Organic Specialist Certification Exam

PERFORMANCE OBJECTIVES

The American Society of Agronomy

International Certified Crop Adviser Program

FOREWORD

The Certified Crop Adviser (CCA) program is predicated on the concept that there is a basic set of knowledge and experience that one must know to provide sound advice to producers. The role of the CCA in agricultural production and their relationship to producers has grown over the life of the certification program and continues to grow alongside ever-evolving agricultural standards and practices, which include economic, environmental, and social considerations. With that in mind, the CCA Program, with a national committee of organic production experts, have collaborated on developing a Specialty Certification for Organic Agriculture. This was done to address the growing demand for organic production information by the rising number of organic farms.

The Organic Specialty (designated as OSp) is for CCAs in good standing who desire to provide organic agriculture management planning services for their clients. The purpose of implementing this Specialty is to utilize CCAs to help farmers/producers to become better acquainted with and adopt/enhance/implement organic management concepts and best management practices within their operations. CCAs are the single best influencers to work with local producers and help them adopt more sustainable crop production practices that will satisfy the future demands of the food industry and address demands from consumers for safe food, while protecting the environment and preserving natural resources.

Performance Objectives (POs) are the heart of the CCA Program. They outline the basic knowledge and skills required by individuals providing advice to crop producers. Like all CCA POs, the Organic Specialty POs are also dynamic and are upgraded as the needs evolve to ensure that the POs reflect the state of the practice. This will help to ensure that the CCA OSp will remain a viable and useful tool that recognizes the high level of competence displayed by those who choose to earn this designation.

The OSp POs are divided into ten Competency Areas. Within each Competency Area are specific POs which describe the knowledge needed to demonstrate competency as a Organic Specialist. All questions on the Organic Specialty Exam are based directly on these POs. The American Society of Agronomy (ASA), CCA program and others program and others offer online educational modules that will help a CCA prepare for the exam and provide existing CCAs that achieve the Organic Specialty an opportunity to earn CEUs in organic agriculture management.

The Organic Specialty was supported through the United States Department of Agriculture (USDA) Transition to Organic Partnership Program (TOPP). TOPP is a program of the USDA Organic Transition Initiative and is administered by the USDA Agricultural Marketing Service (AMS) National Organic Program (NOP).

Competency Area 1. USDA National Organic Program Regulations

1. The professional shall demonstrate a proficient understanding of the USDA National Organic Program (NOP) regulations and their relation to the integrity of the organic system, including:
    a. land eligibility requirements,
    b. transition,
    c. record keeping requirements,
    d. allowed and prohibited substances,
    e. soil fertility and crop nutrient management standards,
    f. seeds and planting stock standards,
    g. crop rotation requirements,
    h. crop pest, weed, and disease standards,
    i. fraud prevention, and
    j. consequences of losing certification.

2. The professional shall demonstrate a proficient understanding of the structure of the USDA NOP, including:
    a. the role of the NOP as the rule making and accreditation body,
    b. accredited certifying agencies as the issuer of organic certificates,
    c. inspectors as the on-site auditors, and
    d. the National Organic Standards Board as the advisory body.

3. The professional shall understand the use and function of the Organic Integrity Database, including verification of the certification status of an operation and identifying organic certification agencies.

4. The professional shall demonstrate proficient understanding of the requirements of the USDA rules for organic compliance and relevant state level practices (for example: rules associated with the California Department of Food and Agriculture State Organic Program).

5. The professional shall understand and be able to explain the differences between nonorganic (conventional) and organic crop production systems, including the advantages and tradeoffs of both.

6. The professional shall demonstrate a proficient understanding of the processes of maintaining organic integrity, including:
    a. prevention of contamination and commingling through buffer zones,
    b. equipment cleaning,

c. diligent sourcing of inputs,
d. product segregation, and
e. signage, labeling, etc.

7. The professional shall demonstrate an understanding of the sources and methods of mitigating risk to organic integrity in split and parallel operations.

Competency Area 2. Certification, Inspection, and Record Keeping

1. The professional shall demonstrate proficient understanding of the organic certification and inspection process, timeline, and application requirements.

2. The professional shall demonstrate the knowledge necessary to write and update an Organic System Plan (OSP) and shall be able to describe the types of records and associated record keeping systems necessary to obtain and maintain organic certification.

3. The professional shall demonstrate proficient understanding of the inspection process, including:
    a. how to prepare for an inspection,
    b. the field and facility audit,
    c. records audit,
    d. traceback, and
    e. mass balance exercises.

4. The professional shall understand the possible outcomes of a certification decision, including:
    a. successful issuance of an organic certificate,
    b. minor issues, notices of noncompliance (NONC), and
    c. major noncompliance with proposed adverse action (denial, suspension, or revocation).

5. The professional shall be able to identify remedies for noncompliance, to be submitted to the certifier as a corrective action plan or rebuttal.

6. The professional shall understand the costs associated with organic certification and be able to identify current federal, state, and private cost-share programs.

7. The professional shall demonstrate an understanding that the certifier is the final authority for determining organic eligibility and compliance, and that it is best

practice to submit all planned activities for review and approval prior to implementation.

Competency Area 3. Organic Fertility Management

1. The professional shall demonstrate a proficient general understanding of what constitutes a healthy soil (soil, air, water, carbon, microbes, and minerals), at a balance that enables the soil to cycle nutrients and sustain a healthy microbiome.

2. The professional shall have a working knowledge of the importance of organic fertilizer use as well as how the C:N ratio dictates the availability of nutrients within a system that relies on soil type and temperature, organic matter, method of application and many other variables, for nitrogen mineralization.

3. The professional should be able to understand derivations of organic fertilizers and be able to determine if it is organic or fraudulent. There must be an understanding that fraud is a high area of concern for the organic industry and a risk for the agronomist.

Competency Area 4. Organic Pest Management

1. The professional should understand the nuanced definition of Organic Pest Management and have a grasp of the different categories including but not limited to:
    a. mechanical,
    b. cultural,
    c. botanical,
    d. biological,
    e. predator,
    f. parasitism,
    g. trap crops,
    h. insectary habitats,
    i. hedgerows,
    j. cover crops,
    k. crop rotation,
    l. chemical controls and mode of action rotation,
    m. the importance of identification, monitoring and sampling plans,
    n. prevention vs. curative approaches, and
    o. ecosystem resiliency.

2. The professional should be knowledgeable that within organics, the grower must adhere to their Organic Materials List and cannot apply any product not on that list. The professional must recognize that the risk is higher since a grower could lose their organic status for three years if the material applied is not organic.

Competency Area 5. Organic Weed Management

1. The professional shall understand the factors and system components that promote weed resistant production systems.
    a. zero seed rain concept,
    b. crop and weed life history compatibility,
    c. irrigation management impacts on weed management,
    d. fertility management impacts on weed management, and
    e. common sources of weeds (seed bank, wind, water, manure/compost, contaminated equipment, poor quality seed)

2. The professional shall understand the biology and ecology of common weed categories and species and how these relate to crop production.
    a. weed life history: spring annual, summer annual, biennial, perennial,
    b. weed reproductive strategies: seed, stolons, rhizomes,
    c. the weed seed bank, seed longevity, and seed dormancy concepts, and
    d. weed competition relative to crop developmental stage.

3. The professional shall understand strategies and tactics used to manage weeds in organic systems and how they relate to section 205.206 of the National Organic Program.
    a. prevention/cultural (sanitation, stale seed bank, plant stand density, transplants vs. direct seeding, crop rotation, mulches),
    b. physical (hand weeding, cultivation, mowing, flame weeding, laser weeding),
    c. biological (grazing, weed seed predation), and
    d. chemical (burn down herbicides).

4. The professional shall understand the Mechanism of Action and advantages/disadvantages/interactions of organic weed management tactics.

Competency Area 6. Organic Pest Bacteria and Fungi Management

1. The professional shall understand the factors and system components that promote disease resistant production systems.
    a. the disease triangle,
    b. how microbial biodiversity contributes to disease resilience, and
    c. concept of host specificity, resistance, and tolerance.

2. The professional shall understand the biology and ecology of common disease causal agents and how these relate to crop production.
    a. fungi, oomycetes, bacteria, viruses, nematodes, and
    b. disease transmission through spores, conidia, or vectors.

3. The professional shall understand strategies and tactics used to manage diseases in organic systems and how they relate to section 205.206 of the National Organic Program.
    a. prevention/cultural (sanitation, plant stand density, crop rotation, resistant varieties, fertility and irrigation management, suppressive soils, certified seed and transplants),
    b. physical (physical removal, solarization),
    c. biological (microbial biodiversity), and
    d. chemical (botanical extracts, microbials, mineral fungicides, oil-based fungicides).

4. The professional shall understand the Mechanism of Action and advantages/disadvantages/interactions of organic pathogen management tactics and resistance management.

Competency Area 7. Organic Invertebrate and Vertebrate Pest Management

1. The professional shall understand the factors and system components that promote invertebrate and vertebrate pest resistant production.
    a. biodiversity,
    b. ecosystem stability, and
    c. soil and Plant Health.

2. The professional shall understand the biology and ecology of common groups of invertebrate and vertebrate pests and beneficials as they relate to their management.
    a. life history/phenology,

b. habitat requirements, and
c. how best to monitor them (direct observation, recognition of damage, trapping).

3. The professional shall understand strategies and tactics used to manage invertebrate and vertebrate pests in organic systems and how they relate to section 205.206 of the National Organic Program.
    a. prevention/cultural (resistant varieties, planting dates, crop rotation, plant health),
    b. physical (removal, trapping, thermal),
    c. biological (augmentative, conservation), and
    d. chemical (botanicals, microbials, metabolites, oil and inorganics).

4. The professional shall understand the Mechanism of Action and advantages/disadvantages/interactions of organic invertebrate/vertebrate management materials and methods.

Competency Area 8. Organic Irrigation Management

1. The professional must demonstrate knowledge of good irrigation management practices as they relate to organic production, including benefits and limitations of flood, furrow, and sprinkler irrigation and more efficient irrigation methods such as use of drip tape, sub-surface drip, and micro-irrigation.

2. The professional must be able to utilize and apply available tools and technologies such as weather-based, soil-based, and plant-based monitoring to address challenges and monitor changes that improve distribution uniformity of applied irrigation and fertilizers and reduce nutrient losses, while considering local evapotranspiration demands. This includes but is not limited to monitoring air temperature, humidity, soil texture specific water penetration and infiltration properties, total soil water holding capacity, plant available water, soil salinity, vegetation index, crop water stress index, leaf turgor pressure and xylem water potential.

Competency Area 9. Organic Post-Harvest Handling and Food Safety

1. The professional shall demonstrate a proficient understanding of allowable methods for maintaining crop quality and preventing and treating pest and disease issues during handling, storage, and transportation of crops (such as specialty, grain, and forage crops) during and after harvest. Management

practices may include mechanical and physical controls and preventative measures, such as moisture and temperature control, seed cleaning, preventing physical damage, and equipment considerations.

2. The professional shall demonstrate a proficient understanding of methods for preventing contamination and commingling of organic crops during and after harvest during handling, storage, and transportation.

3. The professional shall demonstrate an understanding of the management practices and materials allowed for use in organic post-harvest handling such as wash water sanitizers, pest control, equipment clean-out, etc., corresponding to Organic System Plan and record-keeping requirements.

4. The professional shall demonstrate an awareness of regulatory requirements for post-harvest handling of organic products including the difference between “post-harvest handling of raw agricultural commodities” and “further processing,” and applicable sections of an Organic System Plan.

5. The professional must demonstrate knowledge of the intersection of organic regulations and food safety regulations for human consumable food crops, including preventive food safety programs, lot traceability, proper sanitation of equipment and food contact surfaces, and water disinfection.

Competency Area 10. Allowed and Prohibited Substances (Inputs)

1. The professional shall demonstrate a proficient understanding of the requirements of allowed and prohibited substances and excluded methods in the USDA organic regulations, including the exceptions listed in National List of Allowed and Prohibited Substances.

2. The professional shall demonstrate proficient understanding of the terms
    a. allowed synthetic,
    b. allowed with restrictions,
    c. prohibited substance,
    d. synthetic, and
    e. nonsynthetic (natural).

3. The professional shall understand proficiency understanding of the importance for using only approved substances in an organic growing environment and the

ramifications of using an unapproved substance (e.g., decertification of organic status).

4. The professional shall demonstrate proficient understanding of common restrictions placed on the use of allowed substances, including, but not limited to manure, synthetic micronutrients, and required preventative management practices.

5. The professional shall demonstrate an understanding of methods for determining whether a substance is allowed in organics, including:
    a. referencing the USDA organic regulations,
    b. referencing trusted lists such as omri.org, and state specific lists (for example, California department of food and agriculture or Washington state department of agriculture), and
    c. submitting an inquiry to the certifier.

6. The professional shall demonstrate an understanding of the operation's approved materials (inputs) list, the process for submitting substances for review by the certifier and adding materials to the Organic System Plan.