

# **CERTIFIED SPORTS FIELD MANAGER**



## **DETAILED COMPETENCY LIST**



**AGRONOMICS**

**AGRONOMICS -- HORTICULTURAL CALCULATIONS**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Perform area calculations for geometric configurations used in sports fields.

Calculate conversions between metric and English measurement systems given the formulas.

Calculate application rates for a given area.

Calculate application rates in pounds or ounces of a.i. (active ingredient) or pounds or ounces of product per unit area.

Perform volume calculations for topdressing materials, skinned area clay mixes or other products used in sports field management.

Calibrate liquid and dry material application equipment.

**AGRONOMICS – FIELD DESIGN AND CONSTRUCTION**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Understand the fundamentals of site assessment.

Be knowledgeable in specification development including reading and understanding plans and specifications, layout, site preparation, drainage, irrigation systems, rootzone mix, turfgrass establishment.

Understand the fundamentals of construction procedures, project management and quality control.

Know how to plan and implement a field management program for the establishment phase of the sports field.

**AGRONOMICS – SOILS**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Understand soil formation, soil profiles and soil classifications as they relate to sports field management.

Understand and have a working knowledge of soil physical properties i.e. texture, structure, aggregation, bulk density, porosity, drainage, water relationships and modification.

Understand and have a working knowledge of soil chemical properties, i.e. soil acidity/alkalinity, cation exchange capacity, salt concentrations, phytotoxic contaminants and nutrient availability.

Understand the physical, chemical and biological characteristics of soils and their influence on turfgrass growth.

Be knowledgeable in the evaluation of soil conditions with respect to suitability for athletic fields.

Be knowledgeable in determining appropriate soil sampling and analytical procedures and interpreting laboratory results.

Understand the characteristics of native soil, modified soil and sand based root zones.

Understand the properties and uses of various soil amendments.

Be knowledgeable in the interpretation of soil analysis results.

Be able to demonstrate the ability to develop a plan of action to improve field drainage.

**AGRONOMICS - TURFGRASS MORPHOLOGY, GROWTH, AND****PHYSIOLOGY**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Understand turfgrass morphology - roots, shoots, crown, inflorescence, seed characteristics and function.

Understand the difference between cool season and warm season turfgrasses, their seasonal growth patterns and environmental adaptability.

Understand and describe the plant growth process in terms of photosynthesis, water, nutrients, carbohydrates, chlorophyll, oxygen and carbon dioxide.

Understand the developmental growth stages of turfgrasses (vegetative and floral) and how to manage each for maximum performance on sports turf.

Know how turfgrass plants respond to edaphic, biotic and environmental factors.

Understand turfgrass plant metabolism.

### **AGRONOMICS - TURFGRASS SELECTION, IDENTIFICATION AND ESTABLISHMENT**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Identify major turfgrass species by differentiating the morphological characteristics.

Identify the regional climatic zones of the U.S. and which turfgrass species are best adapted to those zones.

Understand the basics of the selection of turfgrasses for sports field use based on the adaptability of the turfgrass species and cultivars in various agronomic and climatic conditions.

Understand the principles of the formulations of blends and/or mixtures of turfgrasses.

Select turfgrass species/cultivars best adapted for athletic fields based upon various management intensities and budgetary restrictions.

Understand the planning and implementation of both site and soil preparation plans for turfgrass establishment and sustained growth.

Understand the different seeding techniques and be able to choose the proper one for various conditions.

Understand vegetative turfgrass establishment via sprigs, stolons and sod and the various techniques used in each.

Develop pre-plant and post-plant fertility programs for various methods of turfgrass establishment, species and climates.

Possess a working knowledge of transition zone turfgrass management and the specific problems it presents in terms of species/cultivar selection, establishment and maintenance.

### **AGRONOMICS - WATER MANAGEMENT**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Understand the effects of over-watering on the physiology of warm and cool season turfgrasses.

Evaluate irrigation needs by both visual and mechanical means and understand the importance of proper irrigation system design to achieve efficient and uniform distribution of water.

Understand the relationship between water and soil physical properties.

Have a working knowledge of a soil's water holding capacity as defined by field capacity, perched water table and hygroscopic water.

Understand the relationship between sand particle sizing and water holding capacity in a sand based field.

Interpret soil water quality test reports.

Describe several methods that can be used to improve surface and sub-surface drainage and give the advantages and disadvantages of each.

Determine soil moisture stress conditions based upon a visual assessment of soil moisture and turfgrass conditions.

Understand evapotranspiration (ET) and the factors which influence it.

Understand the importance and necessity of water quality and water conservation.

Develop and utilize a water management program based upon the physical characteristics of the soil, turfgrass conditions, climatic conditions and playability of the field.

Understand the principles of irrigation and be equipped to plan and implement a comprehensive irrigation program.

Understand the basics of irrigation system hydraulics and precipitation rates.

Develop an irrigation schedule based on evapotranspiration.

**AGRONOMICS - CULTURAL PRACTICES (FERTILIZATION/NUTRITION)**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Understand turfgrass nutrition requirements and the effects of excesses and deficiencies on turfgrass growth.

Know the mineral elements essential for turfgrass growth, their sources and their relative requirements by species (major, secondary, minor).

Utilize the techniques of soil testing, tissue testing and visual observation of turfgrass color, growth, and performance to guide the development of a fertilization program.

Understand the components of a fertilizer label, fertilizer formulations, ratios, and analysis and how to calculate the nutrients applied by a specific rate on a specified area.

Have a working knowledge of quickly available and slowly available sources of nutrients.

Know the most effective time of fertilizer applications to sports turf based upon field use, predicted damage and turfgrass species.

Understand turfgrass response to applied nutrients as influenced by air and soil temperatures.

Know the different application techniques available for effective and uniform distribution.

Compare the value of fertilizer formulations based upon nutritive value.

Understand development and implementation of a comprehensive fertilization program.

Understand the relationship between nutrient availability, application rate, method and timing upon potential contamination of ground or surface water.

**AGRONOMICS - CULTURAL PRACTICES (CULTIVATION)**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Understand soil compaction - its causes, its effects on the physical properties of soils and its effects on turfgrass growth.

Know the different methods and techniques of cultivation, including the types of equipment and techniques used and the advantages and disadvantages of each.

Understand the effects of cultivation on the physical properties of soil and turfgrass growth.

Determine the most appropriate time and frequency of cultivation from both a scheduling and turfgrass health standpoint.

Determine the most appropriate treatments in conjunction with cultivation, such as core removal, dragging, topdressing, irrigation, fertilization, seeding, etc.

Understand the effect of core aeration upon air and water exchange, thatch decomposition, soil layering, and rooting.

**PEST MANAGEMENT - IPM, CULTURAL, PESTICIDES****PEST MANAGEMENT – WEEDS**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Identify weeds (grasses, sedges and broadleaves) and understand their growth cycles in both cool season and warm season grasses.

Understand climatic conditions and management practices which may influence weed development.



Understand the most vulnerable period of control of the major weed species.

Determine the best strategies for weed control based upon IPM methodologies including cultural, biological, and herbicidal.

Develop a weed control strategy for athletic fields that require continuous overseeding.

Develop threshold limits, beyond which, control strategies must be implemented.

Have a basic understanding of herbicides, i.e. contact versus systemic, pre- versus post-, selective versus non-selective.

### **PEST MANAGEMENT – INSECTS**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Identify major turfgrass insect pests, understand their life cycles, and diagnose resulting turfgrass damage of both warm season and cool season turfgrasses.

Understand climatic conditions and management practices which may influence insect pest infestations.

Determine the best strategies for insect control based upon IPM methodologies, including cultural, biological, and insecticidal.

Understand the most vulnerable period of control of the major insect species.

Develop threshold limits, beyond which, control strategies must be implemented.

Have a basic understanding of insecticides, i.e. contact versus systemic, preventative versus curative.

### **PEST MANAGEMENT – DISEASES**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Identify the major turfgrass diseases, understand their life cycles, and diagnose resulting turfgrass damage of warm season and cool season turfgrasses.

Understand climatic conditions and management practices which may influence disease development.

Determine the best strategies for disease control based upon IPM methodologies, including cultural, biological, and fungicidal.

Understand the concept of fungicide resistance and develop strategies to prevent it.

Diagnose the difference between biotic and abiotic diseases and develop control strategies for each.

Develop threshold limits, beyond which, control strategies must be implemented.

Have a basic understanding of fungicides, i.e. contact versus systemic, preventative versus curative.

### **PEST MANAGEMENT - CULTURAL CONTROLS**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Understand and have a working knowledge of the importance of water management in the control of certain pests.

Develop a cultural control program for pests based upon resistance of certain turfgrass species and cultivars.

Understand the effect of mowing on turfgrasses, including mowing heights, species tolerance, frequency, clippings and quality of cut and its relationship to pest management.

## **PEST MANAGEMENT – PESTICIDES**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Understand the importance and legal ramifications of reading and following pesticide labeling.

Know the requirements for proper storage, disposal, posting and record keeping.

Understand the potential environmental effects of pesticides.

Identify the various pesticide physical formulations such as emulsifiable concentrate, flowable, water soluble packet, granular, etc.

Interpret label instructions for personal protective equipment necessary for pesticide use and be able to use the equipment properly.

## **PEST MANAGEMENT – IPM**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Define the components of IPM.

Set thresholds for various pests based upon expectations for field quality and use.

Include IPM techniques in the overall sports field management plan.

## **ADMINISTRATION**

### **ADMINISTRATION – BUDGETING**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Define budgeting as it relates to the sports turf industry.

Understand the criteria of budget, raw materials, labor and equipment availability in sports field maintenance.

Understand the role communication (both verbal and written) plays in the budgeting process and the setting of expectations.

Know the three primary types of budgets, how they differ and the primary use of each.

Understand the concept of “line items” and how they are used in the budgetary process.

Develop bid specifications for capital equipment and capital project budgets.

### **ADMINISTRATION – COMMUNICATION**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Understand the three effective components of communication: words, tone and non-verbal.

Know the speaker’s responsibilities when communicating.

Know the listener’s responsibilities when communicating.

Understand and be able to state the difference between hearing and listening.

Know how to minimize miscommunications.

Know how to use and interpret non-verbal communication.

Know the difference between open ended questions and closed questions and when each is appropriate.

Know how to use “tone of voice” to communicate.

### **ADMINISTRATION - SUPERVISION/PERSONNEL MANAGEMENT**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Know how leadership and motivational skills are incorporated in personnel management.

Understand supervisory types, motivational theories, and motivational climate.

Understand time management and utilize it in planning, eliminating time wasting and setting priorities.

Understand the concepts of team building - team leadership; advantages of teams; team building; trust in teams.

Understand the nature of conflict and be proficient in conflict management, minimizing conflict and instituting a progressive discipline program.

Understand the process of performance management including the performance management cycle, performance review, setting job expectations, documentation and rewards and discipline programs.

#### **ADMINISTRATION - SAFETY/COMPLIANCE/FIRST AID**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Understand employee health requirements and develop an employee physical examination and health evaluation program to ensure adequate physical condition to function safely on the job.

Understand the need for a drug-free job site and plan and implement a drug and alcohol testing program.

Understand the components of an Emergency Action Plan and be able to develop such a plan that addresses all relevant categories of emergencies, defines the responsibility of everyone who may be involved and provides adequate posting, training, equipment, tools and supplies to implement the plan if necessary.

Understand the need for a comprehensive follow-up program to the Emergency Action Plan and be able to develop such a program.

Understand the components of a comprehensive site evaluation, condition reporting and action plan to insure a safe working environment and facility use environment and be able to develop and implement a plan to insure both.

Understand the components of an equipment inspection program to insure safe and proper operating conditions and be able to develop and implement such a program.

Understand the components of an employee equipment operational and safety training program, including the need for providing and requiring the use of appropriate protective equipment, and be able to develop and implement such a program.

Understand the need for adequate employee health and safety provisions during seasonal weather extremes and be able to develop and implement a plan to insure such provisions are available and used.

## **SPORTS SPECIFIC**

### **SPORTS SPECIFIC - GENERAL KNOWLEDGE**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Identify the appropriate governing body for the rules of the game and field layout.

Understand the concepts of smoothness, hardness, turfgrass cover and footing, how they are measured, and how they contribute to sports field quality.

Know when and how many non-sport events can be held on a particular field and the different protection systems available.

Select appropriate tools and equipment for proper sports field maintenance.

Set up a preventive maintenance program for sports field equipment including: shop design, diagnostic and repair tools required, scheduling, troubleshooting and record keeping.

Understand field rotation strategies and how they can reduce wear areas in sports fields.

Understand the use of various types of lining equipment to produce straight lines and true angles, arcs and circles.

Know the various types of field marking paints, pigments and colorants for various lining and stenciling requirements.

Effectively communicate with coaches, administrators, officials, players and the media.

Develop and implement a vandalism abatement program using techniques such as fencing, alarm systems, security personnel, etc.

### **SPORTS SPECIFIC – SAFETY**

Understand the development and implementation of a pre-game field safety inspection program and check list, including equipment, trash removal, irrigation equipment, lighting, bleachers, signage, placement of field equipment, out of play areas, communication equipment and emergency response system.

Understand the concepts of smoothness, hardness, turfgrass cover and footing, how they are measured, and how they contribute to sports field safety.

### **SPORTS SPECIFIC – PLAYABILITY**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Identify the three main aspects of sports field quality (Safety, Playability, Appearance) and have a working knowledge of the concepts of each.

Measure and interpret findings of sport field traction and surface stability using several methods.

Understand strategies to maximize traction and stability of sports fields.

Understand stabilization techniques for playing field surfaces using moisture control techniques, rolling and/or additives.

Have an understanding of the various ways of measuring and quantifying the main components of sports field performance i.e. traction (grip), hardness, ball rebound and resilience, and rolling resistance.

Have a working knowledge of the sport specific game equipment needed and the proper set up techniques and locations for each sport (i.e. goals, goal posts, dugouts, scoreboards, protective padding, etc.).

Assess soil moisture and interpret climatic conditions to determine whether or not field tarps are necessary prior to an event.

Be knowledgeable in the design and implementation of a plan to alleviate small area drainage problems using a variety of emergency repair techniques and such long term repair techniques as slit trenching, sand injections, French drains, etc.

Understand the various types of soil heating methods and what they are or are not capable of doing.

### **SPORTS SPECIFIC FIELD MANAGEMENT: TURF AREAS**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:



Understand turfgrass variety and species selection based upon field soil profiles, climatic zones and field use demands.

Recommend and adjust pre-game frequency of irrigation to provide soil moisture levels conducive to good traction and stability.

Understand the effects of tarping for moisture control, snow cover control, and protection of turf areas and be able to develop an appropriate tarping plan.

Recommend and adjust height of cut and frequency of cut for various turfgrass species and field use.

Know the aesthetic and agronomic benefits of directional mowing and how it affects sports field playability.

Create and be flexible with a mowing plan that permits a successful pattern change.

Develop and implement management programs for multi-use fields using field lining strategies, nutrition strategies and cultural practices.

Schedule sport and non-sport events using agronomic principles to ensure the least amount of turf damage.

Understand the various root zone stabilization techniques and products and determine which are applicable in various situations.

Develop a game entertainment turf protection plan for such events as band performances, cheerleaders and other pre-game, post-game and intermission activities.

Understand the need for regular turf evaluation and be able to implement an evaluation program.

Be knowledgeable in the development of a program to utilize windows of opportunity so aeration, re-seeding, re-sodding, top dressing and other cultural practices can be scheduled.

Identify the problem areas of specific types of sports fields and develop corrective action using such cultural practices as: spiking, aerification, divot repair, overseeding, verticutting, fertilization, irrigation management, soil testing and root zone modification. Develop and implement a plan to repair wear areas during season on an emergency basis.

Repair smaller divots during season.

Develop and implement a post game wear area repair strategy.

Develop and implement a post season field repair strategy.

Assess soil moisture and adjust irrigation frequency and amounts as necessary for both optimum turfgrass growth situations and optimum field performance.

Know and understand the various materials and products used in field/turfgrass protection i.e. sideline tarps, growth covers, rain tarps, etc.

Understand the basics of snow and rain removal from turf areas of sports fields.

### **SPORTS SPECIFIC FIELD MANAGEMENT: NON-TURF AREAS**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Understand the basic infield soil amendments and how to keep the infield blend safe, firm and resilient.

Understand the specialized building and maintenance techniques for homeplate areas, baseball pitchers mounds and softball pitchers circles.

Understand skinned area maintenance techniques such as edging, scarification, dragging, rolling, brushing, etc.

Have a thorough knowledge of the different clay products available for the pitchers mounds, pitchers circles, batters box and lead off areas where additional stabilization is needed.

Understand the specific equipment necessary for maintaining: warning tracks, skinned areas, baseball and softball home plate areas, baseball pitchers mounds, softball pitchers circles, etc.

Understand how the percentages of clay, sand and silt effect skinned area performance.

Understand the importance of moisture in the skinned area and be able to determine amounts of water necessary in the clay for proper play and scarification.

Understand the unique irrigation system needs of softball and baseball fields.

Understand the effects of tarping for moisture control and protection of non-turf areas and be able to develop an appropriate tarping plan.

Identify and implement short and long term solutions of lip buildup.

Understand the importance of warning track protection for player safety and understand the materials used and construction techniques.

Determine the proper alignment of screens and protective padding necessary during pre-game warm-up.

Understand the basics of snow and rain removal from non-turf areas of sports fields.

Develop an off-season plan to refurbish clay/skinned areas.

### **SPORTS SPECIFIC FIELD MANAGEMENT: SYNTHETIC TURF**

In order to qualify for the designation of Certified Sports Field Manager (CSFM), you should be able to:

Be knowledgeable in field grooming and cleaning procedures.

Understand the effects of temperature variations and extremes on the playing surface and be equipped to handle the resulting conditions.

Understand the effects of tarping for moisture and snow cover control and be able to develop an appropriate tarping plan.

Develop and implement a plan to repair wear areas during season on an emergency basis.

Develop and implement a post game wear area repair strategy.

Develop and implement a post-season wear area repair strategy.