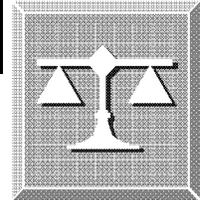


TS-50 December 1980

**General Schedule
Position Classification Standards**



WCPS-2 August 2002

**POSITION CLASSIFICATION
STANDARD
FOR
PLANT PROTECTION
AND QUARANTINE
SERIES, GS-0436**



**Workforce Compensation
and Performance Service**



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SERIES DEFINITION

This series includes all classes of positions the duties of which are to advise on, administer, supervise, and perform professional and scientific work in the establishment and enforcement of agricultural quarantines governing movement of plant pests of economic significance into or within the United States, and in the survey, detection, regulation, and control or eradication of plant pests. These duties require the application of professional training and knowledge in one or more of the biological and agricultural sciences such as plant pathology, entomology, nematology, horticulture and related sciences. Most positions also require practical knowledge of the transportation and shipping industries, farming, nursery and related operations, and inspection, quarantine and control techniques as applied to plants, plant products, animal byproducts and other items of agricultural quarantine interest.

These standards are a revision of and supersede the current standards for the Plant Protection and Quarantine Series, GS-0436, Part I, published in August 1960, and Part II, published in April 1961.

This classification standard had been developed for positions in a single Federal agency. Positions in other agencies may not be placed in this series without the approval of the Office of Personnel Management. The standard may be used, however, for making cross-series comparisons guided by sound position classification judgment.

GENERAL INFORMATION

In nature, a balance, however variable, is established between the different kinds of plants and animals inhabiting an area, but in cultivated crop production, nature's balance tends to be disturbed. For this reason cultivated plants are usually more liable to pest attack than wild plants. Many crop plants selected and preserved to provide food and materials are constitutionally very susceptible to pests and would not survive the stress of competition in nature. Then too, cultivated plants often grow under conditions which are artificial by comparison with the conditions under which their wild ancestors occur. They may survive these artificial conditions by careful management but the danger of pest attack, is always considerable.

To protect United States agriculture from the introduction and spread of injurious foreign plant pests ¹, and to control or eradicate pests already established in this country, various laws,

¹ Plant pests as used in this standard means any living stage of: any insects, mites, nematodes, slugs, snails, protozoa, or other invertebrate animals, bacteria, fungi, other parasitic plants or reproductive parts thereof, Viruses; or any organisms similar to or allied with any of the foregoing or any infectious substances, which can directly or indirectly injure or cause disease or damage in any plants or parts thereof, or any processed, manufactured, or other products of plants.

quarantines and regulations provide the basis for the development and administration of quarantine programs and control and eradication measures.

Besides the known dangerous plant pests and their hosts, many other foreign pests and their hosts, regarded as unimportant in their native habitat, are prohibited or restricted entry because of:

- (1) Their potential for causing widespread destruction in this country.
- (2) The difficulty in predicting the consequences of permitting the entry and spread of such pests. (Pests disregarded or considered unimportant in their native habitat may have a devastating effect when moved to a different environment and/or into an area with a different group of unsuspected susceptible crops.)
- (3) The difficulty in detecting latent diseases. (There may be no apparent symptoms until the disease is well established.
- (4) The difficulty of treatment. (Plant diseases make physiological as well as morphological inroads. Treatment that is strong and effective enough to kill the disease often kills or seriously injures the plant.)

Some plant pests serve as vectors (disease carriers) or as both feeders and vectors and consequently are especially dangerous to agriculture. Besides attacking growing plants, some of these cause damage to harvested and processed crop products such as grain and flour.

SERIES COVERAGE

The Plant Protection and Quarantine Program

The plant protection and quarantine program is designed to: (1) prevent the entry, establishment, and spread of foreign plant pests in the United States and (2) suppress periodic outbreaks of certain native pests. The work involves inspection, survey and detection, regulatory, and eradication or control activities.

The work covered by this series falls mainly (but not exclusively) into three functional area: (1) agricultural quarantine inspections, (2) pest control and eradication; and (3) in-service training program development and instruction. (Positions involved in developing the training programs should be classified by reference to the "[Grade Evaluation Guide for Instruction and Specialist Positions Involving Education and Training Work](#)", TS 40 February 1980).

(1) *Agricultural Quarantine Inspection* Activities at international ports of entry are the Federal government's defensive mechanism designed to prevent (or limit) the entry of foreign plant and animal pests and diseases. Plant Protection and Quarantine Officers check incoming passengers baggage, carriers (aircraft, ships, and vehicles), cargo and stores, and mail, for prohibited or restricted fruits, vegetables, plant materials, meat, animal by-products, and "hitchhiking" pests.

The officers also inspect and certify U.S. grown agricultural products to meet the sanitary entry requirements of other countries. In addition, they work in foreign countries supervising the preshipment clearance of agricultural commodities being exported to the United States.

Inspection and treatment are the major tools used in the agricultural quarantine inspection program in preventing the entry and spread of injurious plant pests into and between the United States and its possessions. It is not enough to inspect and treat plants and plant products being imported or moved in interstate commerce. The inspection must cover all possible sources of contamination-baggage, cargo (both agricultural and nonagricultural items), mail, and the conveyance itself. One example, illustrating the care and thoroughness required of plant quarantine inspectors, was the detection, in a small shipment of jewelry, of highly destructive pink bollworm in cotton used as packing material.

Agricultural quarantine problems are multiplying as a result of the ever changing patterns of modern life, super-sonic air travel, the growth of trade and travel, the increase in imports of foods and products using plant and animal materials, and the growing interest of our citizen gardeners and plant growers in exotic plants and foreign grown bulbs and shrubs.

To keep abreast of the growing volume, the quarantine program provides for the inspection and/or treatment of certain types of fruits, bulbs, plants and other materials in foreign countries prior to their importation into the United States; the inspection, and certification of plants and plant products for export to meet the import requirements of the countries of destination, thus helping to insure foreign markets for U. S. produce; and the survey of foreign sites and domestic port area facilities to develop information on plant pest conditions for use in program planning and operations.

When completely effective treatments are available against specific pests of quarantine significance, plant materials subject to attack by these pests are admitted under a permit requiring treatment. When such treatments are not available or known the plant materials from designated countries are refused entry, except when they are imported by the United States Department of Agriculture for experimental or scientific purposes. Plant materials so imported are handled in strict quarantine until they are consumed or believed to be pest free.

Variations in inspection work methods and problems are related often to the type of carrier involved and to whether cargo or baggage material is inspected. Some comparisons and contrasts follow:

Carrier: Ships are more complex as structures from a plant quarantine and pest control standpoint than aircraft or rail cars. They have more extensive galley and dining facilities and crew quarters, and many and varied holds, spaces, and storage areas that may harbor pests and pose treatment and sterilization problems. However, when aircraft treatment is necessary the effect of such treatment on operating components must be considered to avoid safety hazards.

Cargo: Because of their size and value, considerable sums of money are often tied up in shipments, necessitating prompt and efficient inspection and sound sampling measures. Decision to refuse or restrict entry pending decision or to require prompt safeguard can prove

quite expensive to the importer. Many factors must be kept in mind, including those which tend to reduce the pest potential of shipments. For example, the material may be from a known source and, from experience, may be judged unlikely to carry pests; it may have been produced under commercially sanitary conditions; or it may meet certain trade requirements and be certified by the country of origin as to growing and packing conditions. To a degree, aircraft cargo may differ from ship cargo in being more perishable (cut flowers, fresh produce, and the like) and more valuable per item. Because of the speed of air travel, pest survival potential is greater in air than in ship cargo and baggage.

Increasing containerization of cargo is complicating the inspection process. Cargo is difficult to physically inspect in the containers, and it is expensive to unload and re-pack such items. Additionally, other than infestation or the cargo itself, the officers must be concerned with wood borers in the crates and dunnage, snails inside and outside the containers, and soil contamination.

Baggage. Baggage refers to items carried on or by persons and in luggage. Much of the plant material found in baggage, originates in the "backyards" of people all over the world and is often neither grown nor harvested under sanitary conditions. Plant and plant products encountered very often being unusual material not handled by the trade. They may also move without benefit of grade and quality standards which are applied to commercial shipments. Often and often are less of a recurring nature than those in cargo material. While most of the baggage material arrives openly or is declared, some is not declared through ignorance or is deliberately concealed to avoid inspection. Material of this kind that is prohibited entry often has sentimental value to the holder and may also be rather expensive. In addition to plant materials, passengers are often carrying fruits, vegetables, animal by-products and live birds. When such material is confiscated or held in quarantine the passenger may react negatively if they believe the officer is acting arbitrarily. The manner of the officer is important therefore in avoiding extreme reactions to quarantine decisions which are adverse to the owners of the property. The financial consequence of prohibiting entry or requiring treatment to eliminate pests typically is more critical for cargo than for baggage material. From the standpoint of pest potential, however, experience indicates that baggage is a very significant avenue for pest entry.

(2) *Pest control and eradication activities* are the Federal government's offensive mechanism designed: (1) to detect pests of economic significance that have been introduced into the United States or are native to the U.S. and to limit the area infested; (2) to devise and implement domestic quarantine procedures to prevent the further spread of the pests; and (3) to control or eradicate infestations which have become established or which, if native, have reached population levels which are causing widespread damage to crops. The cooperation of individual citizens, groups, officials of States and communities in affected areas, and the governments of Canada and Mexico, are solicited when the problem is shared by these countries.

Before any program can be carried out effectively, it is necessary to locate and identify a plant pest and to estimate the extent of the problem.

Eradication and control activities are generally operated on a cooperative basis with the State (or foreign government) concerned. Specific pest control and eradication programs are initiated when the problem is of interstate or national interest or when coordinated and supervised effort

is needed to achieve the desired objectives. The work is carried out under applicable State laws and is jointly financed. No program is undertaken until it is clearly established that there is a definite need for the work and that any work accomplished will protect a significant segment of the country.

Pest control programs are based on the belief that when practical methods are available it is better to eradicate damaging pests than to control them; and that when eradication is not practicable it is better to contain pests than to accept and "live with them."

The various methods used in pest control and eradication activities include: (a) survey and detection -- this involves both new pest detection, high hazard area, and related surveys to obtain essential information on both destructive and beneficial organisms such as incidence, distribution, hosts, and usefulness of the organism or damage caused by the organism; (b) regulatory services--this involves quarantines and the attendant regulations that govern inter- and intra-state movement of plant pests, plant products, and other materials such as farm equipment that might harbor and spread pests; and (c) control activities--this involves operations conducted to control, suppress, or eradicate plant pests. Various approaches are used including: chemical controls--sprays, insecticides, and fumigants; cultural controls--crop rotation, trap crops (crops planted early to draw pests away from main crop); and biological controls--parasites (insects known to attack particular pests), sterile insects (which produce infertile eggs or sterile off-spring when mated with non-sterile insects), and pathogens (bacteria, viruses and fungi which "attack" pests.)

RELATED ADDITIONAL RESPONSIBILITIES

Some plant protection and quarantine officers have been delegated certain customs and immigration responsibilities to provide them with authority and legal protection to carry out customs and immigration inspections. When an officer encounters evidence of possible customs or immigration violations (or questionable cases), the appropriate action is taken and the person or persons in question are referred to agency personnel having primary jurisdiction as expeditiously as possible.

TITLES

Plant Protection and Quarantine Officer is the basic title authorized for all positions in this series. Positions which meet or exceed the criteria in the [General Schedule Supervisory Guide](#) for evaluation as a supervisor are titled Supervisory Plant Protection and Quarantine Officer.

EVALUATION OF POSITIONS

Positions should be evaluated on a factor-by-factor basis using the Office of Personnel Management benchmarks or the Factor Level Descriptions, or both. More complete instructions for evaluating positions are contained in "[Introduction to the Position Classification Standards](#)."

Please note that the absence of a benchmark for positions at any particular grade level does not preclude evaluation of positions at that grade. Should the work being evaluated exceed the highest level for a factor described in this standard, the [Primary Standard](#) and/or another related FES standard may be used to evaluate the position in conjunction with, and as an extension of, the criteria contained in this standard.

GRADE CONVERSION TABLE

Total points on all evaluation factors are converted to GS grade as follows:

GS Grade	Point Range
5	855-1100
6	1105-1350
7	1355-1600
8	1605-1850
9	1855-2100
10	2105-2350
11	2355-2750
12	2755-3150
13	3155-3600
14	3605-4050
15	4055- up

FACTOR-LEVEL DESCRIPTIONS

FACTOR 1, KNOWLEDGE REQUIRED BY THE POSITIONS

This factor measures the nature and extent of information or facts which the officer must understand to do acceptable work (e.g., steps, procedures, practices, rules, policies, theories, principles, and concepts) and the nature and extent of skills necessary to apply these knowledges. The knowledges and skills of most plant protection and quarantine officer positions relate to one or a combination of basic activities; i.e., (1) establishment and enforcement of quarantine on the movement of injurious plant pests or diseases within, into, and out of the United States and, (2) the survey, detection, identification, control and eradication of plant pests or diseases. Some officers may perform specialized work which, nonetheless, relates to the basic areas described above.

Plant Protection and Quarantine Officer positions require, commensurate with the grade level involved, a variety of job-related knowledges, skills and abilities as described in 'the factor level descriptions. In addition, many positions require knowledge of and ability to apply regulations relating to the importation of animal by-products such as hides, casings, bones, sausages, etc., and certain customs and immigration regulations. These latter knowledges are customarily learned through classroom and/or on-the-job training and typically are not grade-controlling or grade-enhancing knowledges.

To be used as a basis for selecting a level of knowledge under this factor, a knowledge must be both required by an officer's officially authorized and assigned duties and responsibilities and actually applied by the officer.

Level 1-5 -- 750 points

A basic foundation of professional concepts and principles of biological and agricultural sciences such as botany, horticulture, entomology, nematology, plant pathology, and mycology sufficient to form the basis for acquiring specialized knowledges and skills in the functional, administrative and regulatory aspects of plant protection and quarantine work. These scientific knowledges typically would be acquired through a baccalaureate program in the pertinent science or through its equivalent in experience and training.

OR

Equivalent Knowledge And Skill

Level 1-6 -- 950 Points

In addition to the basic knowledges described at level 1-5, knowledge of (1) established plant protection and quarantine functional, administrative, and regulatory requirements and techniques, and (2) domestic, cosmopolitan, and foreign pests sufficient to independently perform assignments such as inspection, certification, and treatment work, field surveys and phytosanitary inspection and certification.

Knowledge of quarantine and control techniques necessary to apply biological, cultural, chemical or other types of controls or eradicators, to items such as diseased or infested crops, plants, dunnage, carriers, etc.

Knowledge of: (1) environmental regulations related to the use of fumigants, pesticides, herbicides and other possible pollutants; (2) the effect of fumigants, pesticides, and herbicides on non-target organisms such as fish, wildlife, pollinators, humans and domestic animal; and (3) the hazards associated with the residue of fumigants, pesticides and herbicides sufficient to efficiently and safely use such materials in carrying out assignments.

OR

Equivalent Knowledge And Skill

Level 1-7 -- 1250 points

Professional knowledge of biological and agricultural science, principles and concepts sufficient to permit the officer to adapt, modify or otherwise improvise from established methods and techniques to: (1) solve difficult identification, treatment, or control problems; or (2) satisfy unusual or unique requirements, associated with an assignment. These difficult problems or unusual requirements typically result from assignment characteristics such as the esoteric nature of the pest or disease encountered, the relatively similar morphological characteristics of injurious and non-injurious members of the same phylum, or the scarcity of data relative to environmentally acceptable and effective strategies for treating the pest or disease problem.

In-depth knowledge of and skill in the application of methods and techniques of specialty areas such as (1) plant pathology, entomology, nematology or a combination of these or related areas, or (2) functional areas such as cold treatment and fumigation methodology and equipment sufficient to permit the officer to serve as a "consultant" or "troubleshooter" for other fully qualified officers and agency employees.

Thorough knowledge of agency plant protection and quarantine programs, policies, procedures, and regulations sufficient to permit the officer to use such knowledges in formulating recommendations for agency actions

OR

Equivalent Knowledge And Skill.

FACTOR 2, SUPERVISORY CONTROLS

This factor covers the nature and extent of direct or indirect controls exercised by the supervisor, the plant protection and quarantine officer's responsibility, and the review of completed work.

- Controls are exercised by the supervisor in the way assignments are made, instructions are given to the officer, priorities and deadlines are set, and objectives and boundaries are defined.
- The officer's responsibility depends on the extent to which the plant protection and quarantine officer is expected to develop the sequence and timing of various aspects of the work, to modify or recommend modification of instructions, and to participate in establishing priorities and defining objectives.
- The degree of review of completed work depends upon the nature and extent of the review, e.g., close and detailed review of each phase of the assignment; detailed review of the finished assignment; spot check of finished work for accuracy; or review only for adherence to policy.

NOTE: Technical advice or guidance may be furnished by a higher grade officer, an officer with particular knowledge of a field, e.g., entomology, as well as by the supervisor.

Level 2-1 -- 25 points

For both one-of-a-kind and repetitive tasks the supervisor makes specific assignments that are accompanied by clear, detailed, and specific instructions.

The officer works as instructed and consults with the supervisor as needed on all matters not specifically covered in the original instructions.

Most, if not all, work is closely reviewed. The review may include checking progress as well as reviewing completed work for accuracy, adequacy, and adherence to instructions and established procedures.

Level 2-2 -- 125 points

Continuing assignments are made by the supervisor who indicates generally the objective of the assignment, what is expected, deadlines for accomplishing the work, if applicable, and priorities. For new or non-repetitive assignment, the supervisor suggests procedures or techniques to be used.

The officer uses initiative in independently carrying out recurring assignments, such as determining and applying appropriate pesticidal treatment including the type, rate of dosage and method of application. However, the officer refers problem cases or situations which require deviation from instructions or standard methods, to the supervisor for assistance.

The supervisor reviews the work for accuracy of facts and results, general adherence to policies, and compliance with procedures, instructions or precedents.

Level 2-2 -- 275 points

The scope of the program, activities, project assignments or studies and the immediate and long-term objectives are specified by the supervisor.

Officers at this level are expected to plan and carry out their assignments independently and perform a variety of inspection, identification, treatment, survey, control or other related work in accordance with proven techniques, practices and previous experience. Unusual or complex cases which involve situations such as: (1) a treatment method or a refusal of entry of material, which may result in considerable expense or loss to the interested parties; (2) plant pests or diseases which are difficult to identify; or (3) cases which present treatment problems of an unusual nature are discussed with the supervisor before final action is taken.

Completed work is evaluated for technical soundness and conformity with policy and technical and regulatory requirements through such means as personal observation by the supervisor at the work site, a review of completed reports and correspondence, and the effectiveness of result of the officer's work.

Level 2-4 -- 450 points

The supervisor outlines the overall objectives and resources available the officer and supervisor, in consultation, develop the deadlines, and in general the nature and extent of the work to be done.

The officer, having developed considerable expertise in a specialty area, independently plans the work, including the order and priority of specific projects or tasks to be accomplished and the technical approach and methodology to be used. The officer resolves most, if not all, of the scientific and technical problems which arise; coordinates work with others as required; and interprets policy on own initiative in terms of agency program objectives.



Completed work is reviewed for overall feasibility, compatibility in approach with related projects or programs, or for effectiveness and acceptance of results (or advice) by other professional personnel or the public served.

FACTOR 3, GUIDELINES

This factor covers the nature of and the judgement needed to apply guidelines. Since individual assignments vary in the specificity, applicability, and availability of guidelines, the constraints and judgmental demands placed upon the plant protection and quarantine officers also vary. The existence of specific instructions, procedures, and policies may limit the opportunity of the officer to make or recommend decisions or actions. However, in the absence of procedures or under broadly stated objectives, the office may use considerable judgement in researching literature and developing new methods. For this factor, guidelines refer to standard guides, precedent, methods, and techniques including:

- o Federal and state quarantine and pest control regulations as well as similar controls and regulations established by foreign countries;
- o Federal and state laws and decisions governing plant protection and quarantine work such as the Insect Pest Control of 1905, the Plant Quarantine Act of 1912, and other similar legislation;
- o agency manuals of instructions and operations;
- o standard textbooks;
- o standard work practices adopted by the employing agency;
- o governing policies and procedures of the employing agency.

Level 3-1 -- 25 points

The plant protection and quarantine officer, typically a trainee, is provided with a variety of material such as technical/scientific reference manuals and textbooks, agency program manuals and other written guidelines which are detailed and directly applicable to assignments.

The officer works in strict adherence to the guidelines, and any deviation must be authorized by the supervisor.

Level 3-2 -- 125 points

The available guidelines, which include standardized operating procedures, information on transportation trade practices, technical reference and precedential material, are detailed and are usually directly applicable to the work assigned.

Judgement is required in locating and selecting the most appropriate reference and in deciding whether it applies to the problem at hand. Established procedures for performing the work are used, but the officer may exercise discretion in selection from alternative approaches. On an irregular and intermittent basis, the officer may make modifications to adapt guidelines to specific cases. Situations which require significant deviations from existing guidelines are referred to the supervisor for advice and assistance.

Level 3-3 -- 275 points

Guidelines are available but are not always completely applicable to the work, or they may lack specificity.

The officer uses judgement in independently evaluating, interpreting, selecting, and applying the guidelines to specific quarantine, survey, control or regulatory problems, e.g.: (1) on survey assignments, the officer selects the most appropriate sampling or statistical technique to develop data on the significance or extent of current infestation; (2) on other assignments the officer must determine the location and timing of applications of pesticides, when pesticide operations are begun and terminated, and/or the environmental, physical and biological factors that may alter the effectiveness of the pesticide treatment. In addition, the officer must independently exercise judgement in applying standard plant protection and quarantine procedures to new or slightly different circumstances and in relating new work situations to precedent ones, e.g., in adapting treatment methods prescribed for specific plant material or condition to the treatment of different but related plant material or for situations which are not specifically covered in plant protection and quarantine manuals.

FACTOR 4, COMPLEXITY

This factor covers the nature, number, variety, and intricacy of tasks, steps, processes, or methods in the work performed; the difficulty in identifying what needs to be done, and the difficulty and originality involved in performing the work.

Level 4-2 -- 75 points

Assignments consist of specific tasks which are designed to provide orientation, experience, and training in the laws, regulations, principles, policies and concepts of the agricultural quarantine, inspection and treatment programs.

The assignments are readily carried out by the application of basic scientific principles and established agency practices, but they require the officer to recognize the existence of and differences among a few easily recognized insects or diseases, and the applicability of particular agency regulations. The work includes such tasks as: (1) applying relatively simple regulations and procedures involved in the inspection of vessels, vehicles, and baggage, for restricted plant material or animal-by-products; (2) identifying relatively well-known insect species or plant diseases; or (3) observing, recording and reporting specific evidences of insect infestation while serving as a member of a survey party.

At this level, duties, and the inherent complexity of the duties, may be similar to those performed by technicians. Such assignments, however, are performed for a shorter period of time, and are assigned primarily for training and developing the officer.

Level 4-3 -- 150 points

The assignments consist of a variety of inspection, quarantine or control work such as inspecting nursery stock, farm land, and granaries for the presence of economic plant pests; overseeing the chemical or heat treatment of infested materials or plants prior to shipment from quarantined areas; evaluating information from items such as manifests and consular invoices to determine significance of the materials in the shipments and the appropriate action to take such as release or hold for inspection and referral; or inspecting cold-treated cargo for clearance.

The officer considers such factors as special instruction, whether the material is perishable or non-perishable, whether it is covered by a special permit, and alternative treatment methods.

The problems generally are similar to those previously encountered. The officer plans the approach to be taken and applies established standard methods in carrying out the assignment, e.g., the officer determines and applies the appropriate treatment including the type, dosage, and method of applying pesticides or fumigants.

Level 4-4 -- 225 points

Assignments involve acting upon or furnishing information and advice on esoteric or otherwise complicated plant disease or pest problems.

The work usually involves difficult identification or treatment actions requiring considerable interpretation of administrative and technical guides. The subject is frequently an immature or little known pest or a form closely related to a similar harmless variety and, therefore, difficult to distinguish. In some instance, the apparently indicated treatment might be injurious to the plants and cargo, so alternative methods are frequently needed.

The work requires the officer to plan the project or technical approach, to determine the order and priority of individual phases of an assignment, and to adapt and modify control and quarantine methods and techniques.

FACTOR 5, SCOPE AND EFFECT

Scope and Effect covers the relationship between the nature of the work, i.e., the purpose, breadth, and depth of the assignment, and the effect of work products or services both within and outside the organization. Essentially, the purpose of the work concerns itself with the reason for the establishment of the position. That is, what is the ultimate goal to be achieved by the particular set of duties assigned to the position.

Effect measures the impact of the work product or service that results from the existence of the particular position. Who or what benefits from the employee's work? Does the work facilitate

the work of others, does it provide timely service of a personal nature, or does it impact on the adequacy of the conclusions reached in a report on the effectiveness of the agency's work efforts.

The concept of effect alone does not provide sufficient information to properly understand and evaluate the impact of the positions. The scope of the work completes the picture, allowing consistent evaluations. (The scope and effect of a particular position's duties and responsibilities should not be confused with the scope and effect of the *mission of the agency*.) Also, only the effect of properly performed work is to be considered.

Level 5-1 -- 25 points

The purpose of the work is to provide orientation, experience and training in the application of laws, regulations, principles, policies, concepts and technical and scientific reference materials in the plant protection and quarantine program activities. The tasks are usually specific and limited and are designed primarily for training purposes to equip the officer to assume more responsible plant protection and quarantine duties.

The work's effect is to facilitate the tasks of other higher graded officers in the Immediate organizational unit.

Level 5-2 -- 75 points

Assignments at this level are designed to enforce the plant protection and quarantine laws, regulations and related statutes and to develop increasing proficiency in inspection, detection and survey techniques and the application of control and regulatory procedures.

Successful completion of the assignments assists in the task of preventing the introduction of foreign economic plant pests and diseases into the United States and in the location, control or eradication of established pest or disease infestation.

Level 5-3 -- 150 points

The officer's assignment is to enforce plant protection and quarantine laws, regulations and related statutes thru survey, enforcement quarantines or direct control measures and to inspect, intercept and identify pests and treat a variety of agricultural products.

Successful accomplishment of the work has a considerable impact on: (1) the prevention of entry and establishment of foreign economic plant pests or diseases into the United States; (2) the eradication, suppression and control of economic pests already established within the United States; (3) the protection of domestic livestock and wildlife, and endangered plant species; and (4) the general welfare of the public.

FACTOR 6, PERSONAL CONTACTS

This factor includes face-to-face, telephone and radio contacts with persons not in the supervisory chain. (NOTE: Personal contacts with supervisors are covered under Factor 2, Supervisory Controls.) Levels described under this factor are based on what is required to make the initial contact, the difficulty of communicating with those contacted, and the setting in which the contact takes place (e.g., the degree to which the employee and those contacted recognize their relative roles and authorities).

Above the lowest level, points should be credited under this factor only for contacts which are essential for successful performance of the work and which have a demonstrable impact on the difficulty and responsibility of the work performed.

Level 6-1 -- 10 points

Personal contacts are with plant protection and quarantine officers or with other personnel in the agency, e.g., entomologists, plant pathologists, clerical personnel, within the immediate work unit or related units.

Level 6-2 -- 25 points

Personal contacts are with employees within the employing agency, members of the general public, and with State and Federal employees of other agencies, e.g., customs inspectors. The contacts usually occur in a moderately structured setting, i.e., sometimes the exact purpose of the contact is not clear to the other party or the other party may not understand the role and authority of the officer, or the role and authority of the officer is partially established by the intervention of a higher graded officer.

Level 6-2 -- 60 points

Contacts are established on a non-routine and routine basis, and take place in a wide variety of settings within or outside the regular worksite. The contacts are primarily (but not exclusively) with persons outside the agency such as travelers entering the U.S., officials of other Federal or state agencies, farmers, nursery growers, contractors, shipping representatives, importers and exporters, and ships officers. Contacts may take place in roadside vehicle inspection stations, on unannounced on-site compliance surveys, at airports and seaports, border crossing stations or on farms or nurseries. In many instances, the contacts involve people of various nationalities and socio-economic levels so that the language, personality, and other characteristics influence the nature of the contact.

FACTOR 7, PURPOSE OF CONTACTS

In General Schedule occupations, purpose of personal contacts ranges from factual exchange of information to situations involving significant or controversial issues and differing viewpoints, goals, or objectives. The personal contacts which serve as the basis for the level selected for this factor must be the same as the contacts which are the basis for the level selected for Factor 6.

Level 7-1 -- 20 points

Contacts are made to obtain and exchange factual or technical information directly related to the work. This level is generally restricted to trainee level plant protection and quarantine officers.

Level 7-2 -- 50 points

Contacts are made to plan and coordinate inspection, survey and control activities; to solve operational problems; to persuade individuals to participate in the plant protection and quarantine program efforts; and to determine country of origin of animal-by-products and plant and associated material. For the most part, individuals contacted are cooperative; occasionally, the officer must use tact and technical expertise to persuade skeptical or antagonistic people to cooperate.

FACTOR 8, PHYSICAL DEMANDS

The "Physical Demands" factor covers the requirements and physical demands placed on the officer by the work assignment. This includes physical characteristics and abilities (e.g., specific ability and dexterity requirements) and the physical exertion involved in the work (e.g., climbing, lifting, pushing, balancing, stooping, kneeling, crouching, crawling, or reaching). To some extent the frequency or intensity of physical exertion must also be considered, e.g., a job requiring intermittent standing.

NOTE: Regulations governing pay for irregular or intermittent duty involving unusual physical hardship or hazard are in chapter 550, Federal Personnel Manual.

Level 8-1 -- 5 points

The work is primarily sedentary, although there may be some standing and bending involved. The officer may also be required to do some walking and lifting and carrying of small or light objects.

Level 8-2-20 points

The work requires regular and recurring physical exertion such as long periods of standing, walking, stooping, and bending. The officer may also be required to lift and carry moderately heavy objects occasionally.

FACTOR 9, WORK ENVIRONMENT

The "Work Environment" factor considers the risks and discomforts in the employee's physical surroundings or the nature of the work assigned and the safety regulations required. Although the use of safety precautions can practically eliminate a certain danger or discomfort, such situations typically place additional demands upon the employee in carrying out safety regulations and techniques.

NOTE: Regulations governing pay for irregular or intermittent duty involving unusual physical hardship or hazard are in chapter 550, Federal Personnel Manual.

Level 9-1 -- 5 points

Work is usually performed in an office or laboratory or other environment which involves minimal risks and discomfort. The work area is adequately lighted, heated and ventilated.

Level 9-2 -- 20 points

The work involves regular and recurring exposure to moderate discomfort, adverse weather conditions, etc. and working situations which require special precautions such as working around maritime docks, climbing through ships' cargo areas, or exposure to high noise levels or infectious material.

OPM BENCHMARK DESCRIPTION

PLANT PROTECTION AND QUARANTINE OFFICER GS-0436-09, BMK #1

Duties

Serves as a plant protection and quarantine officer at a port with responsibility for enforcing plant protection and quarantine regulations through activities such as: (1) inspection of all plant, plant material, and animal by-products coming into the United States at that port of entry; (2) confiscation of prohibited items (including endangered plant species); and (3) treatment of restricted and infested material.

- Collects information from manifests, required departmental forms, consular invoices or direct questioning of people (e.g., travellers); determines if there are any items of quarantine significance.
- Selects material to be inspected, randomly or in accordance with an established sampling plan.
- Inspects carriers such as cargo, baggage, mail, and ships, vehicles, railway cars, or aircraft for the presence of restricted or prohibited agricultural commodities or animal by-products, or for infested or diseased agricultural products.
- Determines appropriate action to be taken when prohibited, restricted, infested or diseased material is found (e.g., require pre-entry treatment; refuse entry or movement; apply safeguard procedures; or seize and destroy material).
- Supervises or administers treatments of material, where appropriate, using various fumigants, or other treatments such as hot water, vapor heat, dry heat, refrigeration, or pesticidal sprays; insures that proper dosage, time, and temperature conditions are met and maintained; checks results for adequacy.
- Inspects and certifies domestic plants and plant products for export; insures that the material meets all of the specific sanitary import requirements of the country or destination.
- Inspects in-transit printout of temperature readings of refrigerated cargo holds to ensure that the proper temperature has been maintained; performs a physical test by taking fruit pulp temperature; where problems arise, may require additional refrigeration time for the cargo.
- Keeps records and prepares reports on activities such as completed inspections, certifications, and treatments.
- Participates in survey work.

(NOTE: In some ports the employees may be rotated between work at an airport to a seaport; in others the employee may work "permanently" at an airport or at a border crossing station. For this reason the sense or intent of the duties and responsibilities is important--i.e., it is not necessary for an employee to perform every duty listed (e.g., cold treatment work) in order to match to this benchmark.

Factor 1, Knowledge Required by the Position -- Level 1-6 -- 950 points

Knowledge of biological and agricultural sciences and of plant protection and quarantine programs, activities and regulations sufficient to: (1) independently apply established methods and procedures in the performance of inspection, certification, and treatment work; and (2) generally recognize plant pests of economic significance.

Knowledge of the transportation and/or shipping industry's practices, procedures and carrier modes sufficient to enforce quarantines governing movement of injurious plants, pests, diseases, and animal by-products and to inspect various conveyances.

Knowledge of substances such as fumigants, herbicides, pesticides, and the equipment associated with these substances sufficient to use them safely and effectively in plant protection and quarantine activities.

Knowledge of various treatment methods, such as refrigeration, vapor heat, and dry heat sufficient to independently use these methods, or evaluate the effectiveness of the application of such methods in carrying out treatment and control activities.

Factor 2, Supervisory Controls -- Level 2-3 --275 points

The supervisor assigns the officer to a particular designated work area (e.g., air cargo or passenger operations, maritime operations, vehicle inspection, etc.) and provides special instructions on changes in policies or procedures or information on anticipated activities such as ships coming into port or particular cargo to be inspected.

The officer works with relative independence from technical supervision in performing a variety of inspection, identification, certification and treatment duties. The supervisor assists the employee in particularly difficult areas,, e.g. where the potential pest is difficult to identify, where a decision is likely to be highly controversial, or where the indicated action will result in considerable expense or loss for the importer or shipping line.

Work is reviewed through formal or informal reports, discussions of actions taken, or through occasional observation of actual work performance. The review is concentrated on general adequacy of results achieved (e.g., average number of pests intercepted, number of pests successfully identified) and conformity to established operating policy and procedures.

Factor 3, Guidelines -- Level 3-3 -- 275 points

Administrative guides such as the plant protection and quarantine treatment manual, manuals listing fruits and vegetables approved for entry and taxonomic texts, provide instructions on actions to take and the identifying characteristics of prohibited, restricted and injurious pests.

Judgement is required in applying the guides, particularly in determining the type of action to take on organisms resembling or closely related to pests considered economically significant but which are not themselves specifically covered in the manual. Judgement also is required on determining what types of action to take with finality, the nature and extent of those actions, and when material or particular situations should be referred to supervisors or specialists for advice.

Factor 4, Complexity -- Level 4-3 -- 150 points

Assignments involve the inspection of cargo mail, baggage, various conveyances, plants, plant material, animal by-products and other similar or otherwise related items.

The officer considers such factors as country of origin of the carrier and shipment, the type of "hitch-hiking" or parasitic pests normally associated with the particular country or material, the historical experience "profile" of the country or countries involved, and the destination of the material and its end-use.

The problems encountered are generally of a recurring nature, and the assignments are carried out without substantial modification of precedents. While the opportunities for the exercise of originality are present from time-to-time, the requirement for such originality is less significant than the judgement required to apply a range of conventional approaches and solutions to analogous situations.

Factor 5, Scope and Effect -- Level 5-3 -- 150 points

The purpose of the work is to enforce, in accordance with established criteria, various regulations which govern the movement of prohibited, restricted, and unrestricted plants, plant material and animal by-products and which are designed to prevent the spread of foreign pests and diseases.

The work contributes to the health and marketability of agricultural crops and other agricultural and animal resources and to the public's understanding of the need for, and voluntary compliance with agricultural and other quarantines. Additionally, farmers, ranchers and other members of the public are protected against the effects of destructive insects, diseases and weeds.

Factor 6, Personal Contacts -- Level 6-3 -- 60 points

Personal contacts are with business and personal travelers, including persons of various nationalities, socio-economic groups, and professional level e.g., diplomats, clerks, non-residents with no English-speaking capability, prominent people who are used to deferential treatment, salesman; officers of Federal enforcement agencies; importers and exporters; employees of

transportation and shipping companies, including ships crews; and material handling crews. These contacts are usually moderately unstructured and take place in diverse places such as a ship's engine room, store room or bridge, on-board aircraft, at international borders, and in warehouses.

Factor 7, Purpose of Contacts -- Level 7-2 -- 50 points

The contacts are established to enforce regulations; to explain methods, procedures and objectives of the plant protection and quarantine programs; to obtain voluntary cooperation of the interested parties; and to search for and locate plant pests. Usually, the people with whom the officer deals are cooperative (or at least neutral in their attitude); however, the officer occasionally is called upon to use tact and persuasion to overcome the resistance of persons who are reluctant to cooperate for various reasons, e.g., fear of property confiscation, situations that develop because of a misunderstanding due to a language barrier or due to personality conflicts.

Factor 8, Physical Demands -- Level 8-2 -- 20 points

The work requires regular and recurring physical exertion such as long periods of standing at passenger counters or lengthy microscopy sessions, and bending, crouching, stooping and reaching, on cargo ships.

Factor 9, Work Environment -- Level 9-2 --20 points

The work involves such tasks as working around railroad yards, aircraft cargo areas, and docks on a regular and recurring basis. In some of these areas, protective clothing such as hard hats must be worn. The employee also works around poisons and toxic fumigants and may wear protective clothing such as masks and goggles.

TOTAL POINTS 1950

**PLANT PROTECTION AND QUARANTINE OFFICER,
GS-0436-09, BMK #2**

Duties

Serves as a plant protection and quarantine officer at a domestic work site with responsibility for enforcing plant protection and quarantine regulations through activities such as; (1) control or eradication of significant plant pests or diseases; (2) prevention of the spread of foreign pests that have established colonies; and (3) suppression of periodic widespread outbreaks of native plant pests or diseases.

- Participates in the preparation of long-range and annual work plans for survey, control and regulatory activities by providing advice and recommendations based, in part, on personal knowledge of the geographical area, historical data, familiarity with local farms, farming operations, and the types of crops and number of acres to be planted.
- Plans, coordinates and oversees required control operations, including the location and timing of pesticide application; maintains necessary records of treatment; prepares periodic reports for supervisor, including information on completed work and work-in-progress; maintains inventories of pesticides, supplies and equipment.
- Coordinates and conducts field surveys to detect plant pests and to determine the existing environmental, physical, biological, and other variables that may affect the injurious nature of the plant pests; directs and assists with the collection of plant material, insects, and soil samples for analysis and identification by specialists; evaluates inspection results, prepares reports, and determines when and if re-inspections will be made.
- Enforces Federal and parallel State domestic plant quarantines and regulatory orders which restrict the movement of plant or plant materials and farm equipment between particular geographic areas; determines the need for, and type of, regulatory treatment for affected plants, plant material, or farm equipment and oversees the treatment process; issues certificates permitting the movement of regulated articles; conducts transit inspections of interstate traffic at weigh stations or other routine truck stops; prepares and executes compliance agreements with nurseries and other similar establishments who agree to inspect and treat their own products; makes periodic spot checks of materials shipped by firms holding such compliance agreements.
- Provides technical assistance and advice to state and county employees, farmers, nursery owners and workers, and other interested groups on plant protection and quarantine requirements and techniques.

Factor 1, Knowledge Required by the Position -- Level 1-6 -- 950 points

Knowledge of biological and agricultural science and of plant protection and quarantine programs, activities and regulations sufficient to: (1) independently apply established methods

and procedures in the performance of survey, control and regulatory work; and (2) generally recognize plant pests of economic significance.

Knowledge of farming operations, crops, and characteristics of parasitic plant pests (including insects and other plants) sufficient to effectively plan and oversee a control program in a designated geographical area.

Knowledge of substances such as fumigants, herbicides, and pesticides and the equipment associated with these substances sufficient to use them safely and effectively in plant protection and quarantine activities.

Knowledge of various treatment methods such as refrigeration, vapor heat, and dry heat sufficient to independently use these methods, or to evaluate the effectiveness of the application of such methods in carrying out treatment and control activities.

Factor 2, Supervisory Controls -- Level 2-3 --275 points

The supervisor assigns work in terms of objectives and basic priorities and is available for consultation, as required.

The officer develops an operating plan and independently conducts or oversees survey, quarantine, and control activities. The employee develops the sequence and timing of the work based on personal knowledge of the local geography, economy and farming operations.

The work is reviewed through formal and informal reports, and occasional discussions of actions taken. The review of the work concentrates on the effectiveness of the results, the public's acceptance of the service and conformity to operating policy and procedure.

Factor 3, Guidelines -- Level 3-2 --275 points

Administrative guides and program manuals are available such as the Witchweed Program Manual outlining, among other things, the survey, regulatory, and control procedures to be used in this program.

Judgement is required in applying the guides to actual field conditions, e.g., the judgement required to evaluate whether a new nursery or greenhouse was being built too close to a witchweed infested area. It is *generally* accepted that a hazard would exist if an active witchweed infestation is located within one-quarter mile of the proposed nursery site. However, the *generally* "accepted" figure of one-quarter mile is an "arbitrary" figure and the officer would have to consider various factors in assessing the status of the proposed site.

Factor 4, Complexity -- Level 4-3 -- 150 points

Assignments require the officer to plan and conduct est detection surveys, to enforce regulations governing the movement of plant pests, plant products and other material, and to plan, conduct and oversee field operations designed to control, suppress or eradicate plant pests.

In planning the operations, the officer considers such factors as resources available, degree of infestation, hazard of spread, and changing patterns of infestations and crops.

The problems encountered are generally of a recurring nature and the assignments are carried out without substantial modification of precedents. While the opportunities for the exercise of originality are present from time-to-time, the requirement for such originality is less significant than the judgement required to apply a range of conventional approaches and solutions to analogous problems or situations.

Factor 5, Scope and Effect -- Level 5-3 -150 points

The purpose of the work is to enforce, in accordance with established criteria, various regulations designed to prevent the spread of foreign pests and diseases and to suppress/eradicate the outbreak of foreign or domestic pests.

The work contributes to the health and marketability of agricultural crops and other agricultural and animal resources and to the public's understanding of the need for and voluntary compliance with requirements for agricultural and other quarantine. Farmers, ranchers and the public are protected against the effect of destructive insects, diseases and weeds.

Factor 6, Personal Contacts -- Level 6-3 -- 60 points

Personal contacts are with farm owners or managers of large "agri-business" owned farms, nursery personnel, contractors, state and county employees, and processing plant employees and owners. These contacts are usually moderately unstructured and occur in places such as farms, nurseries, and truck weighing stations.

Factor 7- Purpose of Contracts -- Level 7-2 -- 50 points

The contacts are established to enforce regulations; to explain methods, procedures and objectives of the plant protection and quarantine programs; to obtain voluntary cooperation of the interested parties; and to search for and locate plant pests. Usually, the people with whom the officer deals are cooperative, however, the officer is occasionally called upon to use tact and persuasion to overcome resistance of persons who are reluctant to cooperate because of possible imposition of additional costs of doing business, inability to understand the rationale underlying the officer's decision, or other similar reasons.

Factor 8, Physical Demand -- Level 8-2 -- 20 points

The work requires regular and recurring physical exertion such as recurring bending, crouching, or stooping, in gardens or on farms while on pest detection surveys or when applying treatment for control purposes.

Factor 9 Work Environment -- Level 9-2 -- 20 points

The work involves the regular and recurring use of special equipment or clothing when working around toxic fumigants and related plant treatment materials.

TOTAL POINTS 1950

**PLANT PROTECTION AND QUARANTINE OFFICER
GS-0436-11, BMK #1**

Duties

Serves as a plant protection and quarantine officer with responsibility for performing specialized and difficult identification work. (Please note: this benchmark covers positions that specialize in entomological work; similar positions may specialize in other areas such as plant pathology or nematology. Additionally, the geographic area served may be larger than the district in which the position is located depending upon workload assigned.)

- Identifies or verifies identification of plant pests, primarily insects and some arachnids (such as mites, ticks, spiders and scorpions), and snails, in immature and adult stages; identifies specimens to family, and where sufficient information is available to genera and species.
- Categorizes potential pest as injurious and of economic significance; cosmopolitan and domestic; or not significant or cosmopolitan and domestic but significant in particular parts of the U. S.
- Maintains, develops and supplements information on taxonomy of pest interceptions and their hosts and distribution or other related information; develops and maintains specimen collections of insects, arachnids and/or snails.
- Recommends or confirms quarantine actions such as prohibit or restrict entry with specific treatment or release without treatment. As required, administers or oversees administration of treatments.
- On particularly unusual interceptions or where virtually no pertinent reference material is available, refers pest to experts at other locations, e.g., Smithsonian Institution.

Factor 1, Knowledge Require by the Position -- Level 1-7 -- 1250 points

Knowledge of biological and agricultural sciences principles and concepts sufficient to perform the full with complex taxonomic identification and treatment work.

In-depth knowledge of the techniques associated with taxonomic entomology sufficient to serve as the resident consultant in identification of a wide range of insects and related pests.

Through knowledge of quarantine programs, regulations and treatment methods sufficient to effectively recommend adaptive techniques for situations not covered by precedential information.

Factor 2, Supervisory Controls -- Level 2-4 -- 450 points

The supervisor assigns the officer responsibility for the specialized entomological work and advises on overall objectives and resources available. The officer consults with the supervisor if there are problems such as conflicting priorities of two or three complex emergency identification requests.

The officer has a continuing responsibility in this area of work and is, more-or-less, self-directed in the daily operation. The officer, having developed expertise in the specialty area resolves most technical problems which arise, coordinates work with others as necessary, and interprets plant protection and quarantine program policy on own initiative in terms of established objectives.

Completed work is accepted as technically sound and reviewed from overall standpoint of effectiveness of services rendered (e.g., backlog of work, complaints, rate of successful identification or rate of referral to other specialists, or other more appropriate measures). As a general rule, due to the lack of in-depth knowledge of taxonomic entomology on the part of the supervisor of this position, the supervisory review tends to be administrative in nature rather than technical.

Factor 3, Guidelines -- Level 3-3 275 points

The officer has available guidelines such as technical references, methodology manuals and texts, specimen collections, and agency manuals. Guidelines are often not directly applicable due to the complexity of the specimens forwarded for identification and the concomitant lack of a directly applicable data base.

The officer uses initiative and resourcefulness and draws on personal experience and education in the specialty area to select and apply appropriate scientific techniques to identify and classify specimens. Where necessary the specialist extrapolates or otherwise deviates from established identification and classification methodology to arrive at conclusions on difficult (to identify) specimens.

Factor 4, Complexity -- Level 4-4 225 points

Performs the full range of analyses on a wide variety of plant pests including the very difficult, complex and unusual "finds submitted by plant protection quarantine personnel.

Typically, the work includes complexities such as unusual analytical requirements and lack of specific and available scientific literature concerning the family, genera, or species of pest. These complications generally lead to uncertainty as to the most promising direction to take to successfully identify the pest.

The officer identifies or verifies the pests and recommends quarantine action on problems requiring originality in approach and modification of techniques (1) when the "find" is an immature, little known, or unknown pest or form of pest; (2) it is a form that closely resembles a



harmless type; or (3) there is considerable risk that the treatment for the pest might be injurious to the particular plants or cargo and a different approach is required.

Factor 5, Scope and Effect -- Level 5-3 -- 150 points

The purpose of the work is to provide expertise in a particular specialty area through the analysis and identification of exotic and potentially destructive plant pests and to recommend specific quarantine actions.

The proper disposition of imported plants and related agricultural products suspected of being infested with economically significant plant pests depends upon the identity of the suspect organism. The work assigned the position, therefore, affects the operation of field activities in terms of effectiveness and acceptability of quarantine service performed as well as the ultimate marketability and health of agricultural resources.

Factor 6, Personal Contacts-Level 6-2 -- 25 points

Typically, the contacts are with other employees of the department and with other specialists in places such as the Smithsonian Institution. Occasionally, contacts are with shippers, importers, exporters, etc., usually at the employees work place.

Factor 7, Purpose of Contacts -- Level 7-2 -- 50 points

The purpose is to provide advice and assistance, report on status or results of work, recommend quarantine action and to solve operational problems.

Factor 8, Physical Requirements -- Level 8- -- 5 points

The work is generally sedentary and performed in a laboratory setting.

Factor 9, Work Environment -- Level 9-2 -- 20 points

The work involves regular and recurring risks such as working around and with chemicals. The officer may be required to wear protective clothing or gear (or at least to have them immediately available, if needed).

TOTAL POINTS 2450