CALIFORNIA STATE UNIVERSITY, FRESNO

Department of Plant Science, Jordan College of Agriculture Science &Technology

and

The FFA Field Day Committee

66th ANNUAL COTTON JUDGING CONTEST (A&B teams)

November 4, 2023

WRITTEN EXAMINATION

All answers must be indicated on the accompanying **SCANTRON ANSWER SHEET by completely blocking out the one correct answer using a No. 2 lead pencil**. All questions pertain to cotton grown in the **San Joaquin Valley (SJV) unless otherwise stated**.

I. TRUE-FALSE: Indicate whether the statement is true or false by **blocking out the correct answer. Fill in 'A' if the statement is true or 'B' for false.**

1. Cotton is a determinate plant.
2. If grown under warm, frost-free conditions, cotton plants will stop growing after harvest.
3. Cotton roots and leaves have a functional life of 70-80 days.
4. Nitrogen deficiency symptoms first appear on new leaves of cotton.
5. Average monthly water use for cotton crop is similar in months of July and August.
6. Paraquat, endothall, and cacodylic acid are used as defoliants in cotton harvest management.
7. HVI stands for Harvest Volume Index.
8. The latest 2023 California cotton planted acres (Pima and Acala combined) were about 98000.
9. According to USDA, the Pink bollworm has recently been eradicated from the US cotton belt.
10. The plough down date for south of Fresno is Dec 20th.
11. Alfalfa strips are recommended to be planted in cotton fields to manage Lygus populations.
12. Soil salinity level of 9.6 ds/m or higher has no negative impact on cotton yield.
13. Organic manures provide larger quantity of Nitrogen compared to chemical fertilizer.
14. When cotton is planted on raised beds, it is recommended to place a band of Nitrogen fertilizer within 5 inches from the seed row.
15. Soil temperature below 55^0 F will cause chilling injury to cotton seedlings.
16. A soil temperature of 65^0 F is minimum requirement for quick germination and emergence.
17. Cotton roots can grow to a depth of 6 feet or more.
18. Using systemic insecticides as seed treatments is best for overall integrated pest management.
19. Pythium will be aggravated in the absence of fungicides when seeds are treated with insecticides.

20. Trifluralin and Pendimethalin are pre-emergent cotton herbicides.

21. Cotton emergence is complete within 5-15 days after planting.

22. The recommended moisture level for ginning cotton is 6-8 %.

23. Last day of cotton planting should be around April 15.

24. A germination percentage total of cool and warm germ above 150 is a good seed quality trait.

25. Cotton growth peaks at a tissue temperature of 86^0 F.

26. A GDD forecast of 16-20 units in the days after cotton planting is ideal for stand establishment.

27. In soils favoring tall and vigorous plants, a population of 60,000 plants per acre is ideal.

28. Urea has the highest analysis among Nitrogen containing fertilizers.

29. Large, oval to irregular tan to reddish brown lesions on cotton hypocotyl are caused by Pythium.

30. A single application of Pix is better than multiple low rate applications on cotton grown on 30-inch rows.

II. <u>MULTIPLE CHOICE</u>: Block out the letter answer for each question.

31. The optimum date for completing preirrigation on a field with sandy loam soil is:
    a. Feb. 15 b. Feb. 25 c. March 1
    d. March 15

32. 1000 juveniles of nematodes per kg of soil can reduce cotton yield by about ____ %.
    a. 10 b. 20 c. 30
    d. 40

33. The first flowering branch of pima cottons typically occurs on which main stem node?
    a. 14 – 15th node b. 12 – 13th node c. 10 – 11th node
    d. 6 – 9th node

34. "cut-out" as measured by NAWF is caused by:
    a. irrigation cut-off b. late season high temperatures c. physiological stress from developing bolls d. reduced solar radiation

35. Which transgenic cotton trait has reduced the most pesticide used on cotton grown around the world?
    a. Sulfonylurea (SU) b. Bromoxynil (BXN) c. Insect resistance (Bt)
    d. Glyphosate (Roundup)

36. To get a seeding density of 35000 plants per acre, how many seeds need to be planted per foot of row when cotton is grown on 30" rows?
    a. 1 b. 1.5 c. 2
    d. 2.5

37. In the northern edge of SJV, _____ GDDs are available for cotton during the growing season:
    a. 2500 b. 3300 c. 3100
    d. 3000

38. Which of the listed conditions promotes effective defoliation?
a. low petiole nitrogen levels b. uniform mature plants c. day temperatures > 80 F
d. all of the above

39. Cotton needs favorable growing conditions for _____ days after planting for quick emergence:
a. 3 b. 5 c. 7
d. 9

40. A symptom of heat stress in well-watered cotton during July or August is?
a. small bolls b. pollen sterility c. excessive vegetative growth
d. boll shed

41. Optimum moisture level for storing cotton long-term in modules is ___.
a. < 10 % b. 13% c. 15%
d. 17%

42. At square initiation, cotton taproot grows about _____ inches per day.
a. 1 b. 2 c. 3
d. 4

43. Cotton needs _____ GDDs between first square and open white bloom:
a. 400 b. 450 c. 500
d. 550

44. The optimum planting depth for cotton is about _____ inches:
a. ½ to ¾ b. 1 to 1 ½ c. ¾ to 1 ½
d. 1 to 3

45. The scientific name for Pima cotton types is:
a. *Gossypium hirsutum* b. *Gossypium barbadense* c. *Gossypium herbaceum*
d. *Gossypium arboreum*

46. Nub-root is caused by.
a. 15 herbicide injury b. fertilizer burn c. excessive vegetative growth
d. chilling injury shortly after planting

47. Which insect causes the most damage to cotton yields?
a. Thrips b. bollworms c. Lygus
d. aphids

48. Which insects are associated with "Sticky" cotton?
a. Thrips b. bollworms c. both a and c
d. None of these

49. How many acres are in a section of land?
a. 280 b. 420 c. 500
d. 640

50. Which insect causes early season leaf damage and curling?
a. Thrips b. bollworms c. Lygus
d. aphids

Important Note: Calcot is California's oldest grower owned cotton marketing cooperative. Calcot-Seitz Foundation awards a number of scholarships to promising students pursuing a career in agriculture. Historically, most scholarship recipients have received $3,000 over a three-year period, but more recently the Foundation has been awarding a greater number of scholarships at amounts ranging from $1,000 to $3,000. Check it out with your teacher.