

KENTUCKY FRUIT NOTES



W. D. ARMSTRONG
THE NEW HORTICULTURIST

It is a pleasure to welcome Mr. Armstrong back to Kentucky to take charge of the new Horticultural program, made possible by act of legislature at the last special session. Mr. Armstrong was a member of the Horticultural Department at the University of Kentucky in the teaching and research division in 1931-32, while Professor C. S. Waltman was away for graduate study.

Mr. Armstrong hails from Texas, where he graduated in horticulture from Texas A. and M. College in 1929. While there he earned a large part of his expenses working in the College orchards.

From 1929 to 1931 he was a graduate student at Michigan State College. The summers were spent in fruit work at the South Haven Substation. During the summer of 1931 he was stationed at Fennville, Michigan, in connection with a spray service project. After leaving Kentucky he was a member of the Horticultural staff at the Georgia Experiment Station for

three and one half years. In February, 1936, he went to Oklahoma as Extension Horticultural Specialist, and worked there until he returned to Kentucky July 1st.

Mr. Armstrong is the editor of Kentucky Fruit Notes and will welcome suggestions and criticisms of fruit and berry growers for making this bulletin of the greatest possible service.

During the past few weeks Mr. Armstrong has been visiting the fruit and berry sections of Kentucky to study the problems before setting up an experimental program. He has headquarters at the Western Kentucky Experiment Substation at Princeton. Communications should be addressed to him there.

A. J. OLNEY, *Head
Horticultural Department,
University of Kentucky.*

THE KENTUCKY FRUIT NOTES BULLETIN

The purpose of this bulletin is to present to the fruit and berry growers practical and timely information and observations on culture, production, harvesting, marketing and pest control, as well as interesting news and comments. Growers are invited to present articles on discoveries, experiences and observations of general interest. The bulletin will be sent free to all Kentucky growers who request it. Requests should be made to Kentucky Experiment Station, Lexington, Kentucky.

In the absence of an adequate list of fruit growers this issue is being sent to such lists as were found available and undoubtedly many growers were unavoidably omitted. There will also be some duplications made. It will take a few months to get the mailing list worked out to the point where this bulletin is reaching those who want and use it.

We wish to urge every grower to assist us in getting a correct mailing list. If you know of a fruit or berry grower that is not receiving this bulletin, who desires to be placed on the list, have him fill out the request blank on the last page; or turn his name in to the county agent.

BULLETIN OF THE KENTUCKY AGRICULTURAL EXPERIMENT STATION

018312

THE SPECIAL HORTICULTURAL APPROPRIATION

At the last special session of the legislature an act was passed providing for the employment of a horticulturist under the auspices of the Experiment Station for the purpose of enlarging the investigation of the fruit problems in Kentucky, and of providing new services to growers. These include a spray service program, publication of practical information, and holding of meetings and fruit exhibitions.

HORTICULTURAL WORK AT WESTERN KENTUCKY EXPERIMENT SUBSTATION

S. J. LOWRY, *Superintendent*

For several years we have needed the assistance of a resident horticulturist at the Western Kentucky Experiment Substation, but on account of reduced income we have not been able to afford this help. We are much pleased to welcome Mr. W. D. Armstrong and his family back to Kentucky and to the Western Kentucky Experiment Substation at Princeton. His excellent training and experience will enable him to render a most valuable service to the fruit and berry growers of Kentucky.

Mr. Armstrong will have his headquarters here so we shall be able to secure a great deal of valuable help from him in carrying on our horticultural experiments as well as have the pleasure of cooperating with him in the conduct of any and all new investigations which may be inaugurated at this substation. In Mr. Armstrong the farmers and fruit growers have a horticulturist who is thoroughly qualified to serve them and one with whom they will find it easy and pleasant to work.

KENTUCKY STATE FAIR FRUIT EXHIBIT

M. Y. NUNN, *Superintendent State Fair Horticultural Exhibit*
Sturgis, Kentucky

During the past years the fruit exhibit has been one of the outstanding features at the Kentucky State Fair. Naturally people expect to see the finest products of the state on display and tell their friends about it when they go back home. Exhibits such as we have had in the past can only be made possible by cooperation of our leading fruit growers. Even if

the commercial fruit crop in the state is below that of last year, I am sure every person who attends the Fair will be expecting to see a good apple show.

The general premium list for 1938 will be practically identical to that of the past two years. The premium lists are not as yet available, but will be within a short time. Your county agent can doubtless provide you with a premium list as soon as they are off the press.

Any fruits, including apples, peaches, grapes or pears, which mature ahead of State Fair dates (September 12 to 17), should be shipped to the Kentucky State Fair, care of the Merchants' Ice and Cold Storage Company, Louisville, Kentucky. This fruit will be stored at no expense to the grower and will be delivered to the fair grounds by the fair management on the opening day of the fair.

Notify M. Y. Nunn, Sturgis, Kentucky, especially concerning the larger entries you plan to make, so that adequate space can be reserved for the exhibit. The 40-tray and 40-plate county displays, together with the 20-tray exhibits, offer some very attractive prizes as they have in the past. These larger exhibits remain the property of the exhibitor, while the plate and single tray classes become the property of the apple show management.

Mr. W. D. Armstrong, horticulturist at the Western Kentucky Substation at Princeton, will be assistant manager and will gladly help any amateur growers in arranging their exhibit. Any exhibits sent in will be arranged by the management, should it be impossible for the exhibitor to be on hand at the opening dates of the fair. Early entries are preferred but fruit may be entered during Monday and Tuesday morning of the Fair.

We are counting on former exhibitors and hope many new ones will be added to the list, in helping make the 1938 State Fair Fruit Show even better than it has been in the past.

Professor C. S. Waltman of the Horticulture Department, University of Kentucky, will again be the judge. He suggests that every care should be exercised to prevent the bruising of fruits both at picking time and in packing for transportation. Stems should be in the fruits, and each exhibit should be as uniform in size, shape and color and as free of blemishes as possible.

PREVENTING SUN SCALD WITH
WHITEWASH

FRANK T. STREET, Henderson, Kentucky

The heavy pruning which the fruit growers often do throughout the winter and spring months, due to the short crops of fruit in prospect, leave many large cuts exposed to fungus infection and many limbs exposed to sun scald. As a result much interest has been shown by the growers in materials which would protect them from loss of valuable wood subject to these dangers. Some benefits from the use of whitewash have been experienced. It is important to whitewash the branches and paint the cuts as soon after pruning as possible.

One of the most interesting formulae for painting the exposed limbs to avoid sun scald has been worked out by Professor C. L. Burkholder of Purdue University. This mixture is made by stirring sufficient lime into fresh skim milk to bring the mix to a consistency of a rather thick paint. When applied, this has a beautiful white color and is very resistant to weathering. As sour milk can not be used, it is important that the paint be made up fresh as used. When using this on apples, the addition of 2 ounces of raw linseed oil to each quart of skim milk gives the paint even more resistance to weathering.

This makes an excellent formula for whitewash regardless of where it is used. It can be renewed by additional applications if necessary until the trees have developed sufficient shade.

For painting the wounds made by the saw cuts the old formula of raw linseed oil and powdered blue stone, on the basis of sixteen pounds of copper sulphate to each gallon of raw linseed oil, is still one of the best known formulae. This paint needs to be stirred each day for approximately three weeks and is much better paint if made up several months in advance. Recent information indicates that the use of ready made dry Bordeaux works quite as well, or better than powdered blue stone.

STRAWBERRY VARIETY TEST,
KENTUCKY EXPERIMENT
STATION, LEXINGTON

C. S. WALTMAN, *University of Kentucky*

Six varieties of strawberries were fruited this season as follows: Premier, Dorsett, Fairfax, Catskill, Blakemore and Beaver. The original planting distances for the varieties were varied as follows: One row each of Premier, Dorsett, Fairfax and Catskill were set at 12, 18 and 24 inches respectively. Blakemore was set at 30, 36, and 42 inches because of its

COMPARATIVE YIELDS IN 24-QUART CRATES PER ACRE FOR THE
DIFFERENT VARIETIES AND FOR THE DIFFERENT SPACINGS

Variety	Ripening Dates	12"	18"	24"	30"	36"	42"
Premier	May 11 to June 4	214.7	354.8	348.7			
Dorsett	May 11 to June 1	259.7	216.8	247.1			
Fairfax	May 16 to June 6	266.0	370.7	301.6			
Catskill	May 18 to June 6	499.5	440.8	423.0			
Blakemore	May 13 to May 30				335.9	334.0	344.5
Beaver	May 11 to June 2		73.3				

habit of forming plants abundantly. The Beaver was secured from a nursery in Minnesota and the plants were set at 18 inches. No thinning or spacing of runners was done during the summer of 1937 and the conditions were such that all varieties made excellent growth. Straw mulch was applied in December of 1937. The rainfall and temperature conditions were nearly ideal this season which resulted in large yields. The season was unusually early and the berries ripened from 10 days to two weeks in advance of a normal season.

Catskill—A comparatively new variety, is showing high yields. Two year tests indicate that it is a berry of good quality with good shipping qualities.

The Aroma variety is not adapted to the Lexington Section and was not included in this test.

STRAWBERRIES AS A PROJECT FOR 4-H AND F. F. A. CLUBS

O. M. SHELBY, *County Agent,*
Crittenden County

The Kiwanis Club and other business interests of Marion, Ky., in 1937, agreed to sponsor modern production marketing of strawberries among 4-H and F. F. A. Club members. The agreement was that the club members would return one crate of U. S. No. 1 berries to the association for each 1,000 plants furnished. Thirty-five boys and girls made application for plants under these terms. According to the agreement each boy or girl was to plant, fertilize and cultivate the berries according to instructions given by their high school teacher or by the county farm agent. Some small prizes to the winners in the county were also arranged.

The largest individual group in the county was directed by Professor Royce Ladd of the Mattoon High School. In spite of some handicaps of dry weather in the growing season of 1937, together with considerable injury from frosts in the spring of 1938, Jake Lowery of the Mattoon High School, a very active member of the F. F. A. Club, won the first prize. From his 2,000 plants set in the spring of 1937, representing approximately one-half acre, he produced and delivered to the Crittenden County Association 56 crates of No. 1 berries, in addition to a few crates used for home consumption, together with a few crates of culls which he used to help pay for additional labor in harvesting. After the price of

crates was deducted by the association, Mr. Lowery received slightly over \$100.00 return for his half acre of strawberries.

By way of prizes, Mr. Lowery won a quantity of fertilizer donated by the Berry Association, together with a useful fountain pen and pencil set donated by Jos. Denunzio Fruit Company of Louisville, who were the marketing agents for the Crittenden County Association. Needless to say, Mr. Lowery is very proud of his winnings and is making plans to put out a new acreage of berries each year, and by the time he finishes High School hopes to derive enough money from the sale of strawberries to allow him to enter college.

The organizations sponsoring this enterprise needless to say are quite proud of the success of this project and hope to continue it indefinitely.

SUMMER MEETING WESTERN KENTUCKY APPLE AND PEACH GROWERS

The Horticultural Society of Graves County were hosts to the annual summer field meeting of Western Kentucky Fruit Growers, held at the Dr. D. W. Doran orchard in Graves County, July 8. Growers from 15 Kentucky counties and from the states of Tennessee, Illinois, Missouri and Indiana attended this meeting.

ORCHARD TOUR

During the forenoon, visitors inspected a bearing apple and peach orchard. While the Elberta constitutes the larger part of the peach planting, additional varieties such as Redbird, Eureka, Alton, July Heath, Belle of Georgia, Golden Sweet Cling and J. H. Hale are grown. When asked what varieties were planted in a 20-acre block of young peaches, Dr. Doran remarked that it was entirely planted to Elbertas, and further remarked that for commercial shipment too many of the earlier varieties were very undesirable.

Among the apple varieties carrying a full crop were the Grimes Golden, Paducah, Champion, Fall Beauty, with a reasonable crop of Golden Delicious. The Red Delicious and Stayman were carrying a very light crop. A general discussion among the growers brought out the point that the Red Delicious had failed to pay dividends as compared with other varieties mentioned above.

YOUNG ORCHARD ON TERRACED LAND

The new 20-acre block of peaches has been planted on land previously

terraced under the direction of the Soil Conservation Service. W. R. Smith, Project Engineer, explained the method used in building this mangu terrace, as well as the newer type of the broad base terrace. He also called attention to the fact that U. S. D. A. Technical Bulletin No. 1789 on Terracing, was available and that it gave a thorough discussion of the subject.

Dr. Doran stated that the cost of terracing some 200 acres of his farm averaged about \$1.50 per acre.

Another feature of the day was the free fish fry at noon, provided by the Fruit Growers of Graves County. Two hundred pounds of fresh crappie and catfish were consumed.

A FEW OPEN AIR TALKS

In the afternoon following the lunch the program continued. W. D. Armstrong, Horticulturist, Princeton Substation, was presented to the group and discussed some phases of peach and apple growing in Oklahoma and the Southwest.

In discussing the new horticultural work he will be doing with the experiment stations and growers, it was stated that a study of the fruit and berry growing needs and problems would be made during the remainder of the summer and that a program of work would be lined up this fall.

Mr. Howard L. Bruer, of the Peach Disease Survey work, outlined control and eradication methods used to fight the phoney disease of peaches. This is a root disease of peach trees that stunts the tree growth and prevents peaches from sizing up above the cull size. The affected trees are never killed but are permanently removed from usefulness. The only control method known to date is to dig out the diseased tree. A young tree may be re-set where the old tree was removed without fear of it becoming affected. It was stated that the greatest infestation occurs in south central Georgia and that Kentucky is in the region of very light infestation. Only two or three diseased trees were found in the state in 1937 and none has been found to date in 1938.

Frank T. Street, of Henderson, Kentucky, discussed the delay of peach ripening by the summer application of nitrogen fertilizer, and stated that he was convinced the grower could manipulate the ripening date of his fruit a few days by this method.

W. W. Magill, of the Kentucky Agricultural Experiment Station, Lexing-

ton, led the discussion on the question of delaying the picking dates of the peach crop so that peaches of higher quality would be available. If allowed to remain on the trees for a few days after the usual commercial picking time, peaches will increase one-third in volume. During this time the starches in the peach turn to sugar and greatly add to the quality of the fruit.

M. Y. Nunn, of Sturgis, Kentucky, who will serve as superintendent of the fruit exhibit at the State Fair this year, asked for cooperation of the growers in preparing this exhibit at the fair.

LESPEDEZA SOD VS. CULTIVATION IN THE PEACH ORCHARD

One of the outstanding features of this orchard field day was a visit to the Yopp-Michael-Rosenfield commercial peach orchard near Paducah. This orchard, which is on rolling land, is 12 years old and has been sown down to Korean Lespedeza for the past six years and no cultivation has been given. It is again carrying a full crop of peaches, estimated at over 7,000 bushels. The liberal use of nitrogen fertilizer, three to four applications per year, has been found necessary under this type of orchard management. An experimental plot consisting of one acre of land has had clean cultivation this season, but the visitors present could see no improvement in the looks of the trees where this land had been cultivated all summer.

CROWN BORER CONTROL OF STRAWBERRIES

JOE HURT, *County Agent,*
McCracken County

A few years ago the insect known as crown borer gave promise of causing an annual loss to the strawberry industry in southwestern Kentucky in excess of \$100,000 per year. Although the general life history and habits of this insect were reasonably well known, the damage from this little "bug" was increasing year after year. Naturally the growers requested a special field and laboratory study to be made by the Entomology Department of the Kentucky Experiment Station. Dr. Paul O. Ritcher of this department was assigned to do the work.

One of the first field activities that I took part in after coming to McCracken County in the spring of 1937,

was to accompany Dr. Ritcher and Mr. W. W. Magill on an inspection trip in the county, to start a detailed study of the crown borer.

We called upon Mr. C. M. Seaton, who was reported to have suffered heavy borer injury. On visiting Mr. Seaton's berry patch we found that this insect had destroyed more than half of his patch. In less than five minutes Dr. Ritcher had picked up three of the adult crown borers around one berry plant. In a few minutes each of us had learned how to find the little insect.

A field on Mr. Seaton's farm, several hundred yards away from any old plants, was selected for a new berry field. A few days later, in advance of the egg laying period, which is soon after the first of March, Mr. Seaton, assisted by Dr. Ritcher, dug new plants from the crown borer infested patch. These healthy new plants were thoroughly washed and the old growth and husks carefully removed. They were then "heeled in" on borer free soil until land could be prepared for planting.

As evidence that these simple measures, properly carried out, will eliminate crown borer, we are glad to report that this acre of Aroma berries on Mr. Seaton's farm yielded in excess of 200 crates per acre this spring of 1938. This, so far as I know, was one of the highest in McCracken County this year.

For experimental purposes, Dr. Ritcher obtained plants from the same source on Mr. Seaton's farm, after the egg laying period in the spring of 1937, and removed these plants to the Western Kentucky Substation farm at Princeton, Ky. Practically every plant of the experimental planting at Princeton developed crown borers and were naturally a total loss.

Mr. Seaton, like dozens of other growers in the area, felt that he had been fighting a losing battle with crown borers prior to 1937, but now he feels that the crown borer can be whipped by following the simple recommendations for eliminating the crown borer. These are: Dig plants from November 1st to March 1st, wash at once, removing all dirt and dead and spotted leaves. Plant at once, or "heel in", in clean soil. The new patch should be at least 100 yards from old plantings or wild hosts. Wild hosts are the wild strawberry, Indian strawberry and the common wild Cinquefoil, or five finger.

INSECT ENEMIES FIGHT MAN'S BATTLES IN KENTUCKY ORCHARDS

P. O. RITCHER, *Entomology Department, University of Kentucky*

We usually give a lot of credit to the weather and to spray programs for controlling insect pests of peaches, apples, and plums. Often, unnoticed by the grower, insect enemies of these pests are doing a good share of the pest destruction.

This past year, at the Exall orchard, located at Paducah, a small parasite killed 10 per cent of the overwintering codling moth worms. The worms killed over the winter by all other causes amounted to about 17 per cent.

In a collection of plum curculio larvae made in June of this year at the Garrett orchard in Woodford County, 28 per cent of the curculios were killed by a wasp parasite.

Often, Oriental fruit moth is heavily attacked by parasites. This summer, at the Ben E. Niles Orchard, located at Henderson, 64 per cent of the second brood Oriental worms were killed by insect parasites.

CHECK ON ORIENTAL FRUIT MOTH PARASITES

This year, as part of a joint project between the Federal Government and the Experiment Station, 38 collections of twigs wilted by Oriental fruit moth were made in 20 western Kentucky peach orchards. This material, comprising about 5,000 infested twigs, was shipped to the Federal parasite laboratory at Moorestown, New Jersey, where the parasites will be reared.

The purpose of this work is to check on the establishment of foreign parasites recently released in Kentucky orchards in an attempt to control the Oriental fruit moth by using its insect enemies.

TREE RIPENED FRUIT

Home-grown tree ripened peaches are now available at many places in the state for home canning, pickling and making of peach butter. The white flesh varieties, such as Belle of Georgia and Champion are always in demand, once they have been given a trial. If you do not grow peaches for home use, drive to a nearby orchard and buy a bushel of tree ripened peaches.

RECENT BULLETINS

Top and double working apple trees. (Wisc. A. E. S. Bul. 432. 1936.) Madison.

Soil Erosion and its control. George Roberts, Earl G. Welch and J. B. Kelley. (Univ. of Ky. Circ. 304. 1937.) Lexington.

Growing fruit for home use. Victor W. Kelley. (Ill. A. E. S. Circ. 482. 1937.) Urbana.

The "Thin Wood" method of pruning bearing apple trees. G. L. Ricks and H. P. Gaston. (Mich. A. E. S. Spec. Bul. 265. 1935.) East Lansing.

Grafting in the apple orchard. H. A. Cardinell and F. C. Bradford. (Mich. A. E. S. Spec. Bul. 142. 1937.) East Lansing.

Cultural systems for the apple in Ohio. C. W. Ellenwood and J. H. Gourley. (Ohio A. E. S. Bul. 580. 1937.) Wooster.

Commercial strawberry production in Kentucky. W. W. Magill. (Ky. Ext. Circ. 295, 1937.) Lexington.

Grapes in Kentucky. A. J. Olney. (Ky. Ext. Circ. 209, Revised 1938.) Lexington.

Cherries in Kentucky. C. S. Waltman. (Ky. Ext. Circ. 267, Revised 1936.) Lexington.

The control of fruit pests. C. O. Eddy, W. D. Valleau and W. W. Magill. (Ky. Experiment Sta. Bul. 353. 1934.) Lexington.

The vegetable garden. J. S. Gardner. (Ky. Ext. Circ. 309. 1938.) Lexington.

IN MEMORIAM

In the passing of Dr. H. Van Antwerp, of Farmers, Ky., May 21, 1938, Kentucky has lost one of her ablest and most widely known orchardists.

He was a beloved leader in his community and his counsel was sought by all who knew him.

All horticulturists deeply mourn his passing but fruit growing in Kentucky has been enriched because of him. Sympathy is extended to his family.

KENTUCKY AGRICULTURAL EXPERIMENT STATION LEXINGTON, KENTUCKY.

Please put my name on the list to receive the Kentucky Fruit Notes. I am particularly interested in berries _____, apples _____, peaches _____, other fruits _____.

Name _____

Address _____

County _____

t
e
h
e
o
p
s
v

c
s
i
r
a
t
s
i
l
a
l
c
t
t