

NM FFA State Agricultural Mechanics CDE  
2022 Annual Update

**OBJECTIVES**

- Mastery of the subject matter
- Effective communication skills
- Superior problem-solving techniques
- An understanding of modern technology
- The ability to function as team members working together and as individuals working alone.

**Scoring**

Tool ID	up to 50 tools	100 points
Problem Solving	20 problems	100 points
Math	20 problems	100 points
Individual Skill		100 points
Individual Skill		100 points
Individual Skill or Team Activity		100 points
Total		600 points

Team activity would evaluate the team while solving multi-system agricultural problem(s) selected from the skills and problem-solving components of the areas for that year.

Evaluation:

- Teamwork process (EX: assigning duties, communication, ethics, time management, professionalism, etc...)
- Team written report (EX: form where the team has to look up information, data, use tools to record measurements, or make recommendations based on their findings, etc..)
- Finished product (EX: concrete mixed, poured, and finished, or parts selected, prepared, and assembled for a plumbing application, etc...)

**Committee Approved Agricultural Mechanics Skill Rotation**

Carpentry (includes basic surveying)

- ✓ Use of hand, electric, pneumatic tools and measuring instruments for building construction
- ✓ Identify, select, and apply construction fasteners
- ✓ Lay out and cut structural components of a building
- ✓ Install composition shingles, metal, and fiberglass roofing materials.
- ✓ Apply paint and other finishing materials

Concrete & Masonry

- ✓ Slump test on concrete
- ✓ Calculate materials for a concrete pad with footing and/or masonry units
- ✓ Mixing, placing, and finishing concrete
- ✓ Select and place concrete or masonry reinforcement

### MIG/SMAW/Oxy-fuel Cutting

- ✓ Welding bead(s) on butt, lap, tee, corner, pipe, or edge joints using surface, fillet, or groove welds
- ✓ All positions by selecting appropriate electrodes using AC and/or DC equipment
- ✓ Metal thickness – no greater than ¼”

### Shop Equipment & Maintenance can be incorporated into the contest areas

- Properly reface grinding stones and adjust tool rest on a bench grinder
- Recondition hand tools (twist drills, screwdrivers, chisels, etc...)
- Setup GMAW, SMAW, and other various applications/conditions
- Troubleshoot and/or repair GMAW machine problems (liners, trigger, nozzle, tips, feed rollers, wire, etc...)
- Using taps and dies correctly as a method of repairing shop equipment
- Maintenance and repair of both hand and power tools
- Painting to identify shop safety zones as well as maintaining equipment