C O N T E N T S

Page

S U M M A R Y

Six field experiments were performed at Menoufia Agriculture Experimental Farm in 1982-83 and 1983-84 seasons to investigate:

I- The effect of number of sprinklings (one and two at 30 and 60 days after sowing) of three herbicides (Basagran, Brominal and Brominal plus) at three levels (0.0, 0.5 and 0.75 L/fad.) on flax associated weeds, yield and its components and quality of flax plant variety Giza 6.

II- The effect of ten treatments of microelements i.e., control, Boron at a rate of 50, 100 and 200 ppm, Zinc at a rate of 50, 100 and 200 ppm and Manganese at a rate of 50, 100 and 200 ppm, as spray application (45 and 75 old plants) on yield and its components and quality of flax plant variety Giza 6.

III- The effect of ten treatments of commercial mixture nutrients i.e., control, Nutirin at a rate of 1, 2 and 3 kg/fad., Irral at a rate of 0.75, 1.50 and 2.25 kg/fad. and Fulyfertile at a rate of 0.5, 1.0 and 1.5 kg/fad., as foliar application (47 and 77 days old plants) on yield and its components and quality of flax plant variety Giza 6.

The main results obtained could be summarized as follows:

1- Increasing the number of sprinklings of herbicides from one to two was more effective in controlling broad leaved weeds.

2- Brominal plus was more effective than Basagran and Brominal in controlling broad leaved weeds.

3- Herbicides at a rate of 0.75 L/fad. were more effective than the control (untreated) and 0.5 L/fad. in controlling broad leaved weeds in flax field.

4- Using two sprinklings of Brominal plus at a rate of 0.75 L/fad. was the most effective weed control treatment.

6- There was a slight decline in seed yield/fad. and its components i.e., number of fruiting branches/plant, number of mature capsules/plant, number of seeds/capsule, seed index and seed yield/plant compared with Basagran and Brominal.

7- Increasing the level of herbicides from zero to 0.5 L/fad. increased seed yield/fad. and its components i.e., number of fruiting branches/plant, number of mature capsules/plant, number of seeds/capsule, seed index and seed yield/plant. Further increase in the level of herbicides decreased seed yield and its components compared with the control.

8- Using two sprinklings of Brominal plus at a rate of 0.5 L/fad. gave the highest seed yield/fad. and its components.

9- Increasing the number of sprinklings of herbicides from one to two decreased straw yield/fad. and its components i.e., plant height, technical length, length of top capcule zone, straw yield/plant and fiber yield either per plant or per fad., while the highest value of stem diameter was obtained by two sprinklings of herbicides.

10- Spraying flax plants with Brominal plus gave the greatest straw yield/fad. and its components i.e., length of top capsule zone, stem diameter, straw yield/plant, fiber yield/plant and per fad., while the highest values of plant height and technical length were obtained by spraying Basagran.

11- Using herbicides at a rate of 0.5 L/fad. increased straw yield/fad. and its components i.e., length of top capsule zone, stem diameter, straw yield/plant, fiber yield/plant and per fad., but the maximum values of plant height and technical length were recorded by the control. On the contrary, increasing the level of herbicides from 0.5 to 0.75 L/fad. decreased straw yield and its components compared with the control in both seasons.

12- Applying two sprinklings of Brominal plus at a rate of 0.5 L/fad. gave the highest straw yield/fad. and its components.

13- Increasing number of sprinklings of herbicides from one to two had no effect on the oil percentage and refractive index, while iodine value reduced by increasing number of sprinklings.

14- Brominal plus, Brominal and Basagran had no clear difference on oil percentage and refractive index. However, the herbicide Basagran gave the lowest mean of iodine value.

15- Herbicides at a rate of 0.75 L/fad. reduced oil percentage, refractive index and iodine value.

16- Two sprinklings of herbicides caused a reduction in fiber percentage, fiber length and fiber fineness.

17- Basagran improved fiber quality of flax i.e., fiber percentage, fiber length and fiber fineness than the other herbicides.

18- Herbicides at a rate of 0.75 L/fad. significantly reduced fiber length and fiber fineness as compared with the control and 0.5 L/fad.

19- Applying two sprinklings of Brominal plus at a rate of 0.5 L/fad. gave the highest fiber length and fiber fineness.

20- Foliar spraying with microelements i.e., B, Zn, and Mn had a pronounced effect on seed yield/fad. and its components i.e., number of fruiting branches/plant, number of mature capsules/plant, number of seeds/capsule, seed index and seed yield/plant. The highest means were obtained with B at a rate of 200 ppm in both seasons.

21 - Foliar spraying with microelements i.e., B, Zn and Mn caused an increase in straw yield and its components i.e., plant height, technical length, length of top capsule zone, stem diameter, straw yield/plant, fiber yield/plant and per fad. The highest means were obtained by B at a rate of 200 ppm in both seasons.

22 - Spraying flax with microelements i.e., B, Zn and Mn had no effect on oil percentage, refractive index and iodine value.

23 - Applying B, Zn and Mn as foliar nutrition had a significant effect on fiber length and fiber fineness, but had no effect on fiber percentage. The highest values with regard to fiber length and fiber fineness were obtained by applying B at a rate of 100 ppm.

24 - Spraying flax with commercial foliar nutrients i.e., Nutirin, Irral and Fulyfertile caused an increase in the mean values of seed yield/fad. and its components i.e., number of fruiting branches/plant, number of mature capsules/plant, number of seeds/capsule, seed index and seed yield/plant. The highest values were obtained by Irral at a rate of 2.25 kg/fad. and Fulyfertile at a rate of 1.5 kg/fad. in both seasons.

25 - The foliar fertilizers Nutirin, Irral and Fulyfertile had no significant effect on straw yield and its fad. and fiber yield/plant and per fad. The highest

values of straw yield and its components were obtained by Irral at a rate of 2.25 kg/fad. and Fulyfertile at a rate of 1.5 kg/fad. in both seasons.

26 - Application of foliar nutrients i.e., Nutirin, Irral and Fulyfertile had no effect on oil percentage, refractive index and iodine value.

27 - No clear effect was found for the foliar nutrients on fiber percentage and fiber length, but had a pronounced effect on the fiber fineness in the two seasons. The best result was obtained by the application of Fulyfertile at a rate of 1.5 kg/fad.