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For Your Interest

Agricultural and Home Economics Experiment Station

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Announce 1961 All-America Roses

Entries selected for the 1961 award in the All-America Rose Selections Trials of unintro­duced roses are “Duet,” a bi-color salmon-pink Hybrid Tea, and “Pink Parfait,” a pink Grandiflora. These roses are now available from commercial sources.

Other new roses which have done well in the Iowa State University Rose Garden are: Hybrid Teas—Gail Borden, Pink Lustre, Garden Party, Hawaii, Pink Duchess and Day of Triumph; Grandifloras—Cherry Glow and El Capitan; and Floribundas—Encore, Lavender Princess and Sarabande.

New Melon Hybrids Appear Promising

Three muskmelon hybrids were included in the yearly trial of new varieties maintained by the Experiment Station to compare promising new varieties with commercial varieties. Among the commercial varieties, Edisto continues to perform well. And the three hybrids included in the trial performed exceptionally well, according to L. E. Peterson and L. C. Pierce who conducted the test. Burpee Hybrid and Supermarket Hybrid appeared to be about the same in appearance and perform­ance, and both showed some promise for commercial planting. The third hybrid, Harper Hybrid, performed well but could not withstand shipping as well as the other two hybrids because of its thin rind.

List Outstanding Stone Fruit Varieties

Fertilizer Raises Yearly Grape Yield

A 10-­year summary of fertilizer treatments for Concord grapes indicates an average yearly increase of from 0.6 to 1.8 pounds per vine from the use of fertiliz­ers, reports C. C. Doll of the Experiment Station. The greatest yield increase was obtained with treatments of 30 pounds of P₂O₅ alone or with 40 pounds of nitrogen.

All fertilized plots produced more vegetative growth in last year’s test than did the unfertilized vines, with increases ranging from 0.2 to 0.4 pound of prunings per vine. This is very close to the average pruning weights from the use of fertilizers during the 10 years of this study.

Application of 0.6 and 1.2 pounds of K₂O per vine resulted in increases of 0.6 and 2.7 pounds of fruit, respectively, in 1959. This is the third successive year that increased yields were ob­tained from the treated vines. An increased pruning weight of 0.3 pound per vine was measured from both levels of potash in 1959.

Examine Fertilizer Needs for Establishing Brome on Basin Terraces

Present fertilizer recom­mendations for establishing alfalfa-brome grass cover on areas disturbed by basin terraces call for application of 50 pounds of nitrogen and 200 pounds of P₂O₅ per acre. Experiment Station and USDA agronomists, under the di­rection of W. C. Moldenhauer, further checked these recommend­ations for the possibility of elimin­ating the nitrogen applications.

Various fertilizer treatments were used on brome grass seeded alone, with oats, with alfalfa and with both alfalfa and oats. Oats held brome grass back, but alfalfa didn’t. Alfalfa, on the other hand, was more vigorous when planted with oats than when planted with brome alone. Adding nitrogen
Above: More energy reaches the ground during early stages of growth; corn in this photo is 24 inches high.

Right: Here, the corn has reached a height of 54 inches.

Above: More energy reaches the ground during early stages of growth; corn in this photo is 24 inches high. Right: Here, the corn has reached a height of 54 inches.

Left: Energy reaching the ground is reduced by about half when corn reaches maximum height. The corn in this photo is 87 inches tall.

R. H. Shaw of the Experiment Station are studying radiation — how much of the sun's and sky's energy reaches the ground. They're testing this on cornland under many different conditions — on cloudy days, on clear days, on wet soil, on dry soil and when the corn is at different heights.

In preliminary studies of checked corn planted in a normal hill spacing, the researchers found that, in mid-July, 40 percent of the radiation reached the ground. This figure gradually decreased to 20 percent by late August. But even when the corn had reached its maximum height there was still considerable radiation reaching the ground surface.

Some of the energy from this radiation is used for evaporation of the moisture that corn gives off (transpiration), for heating the air and the plant and for photosynthesis. The energy reaching and retained in the soil can heat the soil or be used for evaporation.

The information from these studies will be useful in predicting yields and in understanding the effects of soil moisture on plants and the relationship between yield and weather. The USDA and the United States Weather Bureau are cooperating with the Experiment Station in conducting these studies.

Colo Clay Loam Soil Suited to Irrigation

COLO CLAY LOAM soil is well drained from below and should respond well to irrigation in dry seasons, reports George R. Benoît of the Experiment Station.

This conclusion is based on the results of a study to determine the field capacity and maximum plant-available water in Colo clay loam. Results show that water is absorbed by this soil at about 1.3 inches per hour, and it takes a field about 20 hours to reach field capacity after 2 to 6 inches of water have been added. The field capacity of the soil, on a volume basis, is 38 percent at 0 to 4 feet, 30 percent at a depth of 6 feet and 38 percent at depths greater than 6 feet. There are 7 to 7.5 inches of plant-available water in the top 6 feet of soil at field capacity.

Examine Sun's Energy in Soil Moisture Study

Many questions have been raised recently about crop placement and spacing to get top yields and the most efficient use of available water.

To find out more about this, Leo Fritschen, Tom Denmead and

fertilizer increased the average bromegrass stand, though the increase didn't show up for individual companion crop treatments.

All in all, the results show that some nitrogen was helpful in establishing a bromegrass stand under these conditions. But 50 pounds of nitrogen didn't give much better results than did 25 pounds. At the particular location tested — which was in better shape than many with which work has been done — 200 pounds of \( \text{P}_2\text{O}_5 \) gave little or no better results than 100 pounds.