Test 1 1.What is the most efficient shape of a field?
A.roundB.squareC. triangularD.rectangular- long and thin
2.What percent useable drawbar power can be expected on firm soil?
A.86%B.74%c.64%D.55%
3.What is the most efficient field pattern for swathing?A.circuitous
B.alternatingC.headlandD.circuitous with 270^{o} turns
4.How many square feet are there in an acre?
_____
5. A wide open furrow which results from moldboard plowing when two adjacent furrow are thrown away from each other is a/an
6. The largest machinery show in the upper Midwest is _____.
7. What are two types of hydraulic pumps used for tractor hydraulics?
8. What are two types of loads applied to bearings?
9.What are two things that a farmer can do to affect the life of a machine?
10. What are two types of clutches used on farm machinery?
11. What are three time periods that affect field efficiency?
12. What are three different types of gear sets used on ag machinery?
13. What is lugging ability?
14. Why are hydraulics used to drive such things as beet lifters and mower conditioners?
15. What effect does a short stoppage of work have on efficiency as the width of the equipment increases?
16. Why was the diameter of the 1000 rpm pto shaft increased?
17. What is an advantage of a belt drive?
18. Why must an open center hydraulic system have a relief valve?
19. Why is education in farm safety so much harder to accomplish than in industry?
20. What is an advantage of a chain drive?
21. What organization set up the standards for 3 pt hitches?
22. What is the pressure in an open center hydraulic system when the control valve is in the neutral position?
23. How will plant population affect yield? (over or under population)
24. What does a synchronizer do in a transmission?
25. What does the "N" in IIIN 3 point hitch mean?
26. What is the true measure of a management decision?
27. What is the theoretical capacity of a 28' swather travelling 5 mph?
28. If the efficiency of the above swather is 78%, how many acres could a farmer cut in 6 hrs.?
29 A hydraulic cylinder has a 3 inch bore and a 1 inch diameter piston rod. What is the maximum weight in pounds that the cylinder can lift if a 2800 lb. pressure is applied?
30. A 45' cultivator which has a draft of 520 lb/ft is being pulled 4.5 mph. How much horsepower is the tractor producing to pull the cultivator?

31. A 42 tooth gear turns at 1240 rpm. It turns a 65 tooth gear. How fast is this shaft turning?
32. Approximately how many hours will it take to cultivate an 80 acre field if you are travelling 6 miles per hour and have a 38 ft. cultivator? (Approximate)

Test 2 1. Which of the following would be considered a medium carbon steel?

A.1020B.2050C.1050 D. 1250

2. Which of the following is not a secondary tillage tool?

A.rodweeder B. nobel blade C. chisel plowD. spring tooth harrow

3. What is the depth of tillage of a subsoiler?

A. 6-12 inches B. 12-16 inches C. 12-18 inchesD. 16-24 inches

4. Rear tractor tires are designated by code. What does a code "R-2" mean?

A. regular tread B. rice treadC. industrial tread D. turf tread

5. A grain drill is a _____seeder.
6. What are two types of monitors for row crop planters?
7. What are two primary tillage tools other than a moldboard plow or subsoiler?
8. What are two non-metallic substances used in farm equipment?
9. What are two metering systems for grain drills?
10. What are two purposes of secondary tillage?
11. What are two things that will increase the penetration of the soil by a disk?
12. What are two reasons air seeders have gained in popularity?
13. What are two types of disks?
14. What are two furrow openers for a grain drill?
15. What are three types of steering used on today's implements?
16. What are the four basic functions of any seeding machine?
17. What are three parts of a moldboard plow bottom?
18. List three things that increase the rolling resistance of a tractor tire.
19. What are three actions of a moldboard plow?
20. What is the definition of primary tillage?
21. What is the difference in carbon content between cast iron and carbon steel?
22. For what special purpose would a powered drill be used?
23. Give one reason to check row corn.
24. What is one reason to use a moldboard plow over a chisel plow?
25. What is the purpose of soft centered steel?
26. What is the difference between a rotary cultivator and a rotary hoe?
27. What is a disadvantage of a plate type planter?
28. What is meant by running a tractor "on land" when speaking about a plow?
29. The basic goal of a good steering system is that:
30. Give an advantage of a finger type row crop planter.
31. What is meant by non-ferrous metals?
32. Where should fertilizer be placed in relation to a corn row

if drilled in?
33. What does a packer, roller, or a crumbler basket do as far as tillage?
34. Why should there be a space between the landside and the furrow?
35. What is the difference between a drill seeding pattern and precision drilling?

Test 3 1. What type of rake works best for prairie grasses?
A. wheel rake B. parallel bar rake C.dump raked.cylindrical rake
2. What is the chemical formula for anhydrous ammonia?
A. AH_3 B. NH_3 C. ANH_2O D. NH_2O
3. About what year was the first baler or hay press developed?
A. 1853 B. 1869 C. 1887 D. 1932
4. What does an 8004 sprayer nozzle mean?A. 80% coverage, 4 gal/min
B. 80^0 angle, .04 gal/minC. 80^0 angle, .4 gal/minD. 80^0 angle, 4 gal/min
5. A flail type mower uses what cutting action?
A. centrifugal forceB. velocity C. impact D. shear
6. What are two purpose of spray nozzles?
7. What are three things that affect the choice of haying system that a farmer uses?
8. What are three methods of reducing spray drift?
9. Give two parts of a bale knotter.
10. What are two things to look for in a dry chemical fertilizer applicator?
11. What are three things that effect the length of cut of a forage harvester?
12. What are three things application rate depends on?
13. What are two methods of handling small square bales?
14. Give one advantage and one disadvantage of large round bales.
15. Why are most forage chopper blades sharpened in reverse?
16. What is the affect of anhydrous ammonia on exposed skin?
17. How do you change the bale density of a small rectangular baler by baler adjustments?
8. What university is typically credited with the development of the large round baler?

_____

19. What is meant by the register of a mower sickle?
_20. Why would a piston pump be chosen over a centrifugal pump for a field sprayer?
21. Why are flail or rotary mowers widely used for mowing roadways?
22. How is an anhydrous ammonia applicator calibrated or checked for application rate?
3. What is the difference between a crusher and a crimper for a hay conditioner, as far as what it does to the hay?
24. What is a major difference between the Orkel baler from the video and the typical large round baler?
25. What is one problem with the pitman system of driving a cutter bar?

26. If a 60 ft. sprayer is travelling 8 miles/hr. with a nozzle spacing of 30 inches, with a spray nozzle that has a flow rate of .4 gal/min, what is the application rate?

_____

(AxSxW)/5940 = Q^N (Qx66)/w = A

27. If a farmer has 26,000 lbs. of hay that is at 24% moisture and he dries it to 18% moisture, how many pounds of hay will he have at this new moisture content?

_____

(Wet W. - Dry W.)/Dry W. or (Wet W. - Dry W)/Wet W. = % moisture content