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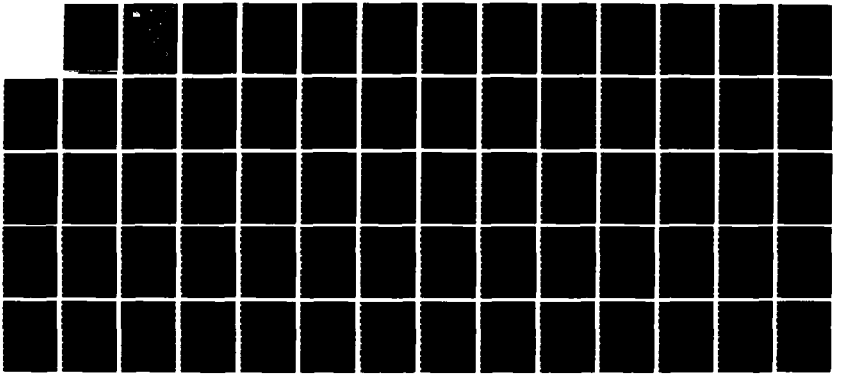

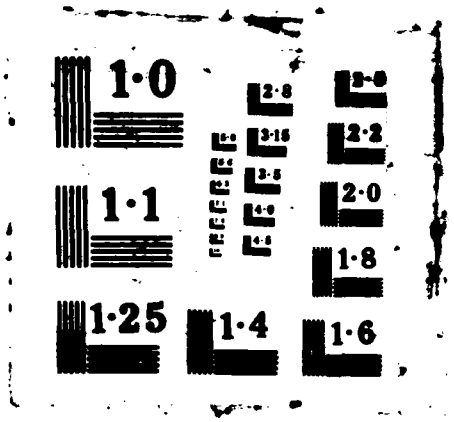
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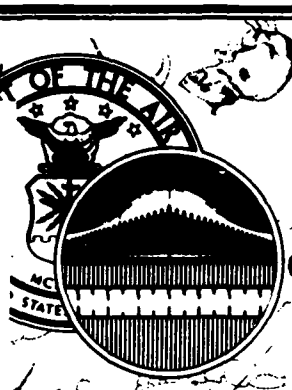

UNITED STATES AIR FORCE

# OCCUPATIONAL SURVEY REPORT

PEST MANAGEMENT CAREER LADDER

AFSC 566X0 AND
OCCUPATIONAL SERIES 5026

AFPT 90-566-746

DECEMBER 1986





OCCUPATIONAL ANALYSIS PROGRAM
USAF OCCUPATIONAL MEASUREMENT CENTER
AIR TRAINING COMMAND
RANDOLPH AFB, TEXAS 78150-5000

DISTRIBUTION FOR AFSC 566X0 OSR,
OCCUPATIONAL SERIES 5026 AND SUPPORTING DOCUMENTS

| | OSR | ANL EXT | TNG EXT | JOB INV |
|---|---|---|---|---|
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| AFHRL/ID | 1 | 1m | 1m/1h | |
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| HQ ATC/TTQC | 2 | | 1 | |
| HQ ATC/TTY | 2 | | 1 | |
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| HQ MAC/TTGT | 1 | | 1 | |
| HQ PACAF/TTGT | 1 | | 1 | |
| HQ PACAF/DPAT | 3 | | 3 | |
| HQ SAC/DPAT | 3 | | 3 | |
| HQ SAC/TTGT | 1 | | 1 | |
| HQ TAC/DPATJ | 3 | | 3 | |
| HQ TAC/TTGT | 1 | | 1 | |
| HQ AFESC/DEMG (TYNDALL AFB FL) | 2 | | 2 | |
| HQ USAF/MPPT | 1 | | 1 | |
| HQ USAFE/DPAT | 3 | | 3 | |
| HQ USAFE/TTGT | 1 | | 1 | |
| HQ USMC (CODE TPI) | 1 | | | |
| NODAC | 1 | | | |
| 3700 TCHTW/TTGX (SHEPPARD AFB TX) | 7 | 2h | 8 | 8 |
| 3700 TCHTW/TTS (SHEPPARD AFB TX) | 1 | | 1 | |
| DET 4, USAFOMC (SHEPPARD AFB TX) | 1 | 1 | 1 | 1 |
| USAFOMC/OMYXL | 10 | 2m | 5 | 10 |
| 3507 ACS/DPKI | 1 | | | |
| AFCPMC/DPCR (RANDOLPH AFB TX) | 4 | | | |
| HQ AFSC/TTGT | 1 | | 1 | |

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# PREFACE

This report presents the results of an Air Force occupational survey of the Pest Management career ladder (AFSC 566X0) and related civilian occupational series 5026. The survey was requested by the 3700 Technical Training Wing Training Manager at Sheppard AFB, Texas, and Headquarters Air Force Engineering and Services Center at Tyndall AFB, Florida. Authority for conducting occupational surveys is contained in AFR 35-2. Computer products from which this report was produced are available for use by operations and training officials.

The development of the survey instrument as well as analysis of the data and writing the final report were accomplished by Ms Viola L. Allen. Staff Sergeant Joseph E. Seitz, Computer Programmer, provided computer support for this project. Administrative support was provided by Mr Richard G. Ramos. This report has been reviewed and approved by Lieutenant Colonel Charles D. Gorman, Chief, Airman Analysis Branch, USAF Occupational Measurement Center.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel (see DISTRIBUTION on Page i). Additional copies are available upon request to the USAF Occupational Measurement Center, Attention: Chief, Occupational Analysis Division (OMY), Randolph AFB, Texas 78150-5000.

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Commander
USAF Occupational Measurement Center

JOSEPH S. TARTELL
Chief, Occupational Analysis Division
USAF Occupational Measurement Center

## SUMMARY OF RESULTS

1. Survey Coverage. Seventy-six percent (N=359) of the AFSC 566X0 assigned military population, and 57 percent (N=93) of the eligible civilian force (Occupational Series 5026) completed job inventory booklets. Personnel were surveyed worldwide across all major using commands. The military sample, including 3-, 5-, and 7-skill level members, was representative in terms of MAJCOM and paygrade distribution.

2. Specialty Jobs (Career Ladder Structure). Survey data show military and civilian Pest Management personnel performing basically the same technically-oriented job. Two core jobs were identified, Senior Pest Management Personnel and Junior Pest Management Personnel, which differentiated primarily on three factors: (1) number of tasks performed, (2) time spent on specific groups of tasks, and (3) experience level.

3. Comparison To Previous Survey. Career ladder structure findings of this report were compared to the previous occupational survey of this AFSC conducted in 1981. Some minor changes have occurred which broaden the areas of resporsibility for personnel performing the job identified as Junior Pest Management Personnel (then, Junior Entomologists). In addition, MAJCOM certification emphasis has shifted, in keeping with current directives, to increase the scope of responsibility for Pest Management personnel. Otherwise, the career ladder has remained remarkably stable.

4. Career Ladder Progression. The major focus of jobs performed across all skill level groups centers around technical pest management functions. On the whole, as career ladder experience increases, members perform virtually all technical tasks performed by their subordinates, in addition to assuming supervisory, administrative, and training tasks. Generally, all members spend very little to no job time performing tasks related to mollusk/fungi/mold control, military quarantine, or fumigation operations.

5. AFR 39-1 Specialty Descriptions. The Specialty Descriptions across skill level groups provide accurate and comprehensive coverage of jobs operating within this career ladder.

6. Civilian/Military Comparisons. Data indicate civilians spend slightly more time performing termite control functions, while military members (primarily 7-skill levels) perform more contingency-related activities. Essentially, both military and civilian members perform all tasks included in the job inventory.

7. Training Analysis. The Specialty Training Standard (STS) for this AFSC is generally supported by survey data; however, the document requires review for possible adjustments for consistency, the extent of coverage of some elements, and to proficiency codes relevant to ABR training. One area in particular, pertaining to the performance of fumigation operations referenced to the POI as well as the STS, indicates very low percentages of career ladder members performing across the various enlistment or skill level groups. Many

other areas of the POI are not supported by survey data due to low percent members performing tasks related to performance objectives. Tasks not referenced to any POI objectives are extensive, with the majority centering around equipment maintenance, administrative, and coordinating functions. These areas and others, as outlined in the TRAINING ANALYSIS section of this report, require thorough review for possible additions or deletions to the basic course.

8. Implications. MAJCOM certification emphasis has shifted from the area of Agricultural Pest Control, Animal, and has expanded to include two areas that received lower emphasis in the last survey - Aquatic and Right-of-Way Pest Control. First-enlistment personnel are performing a wider range of technical tasks than their 1981 counterparts. While survey data support the current career ladder classification structure, AFSC training documents were found to have low percent members performing on many of the matched tasks, and high percent members performing on some tasks not referenced to any sections of the STS or POI. Specifically, training which supports the following areas requires review: fumigation operations, medical pest management, control of stored products pests, control of structural pests, bird pests control, fungicide operations, and the selection of appropriate integrated pest management procedures for plant diseases. Hence, some adjustments to the basic ABR course may be warranted to more effectively support the needs of the career ladder.

# OCCUPATIONAL SURVEY REPORT
# PEST MANAGEMENT CAREER LADDER
# AND RELATED CIVILIAN OCCUPATIONAL SERIES
# (AFSC 566X0 and OCSRS 5026)

## INTRODUCTION

This is a report of an occupational survey of the Pest Management specialty and related civilian occupational series completed by the USAF Occupational Measurement Center in December 1986. The previous occupational survey report of this career ladder was published in May 1981.

### Objectives of Study

The present survey was requested by both the 3700 Technical Training Wing at Sheppard AFB TX and the Air Force Engineering and Services Center (AFESC) at Tyndall AFB FL. Primarily, the request was prompted to assess the impact of revisions to Pest Management regulating publications and directives; such as, AFR 91-21, DOD Directive 4150.7 (dated 7 September 1984), and the Environmental Protection Agency. In addition, current information was requested to review training documents for the recently expanded initial skills course.

AFESC requested that civilians be surveyed to ensure complete coverage, since civilian personnel may be performing tasks or jobs not performed by their military counterparts. Civilian personnel completing the survey did so on a voluntary basis; thus, civilian representation is not as compatible as their military counterparts.

In addition to the regulatory effects and training issues, many other areas will be discussed in this report. Some of these include: (1) identification of specialty jobs; (2) differences between groups, such as Total Active Federal Military Service (TAFMS) and Duty Air Force Specialty Code (DAFSC); (3) comparison of job satisfaction data between enlistment groups; and (4) comparison of current survey findings with previous survey data.

Other pertinent analysis issues to be addressed in this occupational survey report include: (1) AF Pest Management certification; (2) update on the Bird Air-Strike Hazard (BASH) program; (3) geographical influence on task performance; and (4) military versus civilian jobs.

### History

The Pest Management specialty had its beginning in September 1962, under the title Engineering Entomology Specialty (AFSC 551X3). Then, the career ladder was comprised of a 3- and 5-skill level, which merged with other ladders to form a common 7-skill level under the Roads and Grounds specialty

(AFSC 551X0). The present AFSC numerical designation (566X0) was assigned in September 1964, when the newly titled Engineering Entomology specialty became a straight 3-5-7 career ladder. A minor title change, in which the term "Engineering" was deleted, followed in April 1973. The career ladder did not undergo any major revisions for a period of 9 years when, in April 1982, the title was changed to the present designation. To date, this ladder merges at the 9-skill level with the Environmental Support specialty (AFSC 566X1), forming the Sanitation career field. For purposes of this study, analysis results are based upon data gathered from 3-, 5-, and 7-skill level 566X0 members and their civilian counterparts only.

## Background

As described in AFR 39-1 Specialty Descriptions for this AFSC, Pest Management personnel perform tasks required in the prevention, control, and eradication of plant and animal pests. Members not only provide pest management on base facilities or areas in an affiliate relationship with the base, but the range of responsibility carries over during wartime efforts also. Many active duty members in this AFSC have a contingency obligation, primarily in the designated functions known as PRIME BEEF (Base Engineer Emergency Force) and RED HORSE (Rapid Engineering Deployable Heavy Operational Repair Squadron Equipment). Hence, the duties and responsibilities associated with these contingency efforts may account for a considerable portion of job time, thereby limiting members in the performance of "pure" specialty-related tasks.

An Armed Forces Vocational Aptitude Battery (ASVAB) score of 39 on the General portion of the examination is required for entry into the AFSC 566X0 career field. The formal basic skills course is provided by the 3770th Technical Training Group, Sheppard AFB, Texas. The Pest Management specialty is a category A career ladder - all personnel entering the AFSC must complete the basic skills course lasting 6 weeks and 2 days. Once initial training is completed and AFSC 566X0 personnel are assigned to operational units, they receive more job-related training through the on-the-job training (OJT) program and four advanced courses, as needed. Certification is recommended upon the award of the 5-skill level in addition to 1 year OJT. Three of the advanced courses are taught at Sheppard Technical Training Center and are available to all using major commands. One of the advanced courses is provided by a Mobile Training Team (MTT), offering training in multiple locations. These advanced courses include:

| | |
|---|---|
| J3AZR56650-001 | VEGETATION AND TURF MANAGEMENT |
| J4AST56650-006 | PLANT PEST MANAGEMENT (Travel) |
| J3AZR56650-002 | PEST MANAGEMENT (Recertification) |
| J3AAR56670-000 | PEST MANAGEMENT TECHNICIAN |

The advanced courses provide more detailed training in specified Pest Management areas for recertification purposes and advancement.

## SURVEY METHODOLOGY

### Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-566-746, dated June 1985. A tentative task list was prepared by the Inventory Developer after carefully reviewing the previous task list, current career ladder publications and directives and training documents to determine the appropriateness of each task. This tentative task list was refined and validated in the field through personal interviews with 52 subject-matter experts (27 military and 25 civilian) at Sheppard Technical Training Center and 8 different bases. Other significant contacts with personnel having career ladder involvement included Air Force Military Personnel Center (AFMPC) resource manager, assignments, and classification specialists; Air Force and major command functional managers; career ladder Training Manager; and the HQ ATC Training Staff Officer.

To ensure full coverage of the variety of tasks performed by career ladder members, critical bases were identified according to geographical location and mission responsibility, and visited primarily on the recommendations of major command functional managers. Pest Management shops at the following bases were visited:

Mather AFB CA (ATC) - extensive herbiciding operation; permanent positions assigned for herbiciding only. Active BASH program due to UNT (flying base) - especially with smaller planes and engines more susceptible to pest bird damage.

Vandenberg AFB CA (SAC) - broad array of integrated pest management problems; especially, agricultural and vertebrate pest control. Contracted fumigation is extensive.

Kelly AFB TX (AFLC) - hosts San Antonio Real Property Management Agency (SARPMA) which is the largest contracted Civil Engineering (CE) operation for any branch of the Armed Forces.

MacDill AFB FL (TAC) - diverse pest management operation; largest in TAC.

Eglin AFB FL (AFSC) - responsibility for on and off-base pest management.

Barksdale AFB LA (SAC) - extensive subterranean termite control; high usage of ultra low volume (ULV) generator due to extent of mosquito control.

Little Rock AFB AR (MAC) - high emphasis on control of stored product pests.

McGuire AFB NJ (MAC) - fumigation performed by Air Force personnel; on-site USDA Animal Plant Health Inspection Service (APHIS) management for military quarantine for inbound and outbound cargo.

This process resulted in a final job inventory, organized by specific categories of pest management functions, containing 519 tasks grouped under 16 duty headings. Other areas in the job inventory consisted of: (1) a biographical information section, which included items such as name, SSAN, number of months on current job, and total military service time; (2) a background information section which included questions about such items as job satisfaction, equipment and pesticides used, certification, contracted work, training courses completed; and (3) a background information section for military personnel only to gather data concerning contingency task performance, retirement plans, and reenlistment intentions.

## Survey Administration

From August 1985 to February 1986, job inventories were administered by local Consolidated Base Personnel Offices (CBPO) worldwide to AFSC 566X0 personnel at the 3-, 5-, and 7-skill levels. Similarly, survey booklets for civilians holding Occupational Series 5026 were distributed via local Civilian Personnel Offices (CPO). Military participants were selected from a computer-generated mailing list provided by the Air Force Human Resources Laboratory (AFHRL), while civilian personnel were selected from a list supplied by the Air Force Civilian Personnel Management Center (AFCPMC).

Each individual who filled out an inventory booklet first completed personal biographical and background sections and then checked each task performed in their current job. Next, members rated the tasks on a 9-point scale showing relative time spent on each task as compared to all other tasks. Ratings ranged from 1 (very small amount of time spent) to 9 (very large amount of time spent). Statistical analysis of these ratings provides a basis for comparing tasks in terms of both percent members performing (indicated by tasks checked by all incumbents) and relative percent time spent (based on calculations from the 9-point scale).

## Survey Sample

Military personnel included in the survey were carefully selected to ensure an accurate representation across using major commands (MAJCOM) and paygrade groups. As stated previously, civilian participation was strictly on a voluntary basis; therefore, civilian representation may not be as high as for their military counterparts. Table 1 displays the MAJCOM percent assigned distribution of military career ladder members (as of November 1985) corresponding with the MAJCOM distribution of our survey sample. The table clearly shows each MAJCOM was proportionately represented. Table 1B shows comparable information for the final sample of civilian personnel. Tables 2 and 2B compare military paygrade and civilian paygrade distribution, respectively. Note

TABLE 1

COMMAND REPRESENTATION OF MILITARY SURVEY SAMPLE
(AFSC 566X0)

| COMMAND | PERCENT OF ASSIGNED | PERCENT OF SAMPLE |
|---|---|---|
| SAC | 25 | 24 |
| TAC | 18 | 18 |
| MAC | 16 | 18 |
| AFLC | 9 | 10 |
| ATC | 8 | 10 |
| PACAF | 8 | 8 |
| USAFE | 7 | 6 |
| AFSC | 4 | 4 |
| AAC | 3 | 2 |
| OTHER* | 2 | 0 |

Total Assigned** - 471
Total Eligible for Survey*** - 403
Total Assigned in Sample - 359
Percent of Assigned in Sample - 76
Percent of Eligible in Sample - 89

* Includes USAFA, SPC, and AU
** Assigned strength as of November 1985
*** Excludes those in PCS status, students, hospitalized personnel, and personnel with less than 6 weeks on the job

TABLE 1B

COMMAND REPRESENTATION OF CIVILIAN SURVEY SAMPLE
(OCCUPATIONAL SERIES 5026)

| COMMAND | PERCENT OF ELIGIBLE* | PERCENT OF SAMPLE |
|---|---|---|
| ATC | 27 | 22 |
| MAC | 19 | 17 |
| TAC | 15 | 15 |
| SAC | 14 | 18 |
| AFLC | 12 | 13 |
| PACAF | 7 | 9 |
| OTHER* | 6 | 6 |

Total Eligible for Survey* - 162
Percent of Eligible in Sample** - 57

* Includes USAFA, AFR, and AU
** Includes those having Functional Account Code (FACC) of 4493 and Occupational Series (OCSRS 5026)

TABLE 2

PAYGRADE DISTRIBUTION OF MILITARY SURVEY SAMPLE
(N=359)

| PAYGRADE | PERCENT OF ASSIGNED | PERCENT OF SAMPLE |
|---|---|---|
| AB - A1C (E-1 TO E-3) | 45 | 47 |
| SRA/SGT (E-4) | 21 | 20 |
| SSGT (E-5) | 18 | 19 |
| TSGT (E-6) | 10 | 9 |
| MSGT (E-7) | 6 | 5 |

TABLE 2B

PAY PLAN/GRADE DISTRIBUTION OF CIVILIAN SURVEY SAMPLE
(N=93)

| PAY PLAN/GRADE | PERCENT OF ELIGIBLE | PERCENT OF SAMPLE |
|---|---|---|
| WG-05 | 1 | 0 |
| WS-05 | 1 | 7 |
| WG-06 | 8 | 8 |
| WS-06 | 3 | 3 |
| WG-07 | 1 | 0 |
| WS-07 | 10 | 6 |
| WG-08 | 69 | 66 |
| WL-08 | 1 | 3 |
| WS-08 | 2 | 2 |
| WG-09 | 4 | 2 |
| WG-10 | * | 1 |
| XP-08 | * | 1 |

* Denotes less than 1 percent

NOTE: Percentages may not equal 100 due to rounding

the close correspondence between percentages of assigned military and the percentages in the actual survey sample. As indicated, the survey sample for this study is both representative and comprehensive.

## Task Factor Administration

In addition to filling out a job inventory, selected senior NCOs were asked to complete a second booklet. This second booklet, identical to the job inventory except in the biographical and background sections, is used to gather information for either training emphasis (TE) or task difficulty (TD). These booklets are processed separately from the job inventories. The task rating information is used in a number of different analyses discussed in more detail within the report.

Task Difficulty (TD). Task difficulty is defined as the length of time an average airman needs to learn to do a task satisfactorily. Given this definition, 36 senior technicians rated the difficulty of all inventory tasks on a 9-point scale (from extremely low to extremely high). To ensure validity of the ratings, each technician's ratings were compared to those of every other senior technician rater. A statistical measure of their agreement, known as interrater reliability (as assessed through components of variance of standard group means), was computed at .92, indicating high agreement among these 36 raters. Task difficulty ratings were adjusted so tasks of average difficulty would have ratings of 5.00. The resulting data are essentially a rank ordering of tasks indicating the degree of difficulty for each task in the inventory.

Job Difficulty Index (JDI). After processing the data obtained from TD raters, it is then possible to compute a Job Difficulty Index (JDI) for the jobs identified in the survey analysis. An equation using the number of tasks performed and the average difficulty per unit time spent as variables is the basis for the JDI computation. The index ranges from 1.00 for very easy jobs to 25.00 for very difficult jobs. The indices are adjusted so the average JDI is 13.00. This index provides a relative measure of the difficulty of jobs within a specialty. Hence, the more time a group spends on more difficult rated tasks, and the more tasks they perform, the higher the JDI for that job.

Training Emphasis (TE). Training emphasis is a rating of which tasks require structured training for first-term personnel. Structured training is defined as training provided at resident technical schools, field training detachments (FTD), mobile training teams (MTT), formal OJT, or any other organized training method. Experienced technicians (primarily 7-skill level) completing TE booklets were asked to rate tasks on a 10-point scale (from no training emphasis to extremely high training emphasis). Ratings were independently collected from 43 senior NCOs stationed worldwide. The interrater reliability, assessed similarly to the TD coefficient, was .93. Likewise, this indicates good agreement among the raters as to which tasks required some form of structured training and which did not. The average TE rating was 3.30, with a standard deviation of 1.61. These data also provide essentially a rank ordering of tasks, whereby those with the highest ratings are perceived as most important for structured training among first-enlistment personnel.

Task factor ratings (TE and TD) provide objective information which should be used along with percent members performing data when making training decisions. While task factor ratings provide insights on which tasks need training and how much training time is required, percent members performing data provide information on who and how many personnel actually perform the tasks. Using these factors, in conjunction with appropriate training documents and directives, career ladder managers can tailor training programs to accurately reflect the needs of the user by more effectively determining when, where, and how to train assigned personnel.

## Data Processing and Analysis

Once job inventories are returned from the field, task responses and background information are optically scanned. Other biographical information (such as name, base, etc.) are keypunched onto disks and entered directly into the computer. Once both sets of data are in the computer, they are merged to form a complete case record for each respondent. Comprehensive Occupational Data Analysis Programs (CODAP) are then applied to the data.

CODAP produces job descriptions for groups of survey respondents based on their ratings of specific tasks. These job descriptions provide information on percent members performing each task, the relative percent time spent performing tasks, and the cumulative percent time spent by all members performing each task in the inventory. In addition to the job descriptions, the computer produces summaries that show how members of each group responded to each background item. Background items aid in identifying characteristics of the group, such as DAFSCs represented, time in career field, equipment and pesticide usage, percent military versus civilian members, and job satisfaction levels.

# SPECIALTY JOBS
# (Career Ladder Structure)

One of the most important functions of the USAF Occupational Analysis Program is to identify the various jobs performed within a career ladder, as well as how these jobs relate to each other. This is accomplished by examining what incumbents indicate they are actually doing in the field, rather than what official career ladder documents dictate they should be doing. The automated job clustering program inherent in the CODAP system plays an integral part in the analysis of the actual job structure for a career ladder. This job information is used for varied purposes by a number of agencies, such as: (1) HQ AFMPC in areas involving the USAF Personnel Classification System; (2) training community in providing the most cost-effective training to meet specialty needs; and (3) AFHRL in maintaining a data base of USAF occupations.

Additionally, job information is used to analyze career progression patterns and specialty documents (AFR 39-1 Specialty Description, Specialty Training Standard, etc.) to identify needed changes. Job data are also used to identify morale problems, trends, and to highlight issues needing management attention.

The structure of the Pest Management career ladder was determined on the basis of similarities or differences in tasks performed by AFSC 566X0 and OCSRS 5026 personnel. For purposes of this report, these similarities or differences in task performance will be defined in terms of job types and clusters. Each person in the study performs a subset of tasks - a Job. When compared with other personnel who perform the same or similar tasks and spend similar amounts of time performing these tasks, they group together to form a Job Type. A group of job types which have a high degree of similarity group to form a Cluster. In this section, functions of job types within clusters will be fully described in terms of task performance and demographics at the cluster level. In addition, tables which provide additional information and support the narrative descriptions will be included. (Tables displaying selected background and task information for all jobs are provided in Appendix A.)

## Overview

It is important to remember this is a joint survey containing both military and civilian members. While the two populations will be discussed separately in some of the later sections, they are combined for the purpose of specialty job descriptions. This is due to the fact that jobs are formed based upon task performance rather than background characteristics. The titles given to these jobs are based upon composite job descriptions for the group members, job titles written in by survey respondents, and on background information responses. The military and civilian mix in terms of task performance is excellent. In other words, personnel from both groups utilize the same tasks in the performance of their jobs. (See Appendix A for a comparison of military versus civilian tasks.)

Based on overlap in tasks performed and percent time spent on tasks, there are two major divisions between the jobs identified in the Pest Management career ladder. Figure 1 is a pie chart representation of the clusters found to exist in the career ladder structure. The GRP numbers by each group, which have no mathematical or statistical significance, are commputer-printed identifiers used to define aggregations of personnel. The letter "N" refers to the number of personnel in the group.

I. SENIOR PEST MANAGEMENT PERSONNEL (GRP026, N=382)

   A. Pest Management Technician-Supervisors (GRP068, N=208)
   B. General Pest Management Personnel (GRP051, N=148)
   C. Pest Management Shop NCOICs (GRP053, N=17)

II. JUNIOR PEST MANAGEMENT PERSONNEL (GRP024, N=39)

# PEST MANAGEMENT SPECIALTY JOB STRUCTURE

( N = 452 )

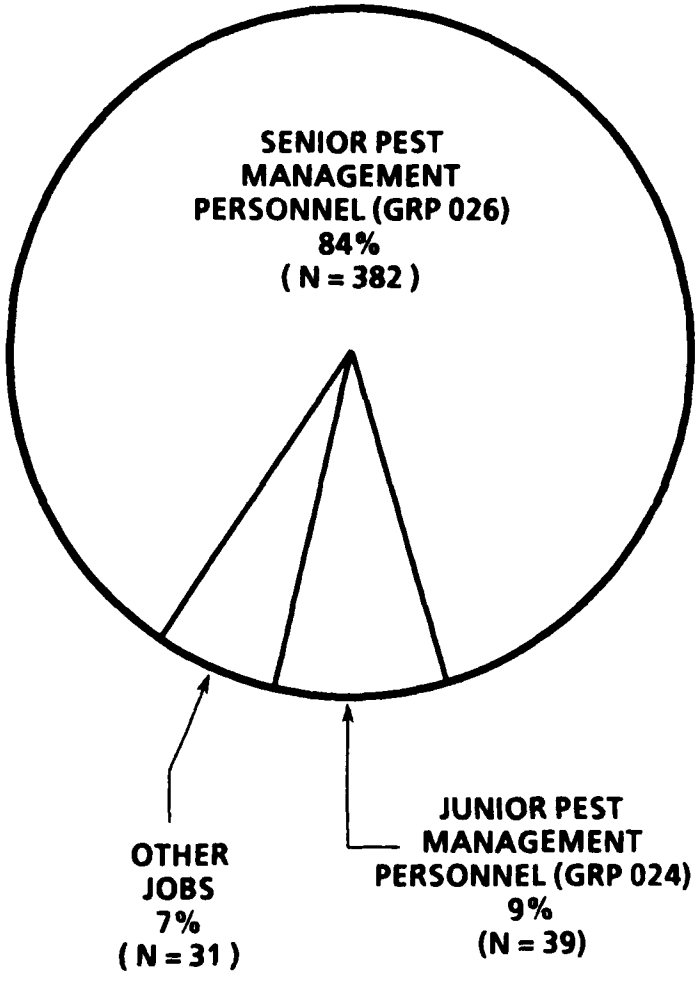


Fig. 1

Military and civilian respondents performing the above mentioned jobs account for 93 percent of the total survey sample. The other 7 percent (31 people) perform jobs that differ from those above based on mission requirements, contingency assignments, temporary conditions, or the manner in which they perceive their job.

## Descriptions of Pest Management Jobs

The control of plant and animal pests is just one example of the varied missions falling under the auspices of Base Civil Engineering (BCE). The Operations Unit, of which the Sanitation career field (AFSC 566XX) is an integral part, has the responsibility to direct, coordinate, and control all work approved and authorized to be done by the BCE work force. Personnel assigned to AFSC 566X0 are primarily responsible for performing procedures for implementing, conducting, and evaluating Pest Management programs to achieve safe, effective, and economical control and prevention of plant and animal pests. Pests include various insects and related lower animals, terrestrial and aquatic plants, rodents, birds, snakes, snails, fungi, wood borers, and other organisms that are not desirable.

The Major Commands are responsible for ensuring that effective, preventive, and corrective pest control programs are established and maintained at installations under their jurisdiction. This is accomplished, in part, through certification of military and civilian pest management personnel in accordance with specifications set forth by the Department of Defense Plan for Certification of Pesticide Applicators. Once obtained, certification is valid for 3 years from the last day of certification training, unless revoked by MAJCOM. Certification categories vary by MAJCOM and include the following:

1. Agricultural Pest Control, Animal
2. Agricultural Pest Control, Plant
3. Forest Pest Control
4. Ornamental and Turf Pest Control
5. Seed Treatment
6. Aquatic Pest Control
7. Industrial, Institutional, Structural, and Health Related Pest Control
8. Public Health Pest Control
9. Regulatory Pest Control
10. Demonstration and Research Pest Control
11. Aerial Application Pest Control

Brief descriptions of jobs identified within the Pest Management career ladder are presented below, along with samples of tasks performed which illustrate the nature of each job. MAJCOM certification will be discussed in relation to task performance characteristics of the specialty jobs. In addition, selected background data for these jobs are provided in Table 3.

I. SENIOR PEST MANAGEMENT PERSONNEL (GRP026, N=382). As related in the title, personnel comprising this job are the most senior members in the survey sample, particularly in terms of experience level (average of 79 months in

TABLE 3

SELECTED BACKGROUND DATA FOR PEST MANAGEMENT SPECIALTY JOBS

| | JUNIOR PEST MANAGEMENT PERSONNEL CLUSTER (GRP024) | SENIOR PEST MANAGEMENT PERSONNEL CLUSTER (GRP026) |
|---|---|---|
| NUMBER IN GROUP | 39 | 382 |
| PERCENT OF SAMPLE | 9 | 84 |
| MILITARY | 97 | 79 |
| CIVILIAN | 3 | 21 |
| PERCENT CONUS | 92 | 82 |
| DAFSC DISTRIBUTION | | |
| 56630 | 64 | 19 |
| 56650 | 28 | 45 |
| 56670 | 5 | 15 |
| AVG MILITARY PAYGRADE | AMN | SRA/SGT |
| AVG MOS IN CAREER FIELD (TICF) | 18 | 79 |
| AVG MOS IN SERVICE (TAFMS) | 21 | 73 |
| AVG MOS FEDERAL CIVIL SERVICE (FCS) | 9 | 220 |
| PERCENT IN FIRST ENLISTMENT | 90 | 44 |
| PERCENT SUPERVISING | 3 | 35 |
| AVG NUMBER OF TASKS PERFORMED | 52 | 170 |
| JOB DIFFICULTY INDEX (AVG JDI=13.00) | 5.31 | 14.36 |

* May not equal 100 percent due to rounding or nonresponse

career field). Eighty-four percent of the sample are represented by this group, of which 79 percent are military personnel and 21 percent are civilians. Military members performing this job indicate an average of 73 months service time, with 56 percent beyond their first-enlistment. While these incumbents perform a wider range of pest management tasks (N=170) at a higher difficulty level (JDI=14.36) than their less experienced counterparts, their average paygrade was E-4 (Senior Airman (SrA)/Sergeant (Sgt)). Forty-five percent of this group have the 5-skill level. The wage grade distribution among civilian members ranges from WS-05 to WS-08, with the largest percentage indicating WG-08. Sixty-nine percent work in shops having 4-9 Pest Management specialists in a variety of geographical locations. Direct supervisory activities are performed by 35 percent of the group, while many of the remaining members are responsible for demonstrating, training, and observing inexperienced or noncertified personnel in a broad array of pest management application techniques. Better than 44 percent of these members have MAJCOM certification in the five major categories required by Air Force:

Aquatic Pest Control
Industrial, Institutional, Structural, and Health-Related Pest Control
Ornamental and Turf Pest Control
Public Health Pest Control
Right-of-Way Pest Control

Hence, there is a mixture of supervisory, administrative, training, general, and specialized technical tasks performed by incumbents in this cluster of jobs. Two percent of the members within this job have the "T" prefix (resident training). Examples of tasks performed by Senior Pest Management Personnel include:

review AFR 91-21 to determine pest management procedures
evaluate effectiveness of insecticide applications
coordinate work activities with other CE shops
plan work assignments
conduct surveys for household pests
inventory pesticides
direct maintenance of administrative files
determine insecticide application methods
identify household pests
conduct surveys for structural pests
prepare herbicide emulsions

Three job variations are performed by personnel within this cluster. Fifty-four percent of these incumbents are identified as Pest Management Technician-Supervisors (GRP068), performing higher level technical tasks and some supervisory tasks. Cumulatively, this job is greater in scope (largest number of tasks performed) and difficulty level (JDI=17.17) of all jobs or variations of jobs identified for this career ladder. In addition, these individuals provide orientation and OJT to newly assigned personnel, while performing many functions relegated by the shop NCOIC, such as coordinating

work with other functions within and outside the installation. Civilian members performing this function identified themselves as shop foremen or journeyman level employees, while military respondents wrote in Assistant NCOIC as the corresponding job title.

While General Pest Management Personnel (GRP051) also perform a wide range of pest management tasks, they are distinguished from other variations within the cluster by extremely low percentages of members performing supervisory tasks. Here again, slight distinctions based upon the amount of time spent on certain groups of tasks, lead to the identification of personnel spending more time performing such functions as: (1) surveying, (2) equipment and facilities maintenance, and (3) supply and materials management, in addition to a common set of technical tasks performed by the majority of survey respondents regardless of experience level or MAJCOM certification status.

On the other hand, another job identified within the Senior Pest Management Personnel cluster of jobs, differs from the others described due to the dominance of supervisory tasks accounting for a relatively large percentage of their total job time. This group of Pest Management Shop NCOICs (GRP053) contains 70 percent military and 30 percent civilian members having an average of 15 years in the career field. These pest managers are responsible for the overall effectiveness of the total pest control program for their base of assignment.

II. JUNIOR PEST MANAGEMENT PERSONNEL (GRP024, N=39). This specialty job contains 9 percent of the survey sample. These members hold an average paygrade of E-2 (Amn), have an average of 18 months in the career field, and 64 percent have a 3-skill level. They have an average of 10 months in their present job. Military personnel account for 97 percent of the group (all but 1 respondent was military), and 90 percent are in their first-enlistment. Fifty-six percent of these members do not hold MAJCOM certification in any category; therefore, they do not perform pest management application techniques that require certification. This accounts for the limited average number of tasks performed (N=52). Many tasks performed by these junior personnel are under the direct supervision of a certified pest manager and, overall, are relatively easy (JDI=5.31). Personnel working at this level receive advice and instruction on expected problems and work methods from the more senior personnel. Typical tasks performed by members of this group include:

clean, wash, and dry safety equipment
inspect personal safety equipment
clean hand equipment
apply liquid insecticides using compressed air sprayers
prepare herbicide emulsions
maintain pesticide storage areas
remove nests from trees, shrubs, or structures
transport pesticides
place or inspect rodent traps
identify household pests

Similarly, as in the Senior Pest Management job, Junior Pest Management Personnel perform some variations of the core job identified above based on percent time spent on certain groups of tasks. For example, some members of the group spend more time performing tasks pertaining to specific pest management problem areas, such as termite control, herbiciding-insecticiding, and vertebrate control.

## Summary

Overall, jobs identified within this AFSC show a high degree of similarity in terms of tasks performed. As illustrated in Figure 1, only two major jobs were identified. In addition, only three factors distinguish between the jobs: (1) number of tasks performed - personnel within certain jobs perform additional tasks in conjunction with core pest management functions performed by all members; (2) time spent on specific groups of tasks - some incumbents spend larger amounts of time performing specialized functions, such as herbiciding, than their counterparts; and (3) experience level - as indicated by average time in service and skill-level. The career ladder structure broke out much as expected - senior personnel perform jobs which are broader in scope encompassing tasks at a higher difficulty and experience level than their more junior counterparts.

## Civilian Vs Military Jobs

The military and civilian mix across specialty jobs was examined. The jobs identified for this career ladder contained 75 percent military personnel and 25 percent civilians. Both military and civilians are well represented in the major jobs - with one exception. The job described for Junior Pest Management Personnel contained only one civilian member. This may be attributed to the somewhat higher entrance requirement stipulated in the civilian job grading standard for "Pest Controllers" (WG-5026) set forth by the Office of Personnel Management (OPM).

Job groups which have civilians as members were examined to determine military-civilian differences. When the total number of military and civilians in the sample are compared, only slight differences are found. OSR data reveal only four tasks are performed by slightly larger percentages of military personnel than civilians (see Table 4). On the other hand, many tasks (N=228) are performed by somewhat larger percentages (greater than 10 percent members performing (PMP) difference) of civilians than their military counterparts. While the majority of these tasks relate to general pest management functions, some of them are distinguished not only by the larger PMP, but also by the greater percentage of time spent performing certain groups of tasks. For example, larger percentages of civilian members spend more time performing termite control functions than do military incumbents. It should be noted that, although a higher percentage of civilians perform these tasks, a significant number of military members also perform them. The findings rendered from these data show that while the percent members performing and time spent

TABLE 4

TASKS THAT BEST DISTINGUISH BETWEEN MILITARY AND CIVILIAN MEMBERS
(PERCENT MEMBERS PERFORMING)

| TASKS | | CIVILIAN MEMBERS (N=93) | MILITARY MEMBERS (N=359) | DIFFERENCE |
|---|---|---|---|---|
| H280 | APPLY INSECTICIDES TO TRENCHES | 71 | 39 | +32 |
| G242 | IDENTIFY BIRDS FREQUENTING AIRFIELDS OR STRUCTURES | 69 | 37 | +31 |
| H287 | DIG TRENCHES FOR TERMITE CONTROL | 63 | 34 | +29 |
| G234 | CONDUCT SURVEYS FOR STORED PRODUCTS PESTS | 62 | 36 | +26 |
| G245 | INSPECT LAWNS FOR HORTICULTURAL PESTS | 59 | 35 | +24 |
| A55 | SCHEDULE PERIODIC TERMITE INSPECTIONS OR SURVEYS | 61 | 37 | +24 |
| H293 | INSPECT TERMITE SHIELDS | 55 | 31 | +24 |
| H286 | CLEAN UP AFTER TERMITE CONTROL OPERATIONS | 72 | 48 | +24 |
| H278 | APPLY INSECTICIDES TO BUILDING PIERS | 44 | 21 | +23 |
| G255 | INSPECT BUILDING SITES FOR STRUCTURAL PESTS | 82 | 59 | +23 |
| H296 | PLUG HARDWOOD FLOORS WITH WOOD PLYS | 33 | 12 | +21 |
| H281 | APPLY INSECTICIDES TO UNTREATED LUMBER | 30 | 11 | +19 |
| C92 | EVALUATE SAFETY PROGRAMS | 41 | 25 | +16 |
| G257 | INSPECT BUILDINGS OR HANGARS FOR BIRD PESTS | 70 | 54 | +16 |
| G235 | CONDUCT SURVEYS FOR STRUCTURAL PESTS | 77 | 64 | +13 |
| G248 | IDENTIFY PLANT DISEASES | 52 | 40 | +12 |
| H279 | APPLY INSECTICIDES TO TERMITE MOUNDS | 28 | 18 | +10 |
| 0446 | PERFORM OPERATOR MAINTENANCE ON COMPRESSED AIR SPRAYER | 73 | 84 | -11 |
| 0471 | PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS | 70 | 84 | -14 |
| 0458 | PERFORM OPERATOR MAINTENANCE ON PERSONAL SAFETY EQUIPMENT | 65 | 79 | -14 |
| P512 | PERFORM BASE CLEANUPS | 13 | 30 | -17 |

on each task varies, both military and civilians perform essentially all tasks in the inventory. (See Appendix A for a listing of representative tasks performed by military and civilian members).

## Job Structure Comparison to Previous Survey

An OSR on the Pest Management specialty was last completed in May 1981 and included military personnel only (N=248); whereas, the current survey includes both military and civilian personnel (N=452). The career ladder structure in the previous report identified three major job groups: Senior Entomologists, Junior Entomologists, and Termite and Insect Control Personnel. Overall, in spite of the addition of civilians to the sample, very little has changed in the current survey. Tasks performed by members within jobs identified in the previous survey are very similar to tasks performed by their counterparts, now 5 years later, with some minor exceptions. The job described as Junior Entomologists in 1981 consisted primarily of members who were in their first-enlistment, and who spent a great deal of job time conducting surveys for various pests or performing delimited general functions. Comparatively, Junior Pest Management Personnel in the current survey, although highly similar in background characteristics to the previous group, spend less time conducting surveys for pest control requirements (10 percent of total job time). Variations of the primary job reveal these junior level incumbents now spend more time performing a limited number of tasks related to actual application techniques of pesticides. In addition, the limited number of tasks performed by Termite and Insect Control Personnel as described in the previous OSR are currently incorporated in the job characteristic of Junior Pest Management Personnel. Similarly, as identified in the previous survey, the major distinction between jobs stems from differences in experience level. Hence, it may be concluded that the Pest Management specialty remains a stable, homogeneous, technically oriented career ladder.

# ANALYSIS OF DAFSC GROUPS

The former sections examined the major jobs operating within the career ladder and identified those tasks each perform, as well as the subtle distinctions between military versus civilian personnel. In this section, the identification and analysis of similarities and differences in duty and task performance across the three skill levels provide information useful in the evaluation of the accuracy of career ladder documents, such as the duties and responsibilities as outlined in AFR 39-1 Specialty Descriptions. The average percent time spent performing duties across DAFSC groups within this career ladder is displayed in Table 5.

DAFSC 56630. The 3-skill level personnel, representing 22 percent (N=101) of the total sample and 28 percent of all military respondents, perform an average of 97 tasks. Sixty-three percent of these members indicate they have not obtained MAJCOM certification in any category. Hence, the vast majority of their job time is spent performing general tasks, such as clean,

TABLE 5

AVERAGE PERCENT TIME SPENT PERFORMING DUTIES BY 566X0 DAFSC GROUPS

| DUTY TITLE | DAFSC 56630 (N=101) | DAFSC 56650 (N=172) | DAFSC 56670 (N=62) |
|---|---|---|---|
| A ORGANIZING AND PLANNING | 6 | 9 | 17 |
| B DIRECTING AND IMPLEMENTING | 2 | 5 | 9 |
| C INSPECTING AND EVALUATING | 1 | 4 | 9 |
| D TRAINING | 0 | 3 | 5 |
| E PERFORMING ADMINISTRATIVE FUNCTIONS | 4 | 7 | 10 |
| F MANAGING AND HANDLING PEST CONTROL MATERIALS | 22 | 18 | 13 |
| G SURVEYING FOR PEST CONTROL REQUIREMENTS | 14 | 14 | 11 |
| H PERFORMING TERMITE CONTROL FUNCTIONS | 5 | 4 | 2 |
| I PERFORMING INSECT CONTROL FUNCTIONS (EXCEPT TERMITES) | 11 | 9 | 6 |
| J PERFORMING VERTEBRATE CONTROL FUNCTIONS | 7 | 5 | 3 |
| K PERFORMING MOLLUSK, FUNGI, AND MOLD CONTROL | 0 | 0 | 0 |
| L FUMIGATING FOR PEST CONTROL | 1 | 1 | 0 |
| M PERFORMING VEGETATION CONTROL FUNCTIONS | 2 | 2 | 2 |
| N PERFORMING MILITARY QUARANTINE INSPECTIONS AND PEST CONTROL | 0 | 0 | 0 |
| O MAINTAINING PEST MANAGEMENT EQUIPMENT AND FACILITIES | 21 | 16 | 11 |
| P PERFORMING GENERAL FUNCTIONS | 3 | 3 | 2 |

wash, and dry safety equipment; clean hand equipment; transport pesticides; perform operator maintenance on personal safety equipment; and dispose of dead animals. Averaging 17 months on active duty status, this group performs tasks that are relatively less difficult (JDI=9.19) than their more senior counterparts. Seventy-one percent work in Pest Management shops having 4-9 persons, with 37 percent being directly supervised by a civilian member.

The job described as Junior Pest Management Personnel consists largely of 3-skill level members (64 percent), as displayed in Table 3. In addition to the career ladder structure description, Table 6 lists tasks performed by this group to illustrate the kinds of tasks performed by the majority of 3-skill level personnel.

DAFSC 56650. The tasks performed by 5-skill level personnel are highly similar to those commonly performed by 3-skill level airmen, with the addition of some supervisory and administrative functions. Also, better than 35 percent of this group indicate MAJCOM certification in each of the five most commonly required categories: (1) Aquatic, (2) Industrial, Institutional, and Structural Health, (3) Ornamental and Turf, (4) Public Health, and (5) Right-Of-Way. As a result, these members perform tasks of greater difficulty (JDI=12.72). Eighty-seven percent of 5-skill level respondents perform the job identified as Senior Pest Management Personnel, with large percentages spending more time in specific functions, such as administration, shop and equipment maintenance, and facilities management. Table 7 presents a listing of tasks performed by substantial percentages of 5-skill level personnel and which account for a major portion of job their time.

DAFSC 56670. In contrast to the above skill level groups, tasks performed by 7-skill level personnel show some clear differences from their subordinates (see Table 8). While these members perform many of the same technical tasks as their less experienced counterparts, 35 percent of their total job time is spent performing supervisory functions, such as coordinating work activities, inspecting and evaluating pest infestations, and writing correspondence or APRs. Ninety-two percent of 7-skill level respondents grouped in the job described as Senior Pest Management Personnel. Overall, the job performed by these senior level members, averaging 171 months service time, is broader in scope (average number of tasks = 205) and of a higher difficulty level (JDI=17.37) than 3- and 5-skill level airmen, encompassing the full range of pest management activities.

## Summary

Generally, tasks performed by 3- and 5-skill level personnel are highly similar, with time spent on tasks being the major differentiating factor. On the other hand, 7-skill level respondents perform tasks distinguished from their subordinates in both relative percent time spent and percent members performing. As shown in Table 9, tasks performed by greater percentages of one skill level group are also performed by substantial percentages across the other two. Seven-skill level members perform virtually all technical tasks

TABLE 6

REPRESENTATIVE TASKS PERFORMED BY DAFSC 56630 PERSONNEL

| TASKS | | PERCENT MEMBERS PERFORMING |
|---|---|---|
| 0438 | INSPECT PERSONAL SAFETY EQUIPMENT | 94 |
| 0437 | CLEAN, WASH, AND DRY SAFETY EQUIPMENT | 92 |
| J347 | DISPOSE OF DEAD ANIMALS | 89 |
| 0435 | CLEAN HAND EQUIPMENT | 87 |
| F181 | DISPOSE OF EMPTY PESTICIDE CONTAINERS | 87 |
| F199 | PREPARE INSPECTICIDE EMULSIONS | 86 |
| F210 | TRANSPORT PESTICIDES | 81 |
| F209 | TRANSPORT HAND EQUIPMENT | 80 |
| F208 | TRANSFER OR POUR PESTICIDES FROM STORAGE TO DISPERSAL EQUIPMENT | 78 |
| I325 | APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS | 77 |
| F185 | INTERPRET PESTICIDE LABELS | 76 |
| G247 | IDENTIFY HOUSEHOLD PESTS | 75 |
| I300 | ADVISE BUILDING CUSTODIANS ON GOOD HOUSEKEEPING MEASURES | 74 |
| J357 | PLACE OR INSPECT RODENT TRAPS | 72 |
| F189 | MAINTAIN PESTICIDE STORAGE AREAS | 72 |
| F203 | PREPARE RODENT BAITS | 72 |
| 0484 | PREOPERATIONALLY CHECK SHOP SAFETY EQUIPMENT | 71 |
| 0436 | CLEAN PESTICIDE TANKS OR HOPPERS | 71 |
| F186 | INVENTORY PESTICIDES | 71 |
| F179 | DETERMINE RODENTICIDE APPLICATION METHODS | 64 |
| I332 | CLEAN UP AFTER INSPECT CONTROL OPERATIONS | 64 |
| G256 | INSPECT BUILDINGS FOR HOUSEHOLD PESTS | 62 |
| G231 | CONDUCT SURVEYS FOR HOUSEHOLD PESTS | 60 |
| 0465 | PERFORM OPERATOR MAINTENANCE ON VEHICLES | 60 |
| F171 | APPLY INSECTICIDE DUST DILUTIONS | 60 |
| F194 | PREPARE HERBICIDE EMULSIONS | 59 |
| 0490 | PREPARE PEST MANAGEMENT EQUIPMENT FOR STORAGE | 58 |
| I304 | APPLY DUST OR GRANULAR INSECTICIDES OUTDOORS USING HAND EQUIPMENT | 57 |
| G243 | IDENTIFY DOMESTIC RODENTS | 56 |
| G226 | CONDUCT SURVEYS FOR DOMESTIC RODENTS | 56 |
| 0433 | CALIBRATE NONPOWERED DISPERSAL EQUIPMENT, SUCH AS COMPRESSED AIR SPRAYERS | 55 |
| J359 | REMOVE LIVE ANIMALS FROM ATTICS, VENTS, OR OTHER CONFINED AREAS | 54 |
| 0489 | PREOPERATIONALLY CHECK VEHICLE- OR TRAILER-MOUNTED HYDRAULIC SPRAYERS | 54 |
| J360 | REMOVE NESTS FROM TREES, SHRUBS OR STRUCTURES | 53 |
| E148 | MAKE ENTRIES ON AF FORMS 1800 (OPERATOR'S INSPECTION GUIDE AND TROUBLE REPORT (GENERAL PURPOSE VEHICLE)) | 53 |
| H288 | DRILL CONCRETE SLABS USING POWERED HAMMERS | 53 |
| F177 | DETERMINE HERBICIDE APPLICATION METHODS | 51 |

TABLE 7

REPRESENTATIVE TASKS PERFORMED BY DAFSC 56650 PERSONNEL

| TASKS | | PERCENT MEMBERS PERFORMING |
|---|---|---|
| F187 | LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES | 92 |
| F210 | TRANSPORT PESTICIDES | 91 |
| 0437 | CLEAN, WASH, AND DRY SAFETY EQUIPMENT | 90 |
| 0438 | INSPECT PERSONAL SAFETY EQUIPMENT | 89 |
| F181 | DISPOSE OF EMPTY PESTICIDE CONTAINERS | 98 |
| F209 | TRANSPORT HAND EQUIPMENT | 87 |
| 0435 | CLEAN HAND EQUIPMENT | 85 |
| F199 | PREPARE INSECTICIDE EMULSIONS | 85 |
| F185 | INTERPRET PESTICIDE LABELS | 85 |
| 0446 | PERFORM OPERATOR MAINTENANCE ON COMPRESSED AIR SPRAYERS | 85 |
| F178 | DETERMINE INSECTICIDE APPLICATION METHODS | 85 |
| 0471 | PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS | 84 |
| J347 | DISPOSE OF DEAD ANIMALS | 84 |
| F208 | TRANSFER OR POUR PESTICIDES FROM STORAGE TO DISPERSAL EQUIPMENT | 81 |
| B73 | INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES | 79 |
| I325 | APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS | 78 |
| 0458 | PERFORM OPERATOR MAINTENANCE ON PERSONAL SAFETY EQUIPMENT | 78 |
| F175 | DETERMINE FORMULATIONS AND QUANTITIES OF CHEMICALS REQUIRED FOR PEST CONTROL OPERATIONS | 78 |
| G256 | INSPECT BUILDINGS FOR HOUSEHOLD PESTS | 78 |
| J357 | PLACE OR INSPECT RODENT TRAPS | 77 |
| 0484 | PREOPERATIONALLY CHECK SHOP SAFETY EQUIPMENT | 76 |
| F189 | MAINTAIN PESTICIDE STORAGE AREAS | 76 |
| F200 | PREPARE INSECTICIDE SOLUTIONS | 73 |
| A52 | SCHEDULE OCCUPIED QUARTERS FOR TREATMENTS | 68 |
| 0465 | PERFORM OPERATOR MAINTENANCE ON VEHICLES | 66 |
| F177 | DETERMINE HERBICIDE APPLICATION METHODS | 66 |
| F203 | PREPARE RODENT BAITS | 64 |
| I332 | CLEAN UP AFTER INSECT CONTROL OPERATIONS | 63 |
| I334 | EVALUATE EFFECTIVENESS OF INSECTICIDE APPLICATIONS | 63 |
| 0489 | PREOPERATIONALLY CHECK VEHICLE- OR TRAILER-MOUNTED HYDRAULIC SPRAYERS | 63 |

TABLE 8

REPRESENTATIVE TASKS PERFORMED BY DAFSC 56670 PERSONNEL

| TASKS | | PERCENT MEMBERS PERFORMING |
|---|---|---|
| A26 | COORDINATE WORK ACTIVITIES WITH OTHER CIVIL ENGINEERING (CE) SHOPS | 93 |
| D438 | INSPECT PERSONAL SAFETY EQUIPMENT | 90 |
| A22 | COORDINATE PESTICIDE TREATMENT OPERATIONS WITH BUILDING OCCUPANTS | 90 |
| F178 | DETERMINE INSECTICIDE APPLICATION METHODS | 90 |
| 0471 | PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS | 90 |
| B72 | INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES | 88 |
| B58 | CONDUCT SHOP OR UNIT MEETINGS | 88 |
| B59 | COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS | 88 |
| F204 | RESEARCH AFM 91-16 FOR PESTICIDE CONTROL RECOMMENDATIONS | 88 |
| F206 | REVIEW AFR 91-21 TO DETERMINE PEST MANAGEMENT PROCEDURES | 88 |
| F185 | INTERPRET PESTICIDE LABELS | 88 |
| C102 | INSPECT PESTICIDE STORAGE AREAS | 88 |
| A29 | DETERMINE WORK PRIORITIES | 88 |
| B73 | INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES | 87 |
| 0446 | PERFORM OPERATOR MAINTENANCE ON COMPRESSED AIR SPRAYERS | 87 |
| F188 | MAINTAIN OPERATING SUPPLY LEVELS OF PESTICIDES | 87 |
| I300 | ADVISE BUILDING CUSTODIANS ON GOOD HOUSEKEEPING MEASURES | 87 |
| C86 | EVALUATE EXTENT OF PEST INFESTATIONS | 87 |
| B79 | SUPERVISE PEST MANAGEMENT SPECIALISTS (AFSC 56650) | 85 |
| I325 | APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS | 85 |
| B68 | IMPLEMENT SAFETY PROGRAMS | 85 |
| F175 | DETERMINE FORMULATIONS AND QUANTITIES OF CHEMICALS REQUIRED FOR PEST CONTROL OPERATIONS | 85 |
| E147 | MAKE ENTRIES ON AF FORMS 1445 (MATERIALS AND EQUIPMENT LIST) | 82 |
| P498 | DRIVE VEHICLES DURING PESTICIDE APPLICATIONS | 82 |
| E154 | MAKE ENTRIES ON AF FORMS 290 (TRANSCRIPT FOR PEST REPORT) | 80 |
| C104 | PREPARE APRs | 80 |
| 0439 | ISOLATE MALFUNCTIONS OF HAND EQUIPMENT ITEMS | 79 |
| I334 | EVALUATE EFFECTIVENESS OF INSECTICIDE APPLICATIONS | 77 |
| C83 | EVALUATE BASE PEST CONTROL PROGRAMS | 75 |
| B76 | SUPERVISE APPRENTICE PEST MANAGEMENT PERSONNEL (AFSC 56630) | 72 |

TABLE 9

TASKS DIFFERENTIATING BETWEEN AFSC 566X0 SKILL LEVEL GROUPS

| TASKS | | PERCENT MEMBERS PERFORMING DAFSC 56630 | DAFSC 56650 | DAFSC 56670 |
|---|---|---|---|---|
| J347 | DISPOSE OF DEAD ANIMALS | 89 | 84 | 74 |
| F200 | PREPARE INSECTICIDE SOLUTIONS | 79 | 74 | 63 |
| F203 | PREPARE RODENT BAITS | 72 | 65 | 47 |
| F196 | PREPARE HERBICIDE SOLUTIONS | 52 | 50 | 39 |
| F198 | PREPARE INSECT BAITS | 49 | 38 | 40 |
| P513 | PERFORM JANITORIAL DETAILS | 33 | 29 | 11 |
| E161 | MAKE ENTRIES ON DD FORMS 1070 (TERMITE AND WOOD DECAY INSPECTION) | 52 | 68 | 61 |
| G235 | CONDUCT SURVEYS FOR STRUCTURAL PESTS | 58 | 67 | 65 |
| J360 | REMOVE PESTS FROM TREES, SHRUBS OR STRUCTURES | 53 | 54 | 40 |
| M407 | APPLY LIQUID HERBICIDES TO GROUND SURFACES USING COMPRESSED AIR SPRAYERS | 46 | 52 | 47 |
| F202 | PREPARE POISON BAITS FOR BIRDS (OVICIDES) | 25 | 32 | 19 |
| P497 | DRIVE CIVIL ENGINEERING TAXIS | 20 | 26 | 3 |
| A26 | COORDINATE WORK ACTIVITIES WITH OTHER CIVIL ENGINEERING (CE) SHOPS | 32 | 62 | 94 |
| A51 | SCHEDULE LEAVES OR PASSES | 4 | 22 | 84 |
| B64 | DIRECT UTILIZATION OF EQUIPMENT | 14 | 38 | 77 |
| A27 | COORDINATE WORK PROGRESS WITH CE SCHEDULING | 20 | 37 | 76 |
| A31 | DEVELOP WORK METHODS OR PROCEDURES | 22 | 38 | 74 |
| B76 | SUPERVISE APPRENTICE PEST MANAGEMENT PERSONNEL (AFSC 56630) | 10 | 47 | 73 |
| P501 | ISSUE SAFETY EQUIPMENT | 7 | 23 | 71 |
| G225 | CONDUCT SURVEYS FOR DISEASE VECTORS | 22 | 38 | 74 |
| G234 | CONDUCT SURVEYS FOR STORED PRODUCTS PESTS | 20 | 37 | 61 |
| E138 | MAINTAIN AF FORMS 1284 (TRAINING QUALITY REPORT (TQR)) | 18 | 40 | 60 |
| 0441 | OVERHAUL PESTICIDE PUMPS | 22 | 38 | 50 |

performed by their subordinates, in addition to supervisory, administrative, and training tasks. Career ladder progression is well defined in terms of task performance.

## COMPARISON OF SURVEY DATA TO AFR 39-1 SPECIALTY DESCRIPTIONS

To verify the completeness and accuracy of AFSC 566X0 specialty job descriptions, survey data were compared to the 3-, 5-, and 7-skill level AFR 39-1 Specialty Descriptions dated April 1984. These descriptions accurately provide a broad overview of the duties and responsibilities inherent in the two major jobs operating within the Pest Management career ladder. No areas were omitted nor were any trends noted during analyses of career ladder structure or DAFSC groups which would require changes in the specialty descriptions at this time.

## ANALYSIS OF EXPERIENCE (TAFMS) GROUPS

While analysis of a career ladder by DAFSC permits evaluation of AFR 39-1 specialty descriptions, analysis by TAFMS groups provides a basis for evaluation of career ladder utilization patterns as experience level increases. Table 10 demonstrates the average percentage of time spent on duties across TAFMS groups. The typical pattern of progression is indicated: as time in service increases so does the percent time spent on tasks in the supervisory, training, and administrative duties. Conversely, to a somewhat lesser degree, tasks in five of the most commonly performed technical duties of Managing and Handling Pest Control Materials, Duty F; Surveying for Pest Control Requirements, Duty G; Performing Termite Control Functions, Duty H; Performing Insect Control Functions (except Termites), Duty I; Performing Vertebrate Control Functions, Duty J; and Maintaining Pest Management Equipment and Facilities, Duty O show a gradual decline in percent members performing beyond the second enlistment period.

For members of all TAFMS groups, relatively small amounts of time are spent on technical tasks dealing with Fumigating (Duty L) and Vegetation Control (Duty M). Almost no time is spent by members of any TAFMS groups on tasks pertaining to Mollusk, Fungi, and Mold Control (Duty K) and Military Quarantine (Duty N). Generally, the percent of time spent performing duties across TAFMS groups parallels the percent time spent performing duties across DAFSC groups (reference Table 5). With increasing time in service, personnel take on responsibilities for exterminating a wider variety of pests and dealing with unusual problems or infestations, such as foreign pest species. Consequently, the experienced pest manager must exercise more judgement than the more junior airmen in determining appropriate control methods and in selecting chemicals, mediums, equipment, and application techniques. For example, if planning fogging operations in a swampy area, the experienced pest manager would determine the area to be covered, equipment and materials to be used,

TABLE 10

AVERAGE PERCENT TIME SPENT PERFORMING DUTIES BY EXPERIENCE GROUPS

| DUTY TITLE | MONTHS TAFMS 1-48 (N=210) | 49-96 (N=50) | 97+ (N=98) |
|---|---|---|---|
| A ORGANIZING AND PLANNING | 7 | 11 | 15 |
| B DIRECTING AND IMPLEMENTING | 2 | 6 | 8 |
| C INSPECTING AND EVALUATING | 2 | 4 | 8 |
| D TRAINING | 1 | 3 | 5 |
| E PERFORMING ADMINISTRATIVE FUNCTIONS | 5 | 7 | 11 |
| F MANAGING AND HANDLING PEST CONTROL MATERIALS | 21 | 17 | 13 |
| G SURVEYING FOR PEST CONTROL REQUIREMENTS | 14 | 15 | 11 |
| H PERFORMING TERMITE CONTROL FUNCTIONS | 5 | 4 | 2 |
| I PERFORMING INSECT CONTROL FUNCTIONS (EXCEPT TERMITES) | 10 | 8 | 6 |
| J PERFORMING VERTEBRATE CONTROL FUNCTIONS | 6 | 5 | 3 |
| K PERFORMING MOLLUSK, FUNGI, AND MOLD CONTROL | * | * | * |
| L FUMIGATING FOR PEST CONTROL | 1 | 1 | 1 |
| M PERFORMING VEGETATION CONTROL FUNCTIONS | 2 | 2 | 2 |
| N PERFORMING MILITARY QUARANTINE INSPECTIONS AND PEST CONTROL | * | * | 1 |
| O MAINTAINING PEST MANAGEMENT EQUIPMENT AND FACILITIES | 20 | 14 | 11 |
| P PERFORMING GENERAL FUNCTIONS | 3 | 2 | 2 |

method of application, and the time of day to apply the chemicals. As expected, since the major emphasis of the pest management job is technical, the primary job performed across all enlistment groups is devoted to technical functions.

## TRAINING ANALYSIS

Occupational survey data are one of the many sources of information that can be used as a guide in developing training programs for first-termers. Several factors may be used in evaluating training. These factors include information related to: (1) the overall description of the job being performed by first-enlistment personnel and their distribution across specialty jobs; (2) percentages of first-job (1-24 months TAFMS) or first-enlistment (1-48 months TAFMS) members performing specific groups of tasks or using certain equipment/pesticides; and (3) training emphasis (TE) and task difficulty (TD) ratings.

Ratings provided by career ladder subject-matter experts yielded an average TE rating of 3.30, with a standard deviation of 1.61. Tasks rated 4.91 or better (average TE + 1 standard deviation) are considered high in terms of providing structured training for first-term airmen. Table 11 lists examples of tasks rated highest in TE by subject-matter experts in the field. These specialists identified tasks pertaining to the duties of Managing and Handling Pest Control Materials (Duty F), Maintaining Pest Management Equipment and Facilities (Duty O), and Surveying for Pest Control Requirements (Duty G) as strongly requiring some form of structured training for first-term personnel in this career ladder. This corresponds with the data presented in Table 10, which shows first-termers spending the largest percentage of their job time in these three functional areas. In addition, except for three tasks involving skid-mounted hydraulic sprayers and emergency decontamination procedures, all other tasks receiving high TE ratings, are performed by substantial percentages of the targeted population as well as the career ladder as a whole.

Task difficulty ratings were adjusted to an average of 5.00 and a standard deviation of 1.00. Hence, tasks having a rating of 6.00 (the sum of the average TD + 1 standard deviation) or better are considered very difficult for the average airmen to learn to do satisfactorily. In addition, as stipulated in the Course Training Decision Table in ATCR 52-22, any task receiving a rating of 3.00 or better in difficulty should be reviewed for possible inclusion in a centralized training program. Subject-matter experts agreed upon 86 tasks as having the highest task difficulty. The majority of these tasks reflect supervisory, training, or fumigation activities (see Table 12). Twenty-five (almost 30 percent) of the most difficult tasks for this career ladder show less than 20 percent members performing across all skill level groups. Of these 25 tasks, 8 are also rated high in TE (all fumigation tasks); yet, they are performed by low percentages of first-termers as well as higher skill level groups. Therefore, the inferences that may be drawn from these data are that the majority of personnel in this career ladder do not perform fumigation procedures; although, tasks pertaining to this function are

TABLE 11

EXAMPLES OF TASKS RATED HIGHEST IN TRAINING EMPHASIS

| TASKS | | TNG EMP* | PERCENT MEMBERS PERFORMING 1ST JOB | 1ST ENL | 56650 | 56670 | TASK DIF** |
|---|---|---|---|---|---|---|---|
| F185 | INTERPRET PESTICIDE LABELS | 7.33 | 76 | 81 | 85 | 88 | 4.90 |
| 0438 | INSPECT PERSONAL SAFETY EQUIPMENT | 6.88 | 91 | 91 | 88 | 90 | 4.12 |
| 0437 | CLEAN, WASH, AND DRY SAFETY EQUIPMENT | 6.70 | 89 | 92 | 89 | 88 | 3.97 |
| F181 | DISPOSE OF EMPTY PESTICIDE CONTAINERS | 6.63 | 85 | 88 | 87 | 82 | 3.38 |
| I329 | APPLY OUTDOOR FOGS USING ULV GENERATORS | 6.56 | 44 | 52 | 52 | 59 | 5.47 |
| I325 | APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS | 6.44 | 76 | 77 | 78 | 85 | 4.35 |
| F210 | TRANSPORT PESTICIDES | 6.39 | 80 | 87 | 90 | 85 | 3.01 |
| F199 | PREPARE INSECTICIDE EMULSIONS | 6.37 | 83 | 86 | 84 | 87 | 4.29 |
| F180 | DETERMINE SIGNS AND SYMPTOMS OF PESTICIDE POISONING | 6.30 | 27 | 35 | 42 | 58 | 6.15 |
| F208 | TRANSFER OR POUR PESTICIDES FROM STORAGE TO DISPERSAL EQUIPMENT | 6.28 | 75 | 81 | 81 | 82 | 3.51 |
| F201 | PREPARE INSECTICIDE SUSPENSIONS | 6.19 | 60 | 63 | 65 | 74 | 4.41 |
| 0471 | PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS | 6.12 | 80 | 81 | 83 | 90 | 3.90 |
| 0435 | CLEAN HAND EQUIPMENT | 6.09 | 85 | 87 | 84 | 80 | 3.77 |
| F183 | IMPLEMENT EMERGENCY DECONTAMINATION | 6.05 | 11 | 15 | 22 | 38 | 5.32 |
| F200 | PREPARE INSECTICIDE SOLUTIONS | 6.00 | 75 | 80 | 73 | 62 | 4.37 |
| F206 | REVIEW AFR 91-21 TO DETERMINE PEST MANAGEMENT PROCEDURES | 5.93 | 40 | 49 | 64 | 88 | 4.67 |
| 0488 | PREOPERATIONALLY CHECK ULV GENERATORS | 5.88 | 44 | 52 | 55 | 58 | 4.77 |
| F186 | INVENTORY PESTICIDES | 5.86 | 73 | 80 | 88 | 88 | 3.14 |
| H282 | APPLY INSECTICIDES USING SUBSLAB INJECTION UNITS | 5.84 | 50 | 53 | 51 | 46 | 5.62 |
| G247 | IDENTIFY HOUSEHOLD PESTS | 5.81 | 72 | 80 | 82 | 82 | 4.93 |
| 0464 | PERFORM OPERATOR MAINTENANCE ON VEHICLE- OR TRAILER-MOUNTED HYDRAULIC SPRAYERS | 5.81 | 51 | 56 | 62 | 64 | 5.40 |
| 0491 | REMOVE PEST MANAGEMENT EQUIPMENT FROM WINTER STORAGE | 5.79 | 31 | 41 | 53 | 67 | 4.64 |

* Average Training Emphasis = 3.30, with SD of 1.61
** Average Task Difficulty = 5.00, with SD of 1.00

TABLE 12

EXAMPLES OF TASKS RATED HIGHEST IN TASK DIFFICULTY

| TASKS | | TASK DIF* | PERCENT MEMBERS PERFORMING 1ST ENL | DAFSC 56650 | DAFSC 56670 | TNG EMP** |
|---|---|---|---|---|---|---|
| G239 | DRAW BLOOD (VENIPUNCTURE) FROM FIELD RODENTS | 7.74 | 1 | 2 | 3 | 0 |
| A33 | EDIT PEST CONTROL CONTRACTS FOR TECHNICAL ADEQUACY | 7.63 | 3 | 9 | 22 | 0 |
| H290 | FUMIGATE STRUCTURES FOR DRY WOOD TERMITE CONTROL | 7.61 | 4 | 5 | 6 | 3 |
| A18 | COORDINATE DISSEMINATION OF PESTICIDES WITH SPECIAL AERIAL SPRAY FLIGHTS (SASF) | 7.41 | 2 | 5 | 8 | 0 |
| C84 | EVALUATE BUDGET OR FINANCIAL REQUIREMENTS | 7.40 | 2 | 8 | 35 | 0 |
| A32 | DRAFT BUDGET OR FINANCIAL REQUIREMENTS | 7.31 | 1 | 6 | 32 | 0 |
| C107 | WRITE STAFF STUDIES, SURVEYS, OR SPECIAL REPORTS, OTHER THAN TRAINING REPORTS | 7.25 | 1 | 6 | 29 | 1 |
| B67 | IMPLEMENT CONTROL PROCEDURES PROHIBITING TRANSPORTATION OF PESTS FROM NATIVE HABITATS | 7.24 | 2 | 4 | 16 | 1 |
| C104 | PREPARE APRs | 7.20 | 2 | 28 | 80 | 2 |
| L384 | FUMIGATE AREAS USING LIQUID FUMIGANTS | 7.13 | 1 | 2 | 4 | 3 |
| H294 | INTERPRET ARCHITECTURAL BLUEPRINT DIAGRAMS | 7.10 | 15 | 17 | 30 | 2 |
| P510 | OPERATE WATER PLANT EQUIPMENT | 7.04 | 0 | 0 | 1 | 0 |
| L387 | FUMIGATE ITEMS USING VACUUM FUMAGATION CHAMBERS | 6.95 | 1 | 1 | 0 | 2 |
| L385 | FUMIGATE AREAS USING 200-POUND CYLINDERS | 6.94 | 1 | 4 | 0 | 2 |
| I337 | TRANSFER WILD BEES | 6.93 | 16 | 20 | 21 | 2 |
| A41 | PLAN INTEGRATED PEST MANAGEMENT PROGRAMS | 6.91 | 12 | 28 | 72 | 2 |
| L386 | FUMIGATE ITEMS USING PORTABLE FUMIGATION KITS | 6.90 | 1 | 4 | 3 | 3 |
| A46 | PREPARE INPUT FOR ENVIRONMENTAL PROTECTION IMPACT STATEMENTS | 6.80 | 1 | 8 | 22 | 1 |
| C87 | EVALUATE INDIVIDUALS FOR PROMOTION, DEMOTION, OR RECLASSIFICATION | 6.77 | 1 | 11 | 66 | 1 |
| D130 | WRITE TEST QUESTIONS | 6.77 | 1 | 7 | 21 | 1 |

* Average Task Difficulty = 5.00, with SD of 1.00
** Average Training Emphasis = 3.30, with SD of 1.61

regarded by subject-matter experts as very difficult to learn to do and strongly require some form of structured training for first-term airmen. The training decision that may be drawn from this set of data, tempering the above three factors, could be in favor of providing OJT for fumigation procedures to career ladder members instead of resident training. (For a complete discussion on the derivation of TE and TD ratings please refer to the Task Factor Administration section of this report.)

To facilitate in the evaluation of the AFSC 566X0 Specialty Training Standard (STS) and Plan of Instruction (POI), technical school personnel at Sheppard Technical Training Center matched job inventory tasks to appropriate sections of the STS and POI, dated January 1983 and February 1984, respectively. It was these matchings upon which comparisons to the training documents were based. It should be noted that comments and tables presented in this section pertaining to questionable elements (or lack of elements) in the training documents are intended to highlight what appear to be problem areas. A complete computer listing displaying percent members performing tasks, training emphasis and task difficulty ratings for each task, along with STS and POI matchings, has been forwarded to the technical school for its use in further detailed reviews of training documents. Summaries of that data and information follow.

Because one of the most basic premises for conducting ABR training is to provide the graduate with the necessary skills and knowledge to perform the jobs and tasks most likely to be encountered in the first 4 years of service, an in-depth, detailed evaluation of the first-enlistment group will precede the discussion of the analysis of career ladder training documents. (Data used in the analysis for this section of the OSR may be found in computer listings contained in the TRAINING EXTRACT.)

## Analysis of First-Enlistment Personnel

Nearly one-half of the survey sample and 58 percent of all military respondents are in their first-enlistment and have spent an average of 21 months in the Pest Management career ladder. The average paygrade for these incumbents is E-3; however, 53 percent have been awarded the 5-skill level. These airmen perform an average of 111 tasks in jobs having a difficulty level somewhat below average (JDI=10.34), on the whole. As graphically displayed in Figure 2, the distribution of first-termers in the two major jobs for this AFSC nearly mirrors the distribution of the total sample: the majority of first-enlistment personnel perform the job described as Senior Pest Management Personnel. This is as expected, since the majority of incumbents performing this job have the 5-skill level, as do the majority of first-termers.

The majority of first-termers' job time is spent performing three functions - Managing and Handling Pest Control Materials (Duty F), Maintaining Pest Management Equipment and Facilities (Duty O), and Surveying for Pest Control Requirements (Duty G). Table 13 lists those tasks accounting for the largest percentage of time spent on the job by first-enlistment personnel. Note that only 11 tasks representative of first-termers' job performance are performed by larger percentages of this group than for other experience level

## DISTRIBUTION OF 566X0 FIRST-ENLISTMENT PERSONNEL ACROSS SPECIALTY JOBS

(N = 210)

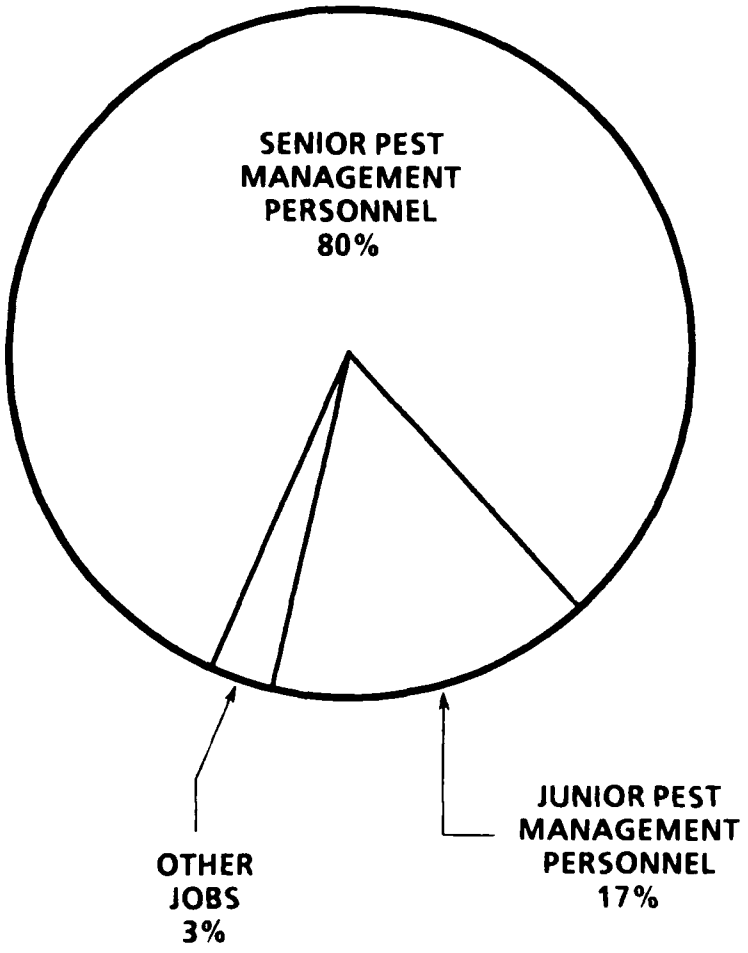


Fig. 2

TABLE 13

REPRESENTATIVE TASKS PERFORMED BY FIRST-ENLISTMENT PERSONNEL
(COMPARISON OF PERCENT MEMBERS PERFORMING ACROSS TAFMS GROUPS)

| TASK | | PERCENT MEMBERS PERFORMING MONTHS TAFMS 1-48 | 49-96 | 97+ |
|---|---|---|---|---|
| *0438 | INSPECT PERSONAL SAFETY EQUIPMENT | 92 | 90 | 88 |
| *0437 | CLEAN, WASH, AND DRY SAFETY EQUIPMENT | 92 | 90 | 86 |
| *F187 | LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES | 91 | 88 | 87 |
| *J347 | DISPOSE OF DEAD ANIMALS | 90 | 82 | 71 |
| *0435 | CLEAN HAND EQUIPMENT | 88 | 86 | 79 |
| *F199 | PREPARE INSECTICIDE EMULSIONS | 87 | 86 | 83 |
| 0446 | PERFORM OPERATOR MAINTENANCE ON COMPRESSED AIR SPRAYERS | 84 | 86 | 85 |
| F209 | TRANSPORT HAND EQUIPMENT | 84 | 92 | 84 |
| F185 | INTERPRET PESTICIDE LABELS | 82 | 86 | 85 |
| 0471 | PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS | 81 | 90 | 88 |
| *0458 | PERFORM OPERATOR MAINTENANCE ON PERSONAL SAFETY EQUIPMENT | 81 | 80 | 77 |
| F178 | DETERMINE INSECTICIDE APPLICATION METHODS | 80 | 86 | 87 |
| *F200 | PREPARE INSECTICIDE SOLUTIONS | 80 | 74 | 58 |
| I325 | APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS | 77 | 94 | 83 |
| 0436 | CLEAN PESTICIDE TANKS OR HOPPERS | 76 | 82 | 72 |
| F189 | MAINTAIN PESTICIDE STORAGE AREAS | 72 | 80 | 82 |
| *F203 | PREPARE RODENT BAITS | 71 | 68 | 46 |
| F179 | DETERMINE RODENTICIDE APPLICATION METHODS | 71 | 84 | 80 |
| *0465 | PERFORM OPERATOR MAINTENANCE ON VEHICLES | 66 | 60 | 65 |
| G231 | CONDUCT SURVEYS FOR HOUSEHOLD PESTS | 65 | 72 | 71 |
| 0439 | ISOLATE MALFUNCTIONS OF HAND EQUIPMENT ITEMS | 65 | 74 | 76 |
| I332 | CLEAN UP AFTER INSECT CONTROL OPERATIONS | 64 | 74 | 57 |
| J356 | PLACE OR INSPECT POISON DOMESTIC RODENT BAITS | 64 | 68 | 57 |
| A52 | SCHEDULE OCCUPIED QUARTERS FOR TREATMENTS | 56 | 74 | 81 |
| *H288 | DRILL CONCRETE SLABS USING POWERED HAMMERS | 56 | 54 | 43 |
| A22 | COORDINATE PESTICIDE TREATMENT OPERATIONS WITH BUILDING OCCUPANTS | 54 | 76 | 83 |
| 0479 | PREOPERATIONALLY CHECK NONPOWERED HAND EQUIPMENT | 51 | 50 | 62 |

* Denotes highest percent first-termers performing

groups. These findings further demonstrate the highly-technical orientation of the Pest Management career ladder, in which most members perform a set of core technical tasks expanding in scope with increased time in service.

Fifty-five percent of these airmen spend 4-11 hours per week driving to and from pest control sites. As a group, they spend more time than other AFMS groups performing vertebrate control tasks. On the other hand, 66 percent of first-enlistment respondents do not perform airfield bird control activities. While five categories for MAJCOM certification seem to be held in common by most members of this AFSC, regardless of geographical location or MAJCOM, substantial percentages of first-termers indicate certification in three: (1) Industrial, Institutional, Structural, and Health-Related; (2) Ornamental ard Turf; and (3) Public Health Pest Control.

Tables 14 and 15 present equipment items and pesticides commonly used by first-term personnel (30 percent or more using). While most of these pesticides are also used by substantial percentages of other experience level groups, some less commonly used pesticides included in the background portion of the job inventory are only used by members having higher experience levels. These include pesticides such as Bromacil, Zinc Phosphide, and Glyphosate. The application of these pesticides by more senior personnel may indicate they are included in a group identified as "Restricted Use Pesticides" that can be applied only by, or under the direct supervision of, a certified pest manager. The standard safety equipment used in pesticide applications or mixing is utilized by substantial percentages of all experience level groups. Some equipment items are not used by either TAFMS groups, such as leaching pits, self-contained breathing apparatus, snake guards, and spark-proof lighting for fumigation operations. While Table 14 indicates 81 percent of first-enlistment personnel use ultra low volume (ULV) generators, 64 percent indicate they have never performed ULV calibration for droplet-size determination.

## Specialty Training Standard (STS)

The current STS for the AFSC 566X0 Pest Management specialty is dated January 1983, with Change 1 effective July 1984 and Change 2 in October 1984. The criteria described in AFR 8-13/ATC Supplement 1 paragraph 3.(4) which states, "Include those tasks or knowledge performed or required by 20 percent or more of the personnel in the AFS", was used as a guideline in the review of the training document. Thus, where 20 percent or more members are performing a task, this task should be matched to an appropriate STS element to be trained through OJT. Tasks with less than 20 percent members performing may be included with proper justification, such as high task difficulty, safety factors, or high training emphasis ratings. Overall, the STS depicts the homogeneity of the jobs described in the career ladder structure of this AFSC, thereby supporting AFR 39-1 specialty descriptions for 3-, 5-, and 7-skill level members. Tasks matched to STS elements invariably show an increase in percent members performing as skill level increases, demonstrating the expanding scope of the primarily technical orientation of jobs in this career ladder.

TABLE 14

EQUIPMENT USED BY 30 PERCENT
OR MORE FIRST-ENLISTMENT PERSONNEL

| EQUIPMENT | PERCENT USING |
|---|---|
| LADDERS | 89 |
| SNAP TRAPS | 88 |
| LIVE ANIMAL TRAPS | 87 |
| AEROSOL BOMBS | 85 |
| COMPRESSED AIR SPRAYERS | 85 |
| MIXING EQUIPMENT | 82 |
| ULTRA LOW VOLUME (ULV) GENERATORS | 81 |
| GLUE TRAPS | 71 |
| HYDRAULIC SPRAYERS (TRAILER MOUNTED) | 71 |
| BULB DUSTERS | 67 |
| CHEMICAL SPILL EQUIPMENT | 64 |
| SPECIMEN DISPLAY CASES | 60 |
| MICROSCOPES | 58 |
| ROTO-HAMMERS | 58 |
| SUBSLAB INJECTORS | 58 |
| GRANULE SPREADERS | 57 |
| HYDRAULIC SPRAYERS (FRAME MOUNTED) | 48 |
| GOPHER TRAPS | 47 |
| HAND DUSTERS (EXCEPT BULB TYPE) | 45 |
| BUFFALO TURBINES | 39 |
| VACUUM CLEANERS | 37 |
| ELECTRIC MISTERS | 35 |
| STEEL TRAPS | 31 |
| HAND PLUNGER DUSTERS | 30 |
| LAWN MOWERS | 30 |

TABLE 15

PESTICIDES USED BY 30 PERCENT
OR BETTER FIRST-ENLISTMENT PERSONNEL

| PESTICIDE | PERCENT USING |
|---|---|
| DIAZINON | 98 |
| DURSBAN | 96 |
| MALATHION | 93 |
| BAYGON | 90 |
| PYRETHRUM | 88 |
| D-PHENOTHRIN | 85 |
| FICAM | 84 |
| SEVIN | 76 |
| DIAZINON DUST | 69 |
| CHLORDANE | 65 |
| 2-4-D | 59 |
| WARFARIN | 59 |
| ALUMINUM PHOSPHIDE | 43 |
| AVITROL | 41 |
| CALCIUM CYANIDE | 39 |
| DIAZINON GRANULES | 31 |
| NAPTHALENE | 31 |
| RESMETHRIN | 30 |
| ROOST-NO-MORE | 30 |

While the majority of STS elements are supported by survey data, several areas are questionable. Some paragraphs and subparagraphs show a lack of consistency in the level of specificity. For example, subparagraphs 6D-6F, and 6J-6P (a total of 10 items) are matched to the same 3 tasks. Although these matched tasks show substantial percent members performing data to support the STS items, they also suggest these areas may need to be condensed due to repetitiveness. STS paragraph 10 also exhibits this type of repetition. The same tasks are matched to each element in this paragraph. In addition, all tasks are performed by predominantly 7-skill level members assuming general contingency responsibilities.

On the other hand, STS line items 7B(1) and 7B(2), which are generally supported by survey data, include many matched tasks with less than 20 percent members performing. Twenty-nine tasks are matched to line item (7B(1)). Twelve of these tasks show percentages below the cut-off point of 20 percent members performing. This paragraph deals with pest management equipment as does paragraph 7C. While paragraph 7C categorizes pest management equipment, the preceeding paragraphs (7B(1) and 7B(2)) are very generalized. If the paragraphs in question are written more specifically, survey data may be better utilized.

In addition, subparagraphs 7C(5) and 7C(7) and related tasks show very low percent members performing all but one general task matched to the element (see Table 16). The most appropriate directly related tasks matched to these STS elements do not meet percent members performing criteria for retention in the STS.

The same broad inconsistencies are found in paragraph 9F having 56 tasks matched to the single STS item. Here again, the paragraphs may be made more specific by outlining the various types of integrated pest management methods based upon the pest or the most representative pest groups, in accordance with AFR 91-21, pages 8-11. The aforementioned STS areas, although most are supported by survey data, should be reviewed by training personnel to enhance the overall effectiveness of the training document.

In the analysis of tasks not referenced to the STS, Table 17 indicates that of the 18 tasks rated average and above in training emphasis, 10 are performed by substantial percentages of Pest Management personnel. These tasks range in difficulty level from very easy to perform, such as "transport hand equipment", to very difficult to learn to do, such as "conduct OJT". Here again, more fumigation functions appear (as a grouping of tasks) high on the list of nonreferenced tasks listed in descending order of TE, discussed in the introductory portion of the TRAINING ANALYSIS section. The majority of the remaining tasks not referenced to the STS and performed by at least 20 percent of the career ladder include those of a "purely" supervisory, training, or administrative nature. Also, groups of tasks pertaining to military quarantine operations are not matched to any portion of the STS. These areas, as well as those specific STS paragraphs mentioned above, should be reviewed by career ladder managers for possible additions or deletions to the STS.

TABLE 16

EXAMPLES OF STS ELEMENTS REQUIRING REVIEW

| TASK | | PERCENT MEMBERS PERFORMING | | |
|---|---|---|---|---|
| | | 1ST ENL | 56650 | 56670 |
| 7C(5) | OPERATE MANUAL FRIGHTENING DEVICES | | | |
| J363 | SCARE BIRDS WITH 12-GAUGE SHOTGUNS AND SCARE CARTRIDGES | 9 | 9 | 10 |
| J354 | OPERATE GAS CANNONS | 7 | 7 | 13 |
| J362 | SCARE BIRDS WITH M-1 FLARE PISTOLS OR M-74 SIMULATOR AIRBURSTS | 4 | 6 | 8 |
| B64 | DIRECT UTILIZATION OF EQUIPMENT | 22 | 38 | 77 |
| 7C(7) | OPERATE MANUAL FUMIGATION EQUIPMENT | | | |
| L395 | TEST FUMIGATED AREAS FOR SAFE REENTRY | 7 | 11 | 15 |
| L396 | TEST GAS CONCENTRATIONS DURING FUMIGATION | 7 | 11 | 11 |
| L379 | AERATE FUMIGATED AREAS | 5 | 9 | 15 |
| L380 | CLEAR FUMIGATED RAIL CARS | 0 | 1 | 3 |
| B64 | DIRECT UTILIZATION OF EQUIPMENT | 22 | 38 | 77 |
| 7F | MAKE ENTRIES IN EQUIPMENT INSPECTION GUIDE AND TROUBLE REPORT | | | |
| (NO TASKS MATCHED TO THIS ITEM) | | | | |

TABLE 17

EXAMPLES OF TASKS NOT REFERENCED TO AFSC 566X0 STS

| TASKS | | TNG EMP* | PERCENT MEMBERS PERFORMING 1ST ENL | 56650 | 56670 | TASK DIF** |
|---|---|---|---|---|---|---|
| F210 | TRANSPORT PESTICIDES | 6.39 | 88 | 91 | 86 | 3.01 |
| F209 | TRANSPORT HAND EQUIPMENT | 5.63 | 84 | 87 | 86 | 2.33 |
| F187 | LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES | 5.39 | 91 | 92 | 87 | 2.17 |
| I332 | CLEAN UP AFTER INSECT CONTROL OPERATIONS | 4.84 | 64 | 63 | 63 | 3.87 |
| J347 | DISPOSE OF DEAD ANIMALS | 4.19 | 90 | 84 | 74 | 2.33 |
| L392 | PREPARE STACKS FOR FUMIGATION | 4.12 | 9 | 10 | 11 | 5.92 |
| C100 | INSPECT EQUIPMENT STORAGE AREAS | 4.07 | 34 | 50 | 82 | 4.41 |
| L397 | TURN OFF IGNITION SOURCES AND ELECTRICAL POWER SOURCES PRIOR TO FUMIGATION PROCEDURES | 3.98 | 7 | 10 | 5 | 4.44 |
| I311 | APPLY LIQUID INSECTICIDES BY BRUSHING | 3.77 | 15 | 16 | 16 | 4.17 |
| N423 | INSPECT CARGO FOR PESTS | 3.77 | 8 | 10 | 19 | 5.23 |
| L394 | SEAL BUILDING DOORS, WINDOWS, OR VENTS USING GAS TIGHT TAPE | 3.74 | 2 | 5 | 2 | 5.35 |
| N424 | INSPECT CARGO PACKING MATERIAL FOR PESTS | 3.65 | 3 | 5 | 10 | 5.05 |
| L389 | PLACE OR REMOVE TARPS FROM BUILDINGS, STACKS, OR VEGETATED AREAS | 3.58 | 11 | 14 | 13 | 5.06 |
| D111 | CONDUCT OJT | 3.56 | 19 | 40 | 73 | 6.17 |
| L393 | REMOVE SEALS FROM BUILDING DOORS, WINDOWS, OR VENTS | 3.56 | 1 | 4 | 5 | 4.57 |
| N432 | PREPARE AIRCRAFT FOR TREATMENTS | 3.47 | 3 | 6 | 11 | 5.60 |
| G238 | COORDINATE WITH OTHER ORGANIZATIONS ON IDENTIFICATION OF PESTS | 3.42 | 24 | 35 | 63 | 4.98 |
| D116 | DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION | 3.33 | 6 | 25 | 63 | 5.07 |

* Training Emphasis Average Rating = 3.30, with SD of 1.61
** Task Difficulty Average Rating = 5.00, with SD of 1.00

## Plan of Instruction (POI)

This 6-week, 2-day course is intended to provide the basic skills and knowledges required for controlling a variety of pests, to include animal and vegetation groups, collecting and identifying live or mounted specimens, determining pest control measures, operating and maintaining pesticide dispersal equipment, performing BASH suppression techniques, and utilizing pesticide formulations. Completion of this initial skills course is mandatory for award of the 3-skill level. Ninety-one percent of first-enlistment respondents indicate they have completed this course. As AFSC 566X0 personnel progress in experience, supplemental courses are available to train them on more advanced pest management operations. These courses are also available for civilian member counterparts to this AFSC. A complete list of these courses is presented in the INTRODUCTION of this report.

A similar method to that described in the analysis of the STS, using tasks matched by personnel from Sheppard Technical Training Center, was also used in the evaluation of POI for course J3ABR56630, dated 1 February 1984, with Change 1 dated 30 January 1985. As stipulated in ATCR 52-22, data pertaining to TE and TD ratings, as well as percent members performing information for first-job (1-24 months TAFMS) assignment and first-enlistment (1-48 months TAFMS) personnel, are the basic considerations in designing ABR training programs. Hence, for tasks having a high probability of performance (better than 30 percent members performing), ABR course training should be considered. Of course, this decision must be tempered with the difficulty level of the task and the amount of training emphasis recommended by subject-matter experts in the field.

Many objectives within three of the four POI blocks are not supported by survey data. As displayed in Table 18, the basis for nonsupport of these objectives is primarily attributed to less than 30 percent members performing matched tasks. Block I, which deals with instruction on general standards, is well supported by survey data. However, the remaining blocks of instruction concerning Medical Pest Management (Block II), Industrial and Institutional Pest Management (Block III), and Vegetation Management (Block IV) present several problem areas that require review by career ladder training personnel.

For example, in reference to Block II 3A in Table 18, the matched task indicates less than 30 percent performing in the target population, although both task factors are high. This unit of instruction accounts for 8 training hours. In addition, the STS reference to this objective indicates technical school training to the 2b level (partially proficient in performance and can determine the procedures to accomplish the task). Adherence to the guidelines in ATCR 52-22 (Course Training Decision Table) suggests training of this task by OJT, based on low probability of performance, unless otherwise justified.

Many objectives in other blocks of instruction show this same pattern. Other questionable POI areas are those having multiple tasks matched to the objective, and only one general task, such as a safety task, meeting percent members performing criteria. Block III 2C, as presented in Table 19, provides an example of this occurrence. Tasks specifically related to fumigation operations not only show low percentages of first-termers performing, but also

TABLE 18

POI BLOCKS REFLECTING LOW 566X0 FIRST-ENLISTMENT TASK PERFORMANCE
(LESS THAN 30 PERCENT PERFORMING)

| POI BLOCK/UNIT/TIME AND MATCHED TASKS | TNG EMP* | TSK DIFF** | PERCENT MEMBERS PERFORMING 1ST JOB (N=115) | PERCENT MEMBERS PERFORMING 1ST ENL (N=210) |
|---|---|---|---|---|
| II 3A GIVEN REFERENCES AND FIVE DISEASE VECTORING FLEA SPECIMENS, IDENTIFY EACH SPECIMEN (8 HOURS) | | | | |
| G244 IDENTIFY ECTOPARASITES | 4.58 | 5.78 | 18 | 21 |
| IV 7A GIVEN REFERENCES AND FIVE ORNAMENTAL PEST SPECIMENS, IDENTIFY EACH SPECIMEN. THREE MUST BE CORRECT (2 HOURS) | | | | |
| G246 IDENTIFY HORTICULTURAL PESTS | 4.14 | 5.67 | 15 | 18 |
| IV 9C GIVEN REFERENCES AND THREE HYPOTHETICAL PROBLEMS CONCERNING CONTROL OF ORNAMENTAL AND TURF PLANT DISEASES, SELECT THE APPROPRIATE INTEGRATED PEST MANAGEMENT PROCEDURE FOR CONTROL OF EACH PROBLEM (1 HOUR) | | | | |
| F176 DETERMINE FUNGICIDE APPLICATION METHODS | 3.19 | 6.11 | 11 | 12 |
| K371 APPLY LIQUID FUNGICIDE SUSPENSIONS TO TURF | 2.84 | 4.99 | 14 | 13 |
| K368 APPLY FUNGICIDE EMULSIONS TO ORNAMENTALS | 2.74 | 5.19 | 7 | 8 |

TABLE 19

EXAMPLES OF OTHER POI AREAS REQUIRING REVIEW

| POI BLOCK/UNIT/TIME AND MATCHED TASKS | | TNG EMP* | TSK DIFF** | PERCENT MEMBERS PERFORMING 1ST JOB | PERCENT MEMBERS PERFORMING 1ST ENL |
|---|---|---|---|---|---|
| III 2C GIVEN REFERENCES, SAFETY EQUIPMENT, FUMIGATION DETECTION EQUIPMENT, AND A DESIGNATED AREA, IMPLEMENT THE PROPER INTEGRATED PEST MANAGEMENT PROCEDURES FOR CONTROL OF STORED FOOD PESTS WITH INSTRUCTOR ASSISTANCE (6 HOURS) | | | | | |
| F190 | PLACE OR REMOVE WARNING SIGNS | 4.56 | 2.91 | 24 | 37 |
| L395 | TEST FUMIGATED AREAS FOR SAFE REENTRY | 4.42 | 6.45 | 5 | 7 |
| L396 | TEST GAS CONCENTRATIONS DURING FUMIGATION | 4.33 | 6.17 | 4 | 7 |
| L381 | DISPOSE OF SOLID FUMIGANT RESIDUES | 4.19 | 6.10 | 1 | 2 |
| L383 | FUMIGATE AREAS BY PLACING SOLID FUMIGANTS | 4.12 | 6.57 | 16 | 21 |
| L392 | PREPARE STACKS FOR FUMIGATION | 4.12 | 5.92 | 7 | 9 |
| L397 | TURN OFF IGNITION SOURCES AND ELECTRICAL POWER SOURCES PRIOR TO FUMIGATION PROCEDURES | 3,98 | 4.44 | 4 | 7 |
| L379 | AERATE FUMIGATED AREAS | 3.95 | 5.44 | 3 | 5 |
| L394 | SEAL BUILDING DOORS, WINDOWS, OR VENTS USING GAS TIGHT TAPE | 3.74 | 5.35 | 2 | 2 |
| L389 | PLACE OR REMOVE TARPS FROM BUILDINGS, STACKS, OR VEGETATED AREAS | 3.58 | 5.06 | 4 | 11 |
| L393 | REMOVE SEALS FROM BUILDING DOORS, WINDOWS, OR VENTS | 3.56 | 4.57 | 0 | 1 |
| L380 | CLEAR FUMIGATED RAIL CARS | 3.47 | 6.22 | 0 | 0 |
| L382 | FUMIGATE AREAS BY PLACING DUST FUMIGANTS | 3.40 | 6.36 | 4 | 8 |
| L388 | GUARD FUMIGATED AREAS | 3.37 | 4.53 | 1 | 2 |

* Training Emphasis Average Rating = 3.30, with SD of 1.61
** Task Difficulty Average Rating = 5.00, with SD of 1.00

show low performance across skill-level groups, as discussed in the analysis of the STS (paragraphs 7C(7) and 9F). This suggests that, while these tasks do require training, perhaps centralized training is not the most appropriate place to furnish this training.

Tasks not referenced to any section of the POI are extensive. However, the majority of the tasks not referenced are performed by fewer than 30 percent first-job or first-enlistment personnel. Ninety-four nonreferenced tasks are rated average to high in TE; of these, 39 are performed by substantial percentages of first-termers. Groupings of these tasks identify areas such as equipment maintenance, administrative, and planning functions (see Table 20). Training personnel are encouraged to review those tasks not referenced to POI 56630 to determine whether it is most appropriate to provide coverage in the initial skills course or in some other form of training.

### Training Analysis Summary

The greatest percentage of first-enlistment personnel perform a range of tasks, although somewhat limited, descriptive of the job identified for Senior Pest Management Personnel. This parallels the distribution of the career ladder as a whole. Unlike their more experienced counterparts who indicate MAJCOM certification in five representative areas of pest management, the majority of first-termers are certified in: (1) Industrial, Institutional, Structural and Health-Related, (2) Ornamental and Turf, and (3) Public Health Pest Control.

Overall, STS paragraphs and subparagraphs are well supported by survey data, depicting the broadening scope of these technically-oriented jobs with career ladder progression. Several areas of the STS are inconsistent or repetitive. Review of these areas by career ladder managers may result in some revisions and a more effective document. On the other hand, the POI requires extensive review of Blocks II-IV and tasks not referenced. While substantial percentages of first-enlistment personnel are certified in Public Health Pest Control, the POI block under which related subject matter is taught (Block II; Medical Pest Management) reveals many task performance objectives which are not supported by survey data. This type of in-depth review of the data may result in revisions, such as streamlining, redirection of emphasis in other areas, or improvements in cost-effectiveness for the basic course, all of which may improve the quality of the graduate.

## JOB SATISFACTION

Jobs may change over time for many reasons, such as mergers, splits, or shreds within or between AFSCs, thereby affecting the jobs of the individuals supporting these specialties. The results of job satisfaction responses of the current survey sample were analyzed via several comparisons: (1) across specialty job groups identified in the Career Ladder Structure section of this report; (2) between TAFMS groups of a comparative sample of personnel from

TABLE 20

TASKS WITH HIGH TRAINING EMPHASIS NOT REFERENCED TO POI 3ABR56630
(PERCENT MEMBERS PERFORMING)

| TASK | | TNG EMP* | TAFMS MEMBERS 1-24 MOS | TAFMS MEMBERS 1-48 MOS | TASK DIFF** |
|---|---|---|---|---|---|
| F210 | TRANSPORT PESTICIDES | 6.39 | 80 | 88 | 3.01 |
| 0484 | PREOPERATIONALLY CHECK SHOP SAFETY EQUIPMENT | 6.30 | 70 | 74 | 4.02 |
| 0490 | PREPARE PEST MANAGEMENT EQUIPMENT FOR STORAGE | 5.79 | 31 | 42 | 4.64 |
| 0491 | REMOVE PEST MANAGEMENT EQUIPMENT FROM WINTER STORAGE | 5.63 | 78 | 84 | 2.33 |
| F209 | TRANSPORT HAND EQUIPMENT | 5.39 | 88 | 91 | 2.27 |
| F187 | LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES | 5.26 | 10 | 13 | 5.38 |
| 0461 | PERFORM OPERATOR MAINTENANCE ON SKID-MOUNTED HYDRAULIC SPRAYERS | 5.23 | 79 | 80 | 3.91 |
| P498 | DRIVE VEHICLES DURING PESTICIDE APPLICATIONS | 5.12 | 52 | 58 | 6.07 |
| F177 | DETERMINE HERBICIDE APPLICATION METHODS | 5.12 | 24 | 31 | 5.14 |
| 0460 | PERFORM OPERATOR MAINTENANCE ON POWERED HAND EQUIPMENT | 5.07 | 24 | 33 | 4.18 |
| 0487 | PREOPERATIONALLY CHECK SUBSLAB INJECTION UNITS | 5.05 | 15 | 16 | 4.40 |
| 0485 | PREOPERATIONALLY CHECK SKID-MOUNTED HYDRAULIC SPRAYERS | 5.00 | 33 | 39 | 4.21 |
| 0483 | PREOPERATIONALLY CHECK POWERED HAND EQUIPMENT | 4.91 | 51 | 56 | 2.87 |
| E148 | MAKE ENTRIES ON AF FORMS 1800 (OPERATOR'S INSPECTION GUIDE AND TROUBLE REPORT (GENERAL PURPOSE VEHICLE)) | | | | |

* Training Emphasis Average Rating = 3.30, with SD of 1.61
** Task Difficulty Average Rating = 5.00, with SD of 1.00

other Direct Support specialties surveyed in 1985 (Electrician (AFSC 542X0) and Combat Arms Training and Maintenance (AFSC 753X0)); and (3) between TAFMS groups of the previous survey. A review of job satisfaction indicators can aid training and utilization personnel in determining trends or identifying perceptions of work environments rendered by incumbents, as well as their attitudes in areas such as training, use of talents, and reenlistment intentions. Write-in comments were also reviewed to identify any areas of concern expressed by career ladder members. While 51 respondents used the write-in feature primarily to furnish information on additional pest management courses completed, only one comment imparted negative utilization sentiments.

Members performing the two major jobs operating within this career ladder (Senior Pest Management Personnel and Junior Pest Management Personnel) indicate high job satisfaction levels in all areas. As presented in Table 21, it may be concluded that there is a positive correspondence between experience level and job satisfaction level. As incumbents gain more experience in the career field and obtain additional skills and knowledge, such as through certification and advanced courses, the opportunity to expand the scope of their job by functioning as "fully-qualified" pest managers may account for the increased levels of job satisfaction indicated by the more senior members of this career ladder. Reenlistment intentions are comparable for members of both jobs.

In the comparison of job satisfaction data with a comparative sample of the Direct Support AFSCs surveyed in 1985, first-enlistment Pest Management respondents indicate lower levels on all indices, with the exception of perceived utilization of training (see Table 22). Job interest and perceived utilization of talents increases after the first enlistment and is somewhat higher than that of the comparative sample by the time career status is reached. On the other hand, somewhat smaller percentages of Pest Management personnel across all enlistment groups indicate positive intentions to reenlist.

Table 23 provides a comparison of job satisfaction information between experience groups in the current sample and those of the previous survey. Here again, job interest is somewhat lower for first-termers of the current sample, but shows an increase after the first enlistment. Generally, job satisfaction indicators are higher in all areas for members in the current sample, although no problem areas were identified in the last survey.

## ISSUES AND SURVEY CONSIDERATIONS

### Geographical Differences

The largest percentage of career ladder personnel perform pest management functions within the Southwest region. As Table 24 indicates, the career ladder as a whole, despite geographical region assigned, spends the majority of their job time primarily performing three duties: Managing and Handling Pest

TABLE 21

JOB SATISFACTION INFORMATION FOR PEST MANAGEMENT SPECIALTY JOBS
(PERCENT MEMBERS RESPONDING*)

| | TOTAL SAMPLE (N=452) | JUNIOR PEST MANAGEMENT PERSONNEL (GRP024, N=39) | SENIOR PEST MANAGEMENT PERSONNEL (GRP026, N=382) |
|---|---|---|---|
| EXPRESSED JOB INTEREST: | | | |
| INTERESTING | 76% | 69% | 77% |
| SO-SO | 14% | 15% | 15% |
| DULL | 9% | 15% | 8% |
| PERCEIVED UTILIZATION OF TALENTS: | | | |
| FAIRLY WELL TO PERFECTLY | 79% | 72% | 80% |
| LITTLE OR NOT AT ALL | 20% | 26% | 19% |
| PERCEIVED USE OF TRAINING: | | | |
| FAIRLY WELL TO PERFECTLY | 90% | 87% | 91% |
| LITTLE OR NOT AT ALL | 10% | 13% | 9% |
| REENLISTMENT INTENTIONS: | | | |
| YES, OR PROBABLY YES | 51% | 51% | 51% |
| NO, OR PROBABLY NO | 24% | 46% | 23% |

* Columns may not add to 100 percent due to nonresponse or rounding

TABLE 22

COMPARISON OF JOB SATISFACTION INDICATORS BY TAFMS GROUPS
(PERCENT MEMBERS RESPONDING*)

| | MONTHS TAFMS | | | | | |
|---|---|---|---|---|---|---|
| | 1-48 | | 49-96 | | 97+ | |
| | 566X0 (N=210) | COMP SAMPLE** (N=714) | 566X0 (N=50) | COMP SAMPLE (N=348) | 566X0 (N=98) | COMP SAMPLE (N=532) |
| EXPRESSED JOB INTEREST: | | | | | | |
| INTERESTING | 63% | 81% | 80% | 80% | 83% | 80% |
| SO-SO | 21% | 11% | 16% | 11% | 10% | 11% |
| DULL | 15% | 6% | 4% | 9% | 7% | 9% |
| PERCEIVED UTILIZATION OF TALENTS: | | | | | | |
| FAIRLY WELL TO PERFECTLY | 69% | 84% | 84% | 84% | 86% | 84% |
| LITTLE OR NOT AT ALL | 31% | 16% | 16% | 16% | 13% | 16% |
| PERCEIVED USE OF TRAINING: | | | | | | |
| FAIRLY WELL TO PERFECTLY | 89% | 88% | 92% | 83% | 82% | 81% |
| LITTLE OR NOT AT ALL | 11% | 12% | 8% | 17% | 18% | 19% |
| REENLISTMENT INTENTIONS: | | | | | | |
| YES, OR PROBABLY YES | 57% | 66% | 70% | 81% | 76% | 79% |
| NO, OR PROBABLY NO | 41% | 31% | 30% | 18% | 5% | 4% |

* Columns may not add up to 100 percent due to nonresponse or rounding
** Includes direct support AFSCs 542X0 and 753X0 surveyed in 1985

TABLE 23

COMPARISON OF JOB SATISFACTION DATA
BETWEEN 1981 AND CURRENT SURVEY
(PERCENT MEMBERS RESPONDING*)

| | MONTHS TAFMS | | | | | |
|---|---|---|---|---|---|---|
| | 1-48 | | 49-96 | | 97+ | |
| | CURRENT SAMPLE (N=210) | PREVIOUS SURVEY (N=124) | CURRENT SAMPLE (N=50) | PREVIOUS SURVEY (N=43) | CURRENT SAMPLE (N=98) | PREVIOUS SURVEY (N=75) |
| EXPRESSED JOB INTEREST: | | | | | | |
| INTERESTING | 63% | 66% | 80% | 75% | 83% | 81% |
| SO-SO | 21% | 14% | 16% | 14% | 10% | 9% |
| DULL | 15% | 20% | 4% | 9% | 7% | 7% |
| PERCEIVED UTILIZATION OF TALENTS: | | | | | | |
| FAIRLY WELL TO PERFECTLY | 69% | 65% | 84% | 68% | 86% | 80% |
| LITTLE OR NOT AT ALL | 31% | 35% | 16% | 30% | 13% | 20% |
| PERCEIVED USE OF TRAINING: | | | | | | |
| FAIRLY WELL TO PERFECTLY | 89% | 76% | 92% | 77% | 82% | 84% |
| LITTLE OR NOT AT ALL | 11% | 23% | 8% | 21% | 18% | 15% |
| REENLISTMENT INTENTIONS: | | | | | | |
| YES, OR PROBABLY YES | 57% | 48% | 70% | 65% | 76% | 68% |
| NO, OR PROBABLY NO | 41% | 51% | 30% | 30% | 5% | 29% |

* Columns may not add to 100 percent due to nonresponse or rounding

TABLE 24

AVERAGE PERCENT TIME SPENT PERFORMING DUTIES ACROSS GEOGRAPHICAL REGIONS

| DUTY TITLE | ALASKAN THEATER (N=10) | CONUS, NORTH CENTRAL (N=46) | CONUS, NORTH EAST (N=45) | CONUS, NORTH WEST (N=56) | CONUS, SOUTH CENTRAL (N=51) | CONUS, SOUTH EAST (N=72) | CONUS, SOUTH WEST (N=96) | EUROPEAN THEATER (N=30) | PACIFIC THEATER (N=40) |
|---|---|---|---|---|---|---|---|---|---|
| A ORGANIZING AND PLANNING | 10 | 10 | 9 | 10 | 10 | 8 | 10 | 15 | 10 |
| B DIRECTING AND IMPLEMENTING | 7 | 4 | 6 | 4 | 4 | 4 | 4 | 6 | 4 |
| C INSPECTING AND EVALUATING | 4 | 4 | 5 | 3 | 5 | 5 | 4 | 6 | 4 |
| D TRAINING | 1 | 2 | 1 | 2 | 4 | 2 | 2 | 2 | 2 |
| E PERFORMING ADMINISTRATIVE FUNCTIONS | 8 | 6 | 7 | 6 | 6 | 6 | 6 | 9 | 7 |
| F MANAGING AND HANDLING PEST CONTROL MATERIALS | 19 | 18 | 16 | 18 | 17 | 16 | 19 | 18 | 16 |
| G SURVEYING FOR PEST CONTROL REQUIREMENTS | 13 | 15 | 12 | 14 | 14 | 14 | 14 | 13 | 12 |
| H PERFORMING TERMITE CONTROL FUNCTIONS | 2 | 4 | 3 | 3 | 6 | 6 | 6 | * | 9 |
| I PERFORMING INSECT CONTROL FUNCTIONS (EXCEPT TERMITES) | 8 | 10 | 9 | 10 | 8 | 9 | 9 | 7 | 8 |
| J PERFORMING VERTEBRATE CONTROL FUNCTIONS | 5 | 5 | 6 | 6 | 4 | 5 | 5 | 5 | 5 |
| K PERFORMING MOLLUSK, FUNGI, AND MOLD CONTROL | * | * | * | * | * | * | * | * | * |
| L FUMIGATING FOR PEST CONTROL | 0 | * | 1 | * | 1 | 1 | 1 | 1 | 4 |
| M PERFORMING VEGETATION CONTROL FUNCTIONS | 1 | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 1 |
| N PERFORMING MILITARY QUARANTINE INSPECTIONS AND PEST CONTROL | * | * | 1 | * | 1 | * | * | * | * |
| O MAINTAINING PEST MANAGEMENT EQUIPMENT AND FACILITIES | 19 | 17 | 17 | 18 | 15 | 16 | 14 | 15 | 13 |
| P PERFORMING GENERAL FUNCTIONS | 3 | 3 | 3 | 3 | 3 | 4 | 2 | 2 | 3 |

* Denotes less than 1 percent

Control Equipment and Facilities (Duty F), Surveying for Pest Control Requirements (Duty G), and Maintaining Pest Management Equipment and Facilities (Duty O). This is especially the case for the three divisions of the Northern CONUS regions. CONUS Southern divisions show more diversification and spend more time on termite control functions than members in the Northern tier. Personnel stationed in the Pacific theater spend a greater percentage of their job time performing fumigation operations than any other location. While members stationed across the various geographical regions may spend more time performing specific pest management activities based on mission and peculiarities of that region, overall, no substantial differences in task performance were noted. Generally, members perform the full range of tasks included in the job inventory.

## MAJCOM Certification

Of the 452 members responding to the survey, 90 (20 percent) indicate they do not hold MAJCOM certification in any pest management category. A shift in the emphasis on certification to different categories since the last survey may be an indication of revisions to Pest Management regulating publications and directives. The category of Agricultural Pest Control, Animal, held by substantial percentages of the career ladder in 1981, is now held by only 10 percent of the survey sample (see Table 25). Two categories, Right-of-Way and Aquatic Pest Control, held by small percentages of the previous survey sample, are among the five most commonly held categories of certification currently required by MAJCOMs.

## Bird Air Strike Hazard (BASH) Control

The control of flocks of wild bird pests in and around airfields presents a special pest control requirement for reducing the risk of BASH for Air Force personnel in low flying aircraft. Responses to background information indicate that 66 percent of first-enlistment personnel, 62 percent of 5-skill levels, and 47 percent of all 7-skill level members do not spend any amount of their job time performing airfield bird control activities. Of those members responding affirmatively, 23 percent of first-termers, 25 percent of 5-skill levels, and 42 percent of 7-skill level members spend 1-3 hours per week performing BASH activities. Also, several members indicated in the write-in section of the inventory that they monitor bird control contracts. The STS paragraph which specifically addresses bird control for airfields (9H), contains matched tasks representative of this activity. The majority of these tasks are performed by substantially larger percentages of 7-skill level members. The largest aggregates of 7-skill level members are assigned to bases in the Southwest and Southeast geographical regions. Hence, the conclusion may be drawn that BASH surveillance programs are more predominant in these regions. In fact, this conclusion coincides with the results of the last survey, which indicated that smaller percentages of respondents assigned to duty stations in the Northwestern United States performed those tasks which involved the surveillance and control of birds directly. Likewise, current

TABLE 25

CURRENT MAJCOM CERTIFICATION HELD BY 566X0 PERSONNEL
(PERCENT RESPONDING)

| CERTIFICATION CATEGORY | TOTAL SAMPLE |
|---|---|
| AERIAL APPLICATION PEST CONTROL | 3% |
| AGRICULTURAL PEST CONTROL, ANIMAL | 10% |
| AGRICULTURAL PEST CONTROL, PLANT | 17% |
| AQUATIC PEST CONTROL | 41% |
| DEMONSTRATION AND RESEARCH PEST CONTROL | 2% |
| FOREST PEST CONTROL | 5% |
| INDUSTRIAL, INSTITUTIONAL, STRUCTURAL, AND HEALTH-RELATED PEST CONTROL | 73% |
| ORNAMENTAL AND TURF PEST CONTROL | 69% |
| PUBLIC HEALTH PEST CONTROL | 66% |
| REGULATORY PEST CONTROL | 8% |
| RIGHT-OF-WAY PEST CONTROL | 43% |
| SEED TREATMENT PEST CONTROL | 3% |
| NO CURRENT CERTIFICATION HELD | 20% |

Note: Percentages do not add up to 100 because some members hold multiple certification

data show larger percentages of career ladder members located in these regions spend more time performing BASH tasks than their counterparts in the Northern divisions.

## Write-In Comments

Respondents are encouraged to utilize blank pages at the end of each inventory booklet to write in additional information which they were unable to classify in given categories of the background section or tasks which were not included in the inventory. Also, they are given the opportunity to express their perceptions about problems in the career ladder. Of the 51 respondents to utilize the write-in feature, 22 (43 percent) furnished information centering around advanced pest management training. Common courses completed by substantial percentages of respondents and not included in the background section of the inventory included the following: (1) Pest Control Technology correspondence course from Purdue University; (2) BASH course offered by the Air Force; and (3) DOD Aerial Application Pest Control from Rickenbacher Air Force Station.

Other comments included tasks not included in the inventory. However, these tasks did not prove to be representative of a large number of individuals and may indicate the uniqueness of some members' jobs.

As stated earlier, only one write-in comment was negative. The respondent was dissatisfied with the limited scope of his/her job, in spite of holding certification in multiple MAJCOM categories.

# IMPLICATIONS

One of the primary purposes for conducting this survey was to assess the impact or trends in the AFSC based on changes in Pest Management directives. These findings were gathered primarily in the review of MAJCOM certification. It is evident the emphasis has shifted since 1981, away from certification in the Agricultural Pest Control, Animal category, to include two other areas: Right-of-Way and Aquatic Pest Control, thus broadening the scope of responsibility for the qualified pest manager. Consequently, first-enlistment personnel are performing a wider range of core technical tasks, in comparison to their counterparts in the last survey. This may be partially attributed to the availability of advanced courses offered to pest management personnel as they progress in experience and service time.

Analysis of the current career ladder structure suggests there have been very few changes, overall, in the Pest Management career ladder since the previous survey in 1981. The major focus of the two primary jobs (Senior Pest Management Personnel and Junior Pest Management Personnel) operating within this career ladder is rooted in a technical orientation. Jobs show an increase in scope as incumbents gain experience and time in service. Three factors account for the differences between career ladder jobs: (1) number of

tasks performed, (2) time spent on those tasks, and (3) experience level. Hence, survey data support the current classification structure. Furthermore, although some minor differences in time spent on groupings of tasks exist between military and civilian members, on the whole, they perform the same jobs.

Evaluation of training documents supporting this classification structure, to include AFR 39-1 Specialty Descriptions, STS, and POI, reveals a training program that, overall, is working quite well. The generally high positive responses regarding utilization of training and other job satisfaction indices tend to support this conclusion. Still, some adjustments to the STS and POI, as addressed in the TRAINING ANALYSIS section of this report, require consideration by technical training personnel, subject-matter experts, and career ladder functional managers.

The most significant problem identified in the training system was in the AFSC 566X0 ABR course, where many objectives are not supported by survey data. Of particular notice is, that while substantial percentages of first-enlistment members are certified in Public Health, the POI block of instruction under which this training is covered (Block II), and which accounts for 44 hours of training time, reveals many task performance objectives not supported by survey data. The performance of fumigation operations is another major area with lack of support in the STS as well as the POI. Very few career ladder members across the various skill levels and experience groups perform fumigation tasks. In the case of the POI, substantial time and money savings may result by training only those tasks which at least meet training guideline criteria, tempering percent members performing and task factor ratings (refer to STS and POI computer printouts in TRAINING EXTRACT), with input from subject-matter experts.

# APPENDIX A

## REPRESENTATIVE TASKS FOR CAREER LADDER STRUCTURE GROUPS

TABLE I

GROUP ID NUMBER AND TITLE: 026, SENIOR PEST MANAGEMENT PERSONNEL CLUSTER
GROUP SIZE: 382 PERCENT OF SAMPLE: 85
AVERAGE PAYGRADE: E-4 PERCENT OF MILITARY MEMBERS: 79
AVERAGE TAFMS: 73 MONTHS PERCENT OF CIVILIAN MEMBERS: 21
AVERAGE TICF: 79 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS | | PERCENT MEMBERS PERFORMING |
|---|---|---|
| F179 | DETERMINE RODENTICIDE APPLICATION METHODS | 88 |
| G231 | CONDUCT SURVEYS FOR HOUSEHOLD PESTS | 79 |
| F204 | RESEARCH AFM 91-16 FOR PESTICIDE CONTROL RECOMMENDATIONS | 79 |
| F206 | REVIEW AFR 91-21 TO DETERMINE PEST MANAGEMENT PROCEDURES | 75 |
| A22 | COORDINATE PESTICIDE TREATMENT OPERATIONS WITH BUILDING OCCUPANTS | 75 |
| I334 | EVALUATE EFFECTIVENESS OF INSECTICIDE APPLICATIONS | 74 |
| F184 | INSPECT CONTAINERS AND CONTENTS FOR SERVICEABILITY AND EXPIRATION DATE | 73 |
| G255 | INSPECT BUILDING SITES FOR STRUCTURAL PESTS | 73 |
| J365 | TRAP DOMESTIC RODENTS | 70 |
| G264 | INSPECT HOUSING AREAS FOR DOMESTIC RODENT INFESTATION | 69 |
| A26 | COORDINATE WORK ACTIVITIES WITH OTHER CIVIL ENGINEERING (CE) SHOPS | 69 |
| C102 | INSPECT PESTICIDE STORAGE AREAS | 68 |
| G261 | INSPECT FOR FIELD RODENT INFESTATIONS | 65 |
| B61 | DIRECT HANDLING, TRANSPORTING, OR STORING OF PESTICIDES | 64 |
| 0463 | PERFORM OPERATOR MAINTENANCE ON ULV GENERATORS | 58 |
| A53 | SCHEDULE PERIODIC INSECT INSPECTIONS OR SURVEYS, OTHER THAN TERMITES | 57 |
| F188 | MAINTAIN OPERATING SUPPLY LEVELS OF PESTICIDES | 55 |
| F173 | DETERMINE BIRD CONTROL METHODS | 55 |
| A4 | ADVISE APPROPRIATE AGENCIES ON INSECT CONTROL MEASURES, OTHER THAN TERMITES | 55 |
| E154 | MAKE ENTRIES ON AF FORMS 290 (TRANSCRIPT FOR PEST REPORT) | 52 |
| G224 | CONDUCT SURVEYS FOR BIRD PESTS | 50 |
| B76 | SUPERVISE APPRENTICE PEST MANAGEMENT PERSONNEL (AFSC 56630) | 49 |
| A8 | ATTEND MEETINGS, CONFERENCES, OR WORKSHOPS | 49 |
| A45 | PLAN WORK ASSIGNMENTS | 47 |
| 0441 | OVERHAUL PESTICIDE PUMPS | 45 |
| D111 | CONDUCT OJT | 44 |
| A50 | REVIEW PEST CONTROL REPORTS | 43 |
| A3 | ADVISE APPROPRIATE AGENCIES ON BIRD PROOFING MEASURES | 33 |
| D123 | EVALUATE OJT TRAINEES | 33 |

TABLE IA

GROUP ID NUMBER AND TITLE: 068, PEST MANAGEMENT TECHNICIAN - SUPERVISORS
GROUP SIZE: 208 PERCENT OF SAMPLE: 46
AVERAGE PAYGRADE: E-4 PERCENT OF MILITARY MEMBERS: 73
AVERAGE TAFMS: 94 MONTHS PERCENT OF CIVILIAN MEMBERS: 27
AVERAGE TICF: 95 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS | | PERCENT MEMBERS PERFORMING |
|---|---|---|
| F178 | DETERMINE INSECTICIDE APPLICATION METHODS | 98 |
| F185 | INTERPRET PESTICIDE LABELS | 96 |
| F179 | DETERMINE RODENTICIDE APPLICATION METHODS | 96 |
| F199 | PREPARE INSECTICIDE EMULSIONS | 94 |
| 0446 | PERFORM OPERATOR MAINTENANCE ON COMPRESSED AIR SPRAYERS | 94 |
| 0435 | CLEAN HAND EQUIPMENT | 93 |
| F204 | RESEARCH AFM 91-16 FOR PESTICIDE CONTROL RECOMMENDATIONS | 91 |
| G226 | CONDUCT SURVEYS FOR DOMESTIC RODENTS | 90 |
| C102 | INSPECT PESTICIDE STORAGE AREAS | 86 |
| C86 | EVALUATE EXTENT OF PEST INFESTATIONS | 83 |
| A29 | DETERMINE WORK PRIORITIES | 82 |
| B61 | DIRECT HANDLING, TRANSPORTING, OR STORING OF PESTICIDES | 82 |
| G250 | IDENTIFY STORED PRODUCTS PESTS | 80 |
| C100 | INSPECT EQUIPMENT STORAGE AREAS | 77 |
| A19 | COORDINATE FUMIGATION, FOGGING, OR MISTING OPERATIONS WITH OTHER BASE ACTIVITIES | 69 |
| A31 | DEVELOP WORK METHODS OR PROCEDURES | 68 |
| B64 | DIRECT UTILIZATION OF EQUIPMENT | 66 |
| A45 | PLAN WORK ASSIGNMENTS | 66 |
| A27 | COORDINATE WORK PROGRESS WITH CE SCHEDULING | 65 |
| B68 | IMPLEMENT SAFETY PROGRAMS | 63 |
| D111 | CONDUCT OJT | 61 |
| E147 | MAKE ENTRIES ON AF FORMS 1445 (MATERIALS AND EQUIPMENT LIST) | 60 |

TABLE IB

GROUP ID NUMBER AND TITLE: 051, GENERAL PEST MANAGEMENT PERSONNEL
GROUP SIZE: 148 PERCENT OF SAMPLE: 33
AVERAGE PAYGRADE: E-3 PERCENT OF MILITARY MEMBERS: 86
AVERAGE TAFMS: 39 MONTHS PERCENT OF CIVILIAN MEMBERS: 14
AVERAGE TICF: 45 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS | | PERCENT MEMBERS PERFORMING |
|---|---|---|
| F199 | PREPARE INSECTICIDE EMULSIONS | 95 |
| 0471 | PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS | 89 |
| F185 | INTERPRET PESTICIDE LABELS | 89 |
| F178 | DETERMINE INSECTICIDE APPLICATION METHODS | 86 |
| I325 | APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS | 84 |
| G247 | IDENTIFY HOUSEHOLD PESTS | 84 |
| G256 | INSPECT BUILDINGS FOR HOUSEHOLD PESTS | 75 |
| F175 | DETERMINE FORMULATIONS AND QUANTITIES OF CHEMICALS REQUIRED FOR PEST CONTROL OPERATIONS | 73 |
| 0490 | PREPARE PEST MANAGEMENT EQUIPMENT FOR STORAGE | 70 |
| J356 | PLACE OR INSPECT POISON DOMESTIC RODENT BAITS | 70 |
| I304 | APPLY DUST OR GRANULAR INSECTICIDES OUTDOORS USING HAND EQUIPMENT | 69 |
| G231 | CONDUCT SURVEYS FOR HOUSEHOLD PESTS | 68 |
| I330 | APPLY SPACE SPRAYS INDOORS USING PORTABLE EQUIPMENT | 65 |
| F177 | DETERMINE HERBICIDE APPLICATION METHODS | 63 |
| J365 | TRAP DOMESTIC RODENTS | 63 |
| J359 | REMOVE LIVE ANIMALS FROM ATTICS, VENTS, OR OTHER CONFINED AREAS | 63 |
| I334 | EVALUATE EFFECTIVENESS OF INSECTICIDE APPLICATIONS | 62 |
| G255 | INSPECT BUILDING SITES FOR STRUCTURAL PESTS | 62 |
| F204 | RESEARCH AFM 91-16 FOR PESTICIDE CONTROL RECOMMENDATIONS | 61 |
| 0489 | PREOPERATIONALLY CHECK VEHICLE- OR TRAILER-MOUNTED HYDRAULIC SPRAYERS | 61 |
| 0464 | PERFORM OPERATOR MAINTENANCE ON VEHICLE- OR TRAILER-MOUNTED HYDRAULIC SPRAYERS | 59 |
| 0457 | PERFORM OPERATOR MAINTENANCE ON NONPOWERED HAND EQUIPMENT | 59 |
| J360 | REMOVE NESTS FROM TREES, SHRUBS, OR STRUCTURES | 59 |
| A22 | COORDINATE PESTICIDE TREATMENT OPERATIONS WITH BUILDING OCCUPANTS | 58 |
| H288 | DRILL CONCRETE SLABS USING POWERED HAMMERS | 56 |
| 0433 | CALIBRATE NONPOWERED DISPERSAL EQUIPMENT, SUCH AS COMPRESSED AIR SPRAYERS | 55 |
| G251 | IDENTIFY STRUCTURAL PESTS | 55 |

TABLE IC

GROUP ID NUMBER AND TITLE: 053, PEST MANAGEMENT SHOP NCOICs
GROUP SIZE: 17 PERCENT OF SAMPLE: 4
AVERAGE PAYGRADE: E-6 PERCENT OF MILITARY MEMBERS: 70
AVERAGE TAFMS: 161 MONTHS PERCENT OF CIVILIAN MEMBERS: 30
AVERAGE TICF: 179 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS | | PERCENT MEMBERS PERFORMING |
|---|---|---|
| A22 | COORDINATE PESTICIDE TREATMENT OPERATIONS WITH BUILDING OCCUPANTS | 100 |
| A29 | DETERMINE WORK PRIORITIES | 94 |
| C86 | EVALUATE EXTENT OF PEST INFESTATIONS | 94 |
| B64 | DIRECT UTILIZATION OF EQUIPMENT | 94 |
| B76 | SUPERVISE APPRENTICE PEST MANAGEMENT PERSONNEL (AFSC 56630) | 88 |
| A45 | PLAN WORK ASSIGNMENTS | 88 |
| B79 | SUPERVISE PEST MANAGEMENT SPECIALISTS (AFSC 56650) | 88 |
| B77 | SUPERVISE CIVILIANS | 88 |
| F188 | MAINTAIN OPERATING SUPPLY LEVELS OF PESTICIDES | 88 |
| C83 | EVALUATE BASE PEST CONTROL PROGRAMS | 88 |
| A53 | SCHEDULE PERIODIC INSECT INSPECTIONS OR SURVEYS, OTHER THAN TERMITES | 88 |
| A31 | DEVELOP WORK METHODS OR PROCEDURES | 88 |
| C82 | ANALYZE WORKLOAD REQUIREMENTS | 82 |
| D123 | EVALUATE OJT TRAINEES | 82 |
| A35 | DETERMINE MANPOWER REQUIREMENTS | 82 |
| E154 | MAKE ENTRIES ON AF FORMS 290 (TRANSCRIPT FOR PEST REPORT) | 82 |
| A27 | COORDINATE WORK PROGRESS WITH CE SCHEDULING | 82 |
| A51 | DRAFT MESSAGES FOR ELECTRICAL TRANSMISSION | 82 |
| C88 | EVALUATE INSPECTION REPORTS OR PROCEDURES | 82 |
| E138 | MAINTAIN AF FORMS 1734 (BCE DAILY WORK SCHEDULE) | 76 |
| E141 | MAINTAIN MAJCOM OR INSTALLATION PEST MANAGEMENT ACTIVITY RECORDS | 76 |
| C104 | PREPARE APRs | 76 |
| B72 | INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES | 76 |
| B59 | COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS | 76 |
| A14 | ASSIGN PERSONNEL TO DUTY POSITIONS | 65 |
| C94 | EVALUATE SPECIAL PEST MANAGEMENT PROGRAMS | 65 |
| C87 | EVALUATE INDIVIDUALS FOR PROMOTION, DEMOTION, OR RECLASSIFICATION | 59 |

TABLE II

GROUP ID NUMBER AND TITLE: 024, JUNIOR PEST MANAGEMENT PERSONNEL CLUSTER
GROUP SIZE: 39 PERCENT OF SAMPLE: 9
AVERAGE PAYGRADE: E-2 PERCENT OF MILITARY MEMBERS: 97
AVERAGE TAFMS: 21 MONTHS PERCENT OF CIVILIAN MEMBERS: 3
AVERAGE TICF: 18 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS | | PERCENT MEMBERS PERFORMING |
|---|---|---|
| 0437 | CLEAN, WASH, AND DRY SAFETY EQUIPMENT | 87 |
| 0438 | INSPECT PERSONAL SAFETY EQUIPMENT | 85 |
| F187 | LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES | 82 |
| 0435 | CLEAN HAND EQUIPMENT | 82 |
| J347 | DISPOSE OF DEAD ANIMALS | 82 |
| F181 | DISPOSE OF EMPTY PESTICIDE CONTAINERS | 77 |
| F199 | PREPARE INSECTICIDE EMULSIONS | 67 |
| P498 | DRIVE VEHICLES DURING PESTICIDE APPLICATIONS | 67 |
| F209 | TRANSPORT HAND EQUIPMENT | 67 |
| I325 | APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS | 64 |
| F210 | TRANSPORT PESTICIDES | 62 |
| F203 | PREPARE RODENT BAITS | 59 |
| 0484 | PREOPERATIONALLY CHECK SHOP SAFETY EQUIPMENT | 56 |
| 0436 | CLEAN PESTICIDE TANKS OR HOPPERS | 49 |
| G247 | IDENTIFY HOUSEHOLD PESTS | 49 |
| J356 | PLACE OR INSPECT POISON DOMESTIC RODENT BAITS | 46 |
| M408 | APPLY LIQUID HERBICIDES TO GROUND SURFACES USING POWER EQUIPMENT | 44 |
| 0465 | PERFORM OPERATOR MAINTENANCE ON VEHICLES | 44 |
| F194 | PREPARE HERBICIDE EMULSIONS | 44 |
| J360 | REMOVE NESTS FROM TREES, SHRUBS, OR STRUCTURES | 41 |
| F189 | MAINTAIN PESTICIDE STORAGE AREAS | 41 |
| I332 | CLEAN UP AFTER INSECT CONTROL OPERATIONS | 36 |
| M407 | APPLY LIQUID HERBICIDES TO GROUND SURFACES USING COMPRESSED AIR SPRAYERS | 36 |
| 0450 | PERFORM OPERATOR MAINTENANCE ON HYDRAULIC SPRAYERS | 36 |
| A57 | SCHEDULE VACANT QUARTER FOR TREATMENTS | 36 |
| I317 | APPLY LIQUID INSECTICIDES FOR DEFOLIATORS USING HYDRAULIC SPRAYERS | 33 |
| H288 | DRILL CONCRETE SLABS USING POWERED HAMMERS | 33 |
| F198 | PREPARE INSECT BAITS | 31 |
| 0433 | CALIBRATE NONPOWERED DISPERSAL EQUIPMENT, SUCH AS COMPRESSED AIR SPRAYERS | 31 |
| H282 | APPLY INSECTICIDES USING SUBSLAB INJECTION UNITS | 31 |

TABLE III

GROUP ID NUMBER AND TITLE: SPC104, TOTAL MILITARY SAMPLE
GROUP SIZE: 359 PERCENT OF SAMPLE: 79
AVERAGE PAYGRADE: E-4 AVERAGE TICF: 55 MONTHS
AVERAGE TAFMS: 68 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS | | PERCENT MEMBERS PERFORMING |
|---|---|---|
| 0438 | INSPECT PERSONAL SAFETY EQUIPMENT | 91 |
| 0437 | CLEAN, WASH, AND DRY SAFETY EQUIPMENT | 90 |
| F187 | LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES | 89 |
| F210 | TRANSPORT PESTICIDES | 87 |
| F181 | DISPOSE OF EMPTY PESTICIDE CONTAINERS | 87 |
| F199 | PREPARE INSECTICIDE EMULSIONS | 86 |
| F209 | TRANSPORT HAND EQUIPMENT | 85 |
| 0435 | CLEAN HAND EQUIPMENT | 85 |
| 0446 | PERFORM OPERATOR MAINTENANCE ON COMPRESSED AIR SPRAYERS | 84 |
| 0471 | PREOPERATIONALLY CHECK COMPRESSED AIR SPRAYERS | 84 |
| J347 | DISPOSE OF DEAD ANIMALS | 84 |
| F186 | INVENTORY PESTICIDES | 84 |
| F185 | INTERPRET PESTICIDE LABELS | 83 |
| F178 | DETERMINE INSECTICIDE APPLICATION METHODS | 82 |
| F208 | TRANSFER OR POUR PESTICIDES FROM STORAGE TO DISPERSAL EQUIPMENT | 81 |
| G247 | IDENTIFY HOUSEHOLD PESTS | 80 |
| 0458 | PERFORM OPERATOR MAINTENANCE ON PERSONAL SAFETY EQUIPMENT | 79 |
| I325 | APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS | 79 |
| I300 | ADVISE BUILDING CUSTODIANS ON GOOD HOUSEKEEPING MEASURES | 79 |
| P498 | DRIVE VEHICLES DURING PESTICIDE APPLICATIONS | 79 |
| F189 | MAINTAIN PESTICIDE STORAGE AREAS | 76 |
| J357 | PLACE OR INSPECT RODENT TRAPS | 76 |
| 0436 | CLEAN PESTICIDE TANKS OR HOPPERS | 76 |
| F179 | DETERMINE RODENTICIDE APPLICATION METHODS | 75 |
| 0484 | PREOPERATIONALLY CHECK SHOP SAFETY EQUIPMENT | 74 |
| F200 | PREPARE INSECTICIDE SOLUTIONS | 73 |
| B73 | INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES | 72 |
| G256 | INSPECT BUILDINGS FOR HOUSEHOLD PESTS | 72 |
| F175 | DETERMINE FORMULATIONS AND QUANTITIES OF CHEMICALS REQUIRED FOR PEST CONTROL OPERATIONS | 72 |
| 0439 | ISOLATE MALFUNCTIONS OF HAND EQUIPMENT ITEMS | 69 |
| F204 | RESEARCH AFM 91-16 FOR PESTICIDE CONTROL RECOMMENDATIONS | 68 |
| G231 | CONDUCT SURVEYS FOR HOUSEHOLD PESTS | 68 |
| G243 | IDENTIFY DOMESTIC RODENTS | 67 |
| F201 | PREPARE INSECTICIDE SUSPENSIONS | 67 |

TABLE IV

GROUP ID NUMBER AND TITLE: SPC094, TOTAL CIVILIAN SAMPLE
GROUP SIZE: 93 PERCENT OF SAMPLE: 21
AVERAGE TIME IN FEDERAL CIVIL SERVICE: 212 MONTHS
AVERAGE TICF: 155 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

| TASKS | | PERCENT MEMBERS PERFORMING |
|---|---|---|
| 0438 | INSPECT PERSONAL SAFETY EQUIPMENT | 86 |
| F187 | LOAD OR UNLOAD PESTICIDES ON OR OFF VEHICLES | 85 |
| F209 | TRANSPORT HAND EQUIPMENT | 84 |
| F185 | INTERPRET PESTICIDE LABELS | 84 |
| F181 | DISPOSE OF EMPTY PESTICIDE CONTAINERS | 84 |
| F179 | DETERMINE RODENTICIDE APPLICATION METHODS | 84 |
| I300 | ADVISE BUILDING CUSTODIANS ON GOOD HOUSEKEEPING MEASURES | 84 |
| G247 | IDENTIFY HOUSEHOLD PESTS | 83 |
| F210 | TRANSPORT PESTICIDES | 83 |
| J357 | PLACE OR INSPECT RODENT TRAPS | 83 |
| I304 | APPLY DUST OR GRANULAR INSECTICIDES OUTDOORS USING HAND EQUIPMENT | 83 |
| G255 | INSPECT BUILDING SITES FOR STRUCTURAL PESTS | 82 |
| 0435 | CLEAN HAND EQUIPMENT | 82 |
| F178 | DETERMINE INSECTICIDE APPLICATION METHODS | 82 |
| J347 | DISPOSE OF DEAD ANIMALS | 81 |
| 0437 | CLEAN, WASH, AND DRY SAFETY EQUIPMENT | 81 |
| G251 | IDENTIFY STRUCTURAL PESTS | 80 |
| F189 | MAINTAIN PESTICIDE STORAGE AREAS | 78 |
| G256 | INSPECT BUILDINGS FOR HOUSEHOLD PESTS | 77 |
| F200 | PREPARE INSECTICIDE SOLUTIONS | 77 |
| F208 | TRANSFER OR POUR PESTICIDES FROM STORAGE TO DISPERSAL EQUIPMENT | 77 |
| G235 | CONDUCT SURVEYS FOR STRUCTURAL PESTS | 77 |
| F186 | INVENTORY PESTICIDES | 77 |
| F199 | PREPARE INSECTICIDE EMULSIONS | 76 |
| 0436 | CLEAN PESTICIDE TANKS OR HOPPERS | 76 |
| P498 | DRIVE VEHICLES DURING PESTICIDE APPLICATIONS | 76 |
| G231 | CONDUCT SURVEYS FOR HOUSEHOLD PESTS | 76 |
| G261 | INSPECT FOR FIELD RODENT INFESTATIONS | 75 |
| I325 | APPLY LIQUID INSECTICIDES USING COMPRESSED AIR SPRAYERS | 74 |
| E161 | MAKE ENTRIES ON DD FORMS 1070 (TERMITE AND WOOD DECAY INSPECTION) | 74 |
| F184 | INSPECT CONTAINERS AND CONTENTS FOR SERVICEABILITY AND EXPIRATION DATE | 74 |
| G264 | INSPECT HOUSING AREAS FOR DOMESTIC RODENT INFESTATION | 74 |

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