can be dammed in one place to prevent runoff in case of fire.

XIII. Quarantine: There are no requirements for plant or animal quarantine on Red River Army Depot. There are no anticipated pest problems arising from shipments of household goods or materials shipped to RRAD from other locations.