

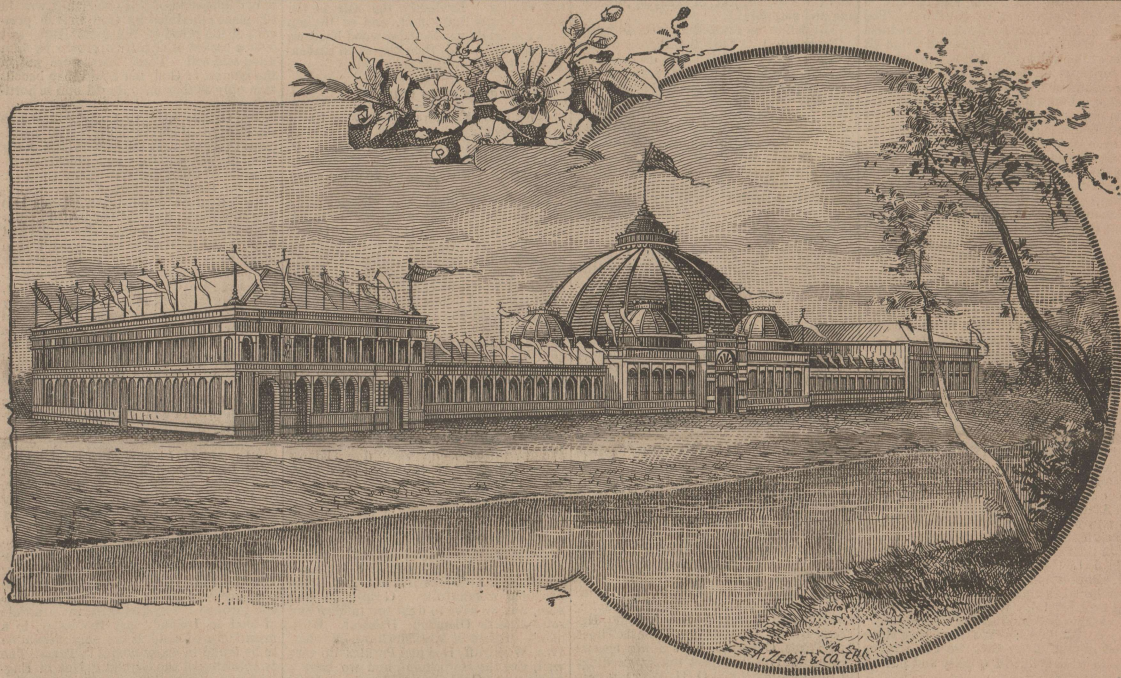
SPECIAL HORTICULTURAL EDITION.



Vol. XII.--No. 27.

DALLAS, TEXAS, JULY 8, 1893.

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The above cut represents the great Horticultural Hall at the World's Fair. It is 1000 feet long with an extreme width of 286 feet. The plan is a central pavilion with two end pavilions, each connected to the center pavilion by front and rear curtains, forming two interior courts, each 83x270 feet. These courts are beautifully decorated in color and planted with ornamental shrubs and flowers. The center pavilion is roofed by a crystal dome 127 feet in diameter and 115 feet high, under which are exhibited the tallest palms, bamboos and tree ferns that can be procured. The exterior of the building is in stucco, tinted a soft warm buff, color being reserved for the interior and the courts. The appropriation for this building is \$400,000. It was probably built for something less than this sum.

HORTICULTURISTS AT ROCKPORT.

PROCEEDINGS AND PAPERS OF INTEREST TO EVERY TILLER OF AN OR- CHARD OR GARDEN.

[Letter of the Secretary submitting the report of the proceedings of the Rockport meeting, with papers there read, to TEXAS FARM AND RANCH, official paper of the Texas State Horticultural Society.]

FORT WORTH, TEXAS.

Editor Texas Farm and Ranch:

In submitting to you as the official paper of this Society a report of the seventh annual meeting of the same, and all papers then read and discussed, it is but right and proper that I should to some extent here express to the good people of Rockport the many obligations which they have placed upon us on account of unbounded hospitality and generous expressions of good will and personal interest in our work. The Rockport meeting, which is our seventh, was the most important ever held by this Society. Its attendance was large, displays magnificent and education and discussion of subjects of wide range and of advanced and liberal views and purposes. This Society need not call attention to the fact of the growing interest in its work; the papers herewith submitted speak for us in this particular.

Allow me to here express my thanks to all papers in Texas that have aided me in my work to place the salient features of

this Rockport meeting before the public, and to the St. Louis Republic for like services rendered.

Trusting that the papers herewith submitted will meet with that consideration from the people of our State that they deserve, very respectfully,

E. L. HUFFMAN,
Sec. Texas State Hort. Society.

On the morning of June 21st the Horticultural Association met and proceeded to the arranging of the vast amount of fruits, vegetables and some farm products, brought together by the members of the Association and other progressive horticulturists and farmers who are not members of the Society. There were thirteen tables from twelve to twenty feet long loaded with these fruits and vegetables. There were in all not less than 500 plates of fruits.

The display of grapes was grand, showing as fine grapes as can be found on vines of the same age in any State in the United States.

There was a splendid display of pears, though, owing to its being so early in the season, none of them were ripe, though the specimens shown were very fine considering their season, especially the Kleffer and LeConte, now being grown so successfully in the coast country.

Some of our best grape men who were here, and who have visited the vineyards of California and other States of the United States, say that the samples of grapes now on exhibition here, grown in the vicinity of

Rockport, are the finest they have ever seen anywhere. For several years we have heard that Vinetara, the fine wine-bearing grape of Europe, would grow here in Southwest Texas. This assertion was incredible and disputed by wise people everywhere, but when this large and representative body of horticulturists from all parts of the State came and saw this grand display of fine grapes, all doubts were immediately dissipated. They saw the largest, finest and most perfect grapes ever seen in all the history of this country. Here were immense clusters of Malaga, Rose of Peru, Tokay, Black Morocco, Muscat of Alexandria, Muscatel, Purple Damascus, Chasselas, Seedless Sultana, Zinfandel, Black Prince, Black Ferrara, Riesling, White Tokay, Flame Tokay, Emperor, Lenoir, Herbe-mont, Ruhander, Cunningham, Louisiana, Salem, Goethe, and many other fine American grapes which had grown in open ground without fertilizers or irrigation. Indeed it is now settled that the finest grapes known are a success in Southwest Texas. In addition to these fine grapes, we find that many other fruits, such as oranges, figs, pomegranates, Japan plums, and a great variety of fine vegetables, grow in great profusion and perfection in Southwest Texas.

Many parts of the State were represented with fine displays. Mr. Watson, of Brenham, and his son, D. H. Watson, were present with about 400 plates of excellent fruit, and they carried off a large number of first premiums; and premiums were won by Bowman, of Austin; Wright, of Pales-

tine; Kerr, of Sherman; Kirkpatrick, of McKinney; Klepper, of Dallas; Onderdonk, of Nursery, and others from different points in the State, whose names I failed to get, but which will appear in TEXAS FARM AND RANCH later.

Dr. J. T. Whitaker and Mr. Bailey, of Taylor, Texas, exhibited a large number of varieties of the very best and finest fruit, but they were unfortunately delayed by the railroads and arrived too late to enter them for first premiums. Premiums taken by other exhibitors will appear later.

The meetings of the Association were largely attended from first to last. I have never attended a meeting so harmonious, interesting and enthusiastic as this has been. The visitors at the meeting were delighted that they had gained so much valuable information which could have been obtained nowhere else. There was so much unanimity, harmony and dispatch in the transaction of the business, that the work was finished one day sooner than was expected, and to-day (the 23d) has been spent by many of the members and visitors in visiting vineyards in the country, visiting the jetties at the Pass, and enjoying themselves generally.

In addition to the proceedings of the Horticultural Society given in our last issue, we condense the following from the official journal. This condensation is necessary in order to make room for the many excellent papers which follow.

The second day's proceedings opened with the appointment of a committee on memorials and one on resolutions, followed

astic horticulturist and gardener. On Thursday night we had several interesting speeches, notably those of Messrs. Howell and Atwater. The former gave us a most learned dissertation upon spraying, gathering and shipping, the gist of which was that he had been most thoroughly sprayed by the briny waves of Aransas bay—gathered a fund of information upon which to display to advantage his ability to paint the illy or perfume the rose; or in less elegant language he told some of the biggest whoppers any one ever listened to until Prof. Atwater took his place upon the stage, and for which the president promptly shipped the gentleman from the presence of the audience. Prof. Atwater appeared next with the proofs to substantiate his statements, which were far more convincing than the "Madagascar," signed by Sam Jones, with which Mr. Howell appeared. Prof. Atwater declared that this country could raise the finest sweet potatoes in the world, backed the statement by bringing out half a dozen or more potatoes as big as powder kegs (more or less) said they had the "possum to go with them, and presto! there was brought out a 'possum. It was a genuine sight-of-hand show. No sooner did he claim that the soil and climate were especially adapted to the finest produce in any line, than that same article in best quality would be handed him from behind the curtain. Where he obtained all these wonderful specimens he told us, giving names and places. His display of textiles in their native and prepared states, was very interesting, and embraced many specimens. In short he proved most conclusively that everything necessary to the comfort and pleasure of mankind could be raised here, and then, all the necessary material for wrapping, tying, canning, bottling or in any other way preserving them were here in indestructible quantities. Messrs. Kerr and Kirkpatrick paid very high and deserved compliments to Texas Farm and Ranch for its efforts in behalf of the interests of horticulture, its untiring and uniform kindness toward the association, and placed it at the head of the agricultural and horticultural papers. Many amusing and ludicrous anecdotes were told, and after other speeches and the election of officers the Seventeenth Annual Meeting of the Texas Horticultural Society closed, universally admitted to have been the grandest success of them all. Nothing occurred to mar the harmony of the occasion, and everybody has gone home wiser and happier from having been at the meeting. Of the long ride into the country to see the vineyards and orchards, Uncle Snort must tell you, as when that expedition was made, this correspondent was speeding away over the emerald waves of the bay to shores of the gulf. The day was perfect and the sail a glorious one, over the bay, through the Pass to the jeties, and back again. Many went fishing with varying success, but we were satisfied to eat fish which somebody else had stood in the sunshine to catch, while we looked on from the cool veranda of the hotel.

NOTES AND COMMENTS.

The editor of Orchard and Garden was the recipient of a magnificent bunch of Malaga grapes and a plate of tomatoes from the grounds of Judge Harwood, of Rockport, Texas. We were made keenly alive to the loss we sustained in the matter of enjoyment by our inability to be with the brethren at Rockport. Our thanks are hereby returned to both Judge Harwood and Prof. Newberry for this post prandial nip at the feast of fat things they enjoyed.

WE CONGRATULATE

the Texas State Horticultural Society on her wise selection of president for the coming year. Bro. Stringfellow is worthy the honor bestowed and will bring his wonderful energy into play to make the name of Texas horticulture more widely known. Shake, President Stringfellow.

THE NEXT ANNUAL SESSION

of our society will be held in the good city of Houston.

THE RIGHT MEN CHOSEN.

We are glad to note that the society has put our old friend J. M. Howell into the harness again—this time he serves as vice-president. Howell will make a strong pulling mate for Stringfellow.

C. Falkner of Waco, while a new man in official harness, is not in the field of horticulture to which he has given much attention for years past. The society very wisely determined to keep E. L. Huffman the indefatigable in the responsible post of Secretary. With his experience and energy, the material interests of the society will be amply cared for. We are for Huffman as long as he lives.

No better man for official post of honor have we than J. S. Kerr—who was re-elected treasurer. The funds are safer in John's hands than they would be in a national bank. So let everybody send him two

dollars and their names to the Secretary and join a society that has no axes to grind, but works to build up Texas and Texas horticulture.

PRACH ROSETTE

seems to hold about the same place in the South that yellows does in the northern and middle states—that it is infectious there is no reason to doubt and so it behooves Texas fruit growers to be very careful in ordering nursery stock for planting not to get trees already infected; there is really no reason for going out of Texas for trees; our nurserymen are able to supply everything wanted at a lower price than any nursery east of the Mississippi river—transportation charges considered. Rosette, like peach yellows is to be dreaded. No remedy is so far offered except digging up infected trees at first appearance of the disease and burning root and branch—though prevention is better than any cure.

LOOKOUT FOR THE RASCALS.

Every year fruit-growers and shippers are flooded with circulars of irresponsible firms who claim to be commission men offering their services to aid the grower to sell his products. These parties as a rule possess no commercial standing and rely mainly upon the fact that the majority of shippers are plain men, without the facilities to acquire a knowledge of the commercial standing of strangers—so by making large promises they are able to lead their victims in the snare laid for them. Sometimes they obtain the confidence of their victims by making a few gilt edge returns, and thus inviting large consignments, which they sell, and pocket the proceeds.

Old reliable firms, or new ones who can give the best of references only, should be trusted. The shipper should require reluctance to be made promptly. When long intervals intervene it indicates poor business or rascality.

OUR FRIENDS THE BIRDS.

Witnessing the wanton destruction of thousands of birds friendly to horticulturists, by men and boys who masquerade under the title of sportsmen all over our broad State, leads us to have something further to say about birds and their relations to man's work in the field, orchard and garden. No one who has taken pains to investigate, can have failed to observe that our feathered songsters consume immense numbers of insects that prey upon our crops. If any one doubts the value of the help rendered to man in his unequal contest with insect enemies, let him spend an hour watching a nest of young birds being fed by parent birds. Let him count the surprising numbers of worms, grass hoppers and bugs, dropped by the parent birds into the capacious mouths that seem never satisfied; or if this be not sufficient proof of the voracious appetite of our feathered friends, let him kill a bird that has finished a morning meal and open the birds' crop and count the insects devoured. Such a course will convince the most skeptical that among the most potent agents for the protection of our gardens and orchards are these same maligned and abused birds. Now we are willing to admit that birds do sometimes help themselves to some of our berries and grapes, etc., and a rosy cheeked apple is no doubt a temptation which they are unable to withstand, and a bill dips into it; but, friends, did you never read that the laborer is worthy of his hire? and somewhere too, it is said, do not muzzle the ox that treadeth out the corn; and let us add that the birds whose lives are spent in the service of man, who destroy countless thousands of noxious insects and who minister to man's pleasure by making the surrounding forests and groves vocal with most charming music, should be allowed to live, and even be permitted to feast upon our fruits, and only be scared away when they are too greedy—but killed never!

WIND MILL IRRIGATION FOR THE FRUIT RAISER.

W. S. MARSHALL.

It would pay every fruit raiser to study up on wind mill irrigation. It is a great success. An investment in a good wind mill, pump and tank will pay a very large per cent. each year.

There is no class of culture to which wind mill irrigation can be so profitably applied as fruit raising. There are very few localities in the State where fruit cannot be made a sure crop by the aid of irrigation. This has been demonstrated in west Texas from the Brazos to the Rio Grande.

Why do our fruit raisers not investigate this method and profit by its application. A good wind mill and pump costs but very little and on most places a 10 or 12 foot mill will furnish an abundance of water for a vineyard, an orchard, or a blackberry, raspberry or strawberry patch of five to eight acres, even by open ditch irrigation, while by means of sub-irrigation a still

larger tract can be kept in abundant supply. If you would call upon those of your readers who are using the wind mill for such irrigation to state their experience, you would find the testimony as to its value and practicability is almost unanimous.

I have on hand quite a number of copies of plans and descriptions of the Rogers Reservoir, and also of TEXAS FARM AND RANCH's treatises on the use of wind power in the irrigation pamphlet there is an article fully describing and illustrating the sub-irrigation method of wind mill irrigation for fruit.

I will take pleasure in mailing copies of the above to any one who will apply, sending a two cent stamp for return postage, and I think that the plans and the treatise will prove of value to any one interested in fruit raising, wherever the locality is suitable for irrigating.

An application of the wind mill system will double the profit of the Texas fruit raiser. Let any TEXAS FARM AND RANCH reader who wishes to investigate write me, and I will give information as to the application of the system.

Fort Worth, Texas.

HORTICULTURE AT THE WORLD'S FAIR.

T. V. MURSON.

I regret very much my inability to be at the Rockport meeting and to take part in its work. I find myself so beset with work on every hand that I scarcely dare promise more for fear of disappointing.

My visit to the World's Fair was a grand experience. In the last couple of years, in the time, till the close, studying in that vast museum the classified wonders and knowledge of this world. In that mammoth object-school one can learn more than in all his life besides. Every young man in the land should visit it and remain as long as possible.

In response to your request to say something about horticulture at the World's Fair for your July 8th issue, I will briefly give a few points, for it is too great to be written up in full in less space than a large book. The Department of Horticulture is on an equal footing with the other great Departments of Agriculture, Mining, Electricity, Machinery, Transportation, Manufactures, Fisheries, etc. Besides occupying its own great building, it extends everywhere throughout the grounds under the Division of Floriculture, in beautiful landscape designs, grand beds of flowers in endless variety, and in groves of shrubs, vines and trees.

The department is handled by Mr. J. M. Samuels, of Kentucky, as Chief, who has made the department hold its own with any other. Its divisions are, Floriculture, under the able management of Mr. John Thorp, of New York; Pomology, under Mr. Wright, of —; Viticulture, under Mr. La Rue, of California. Then large space is devoted to displays of seeds and all manner of horticultural implements.

In the Division of Pomology, there are immense, beautiful collections extending in all manner of Canadian fruits by the provinces of Quebec and Ontario. New York, Michigan, Missouri, Kansas, Wisconsin, Florida and many other states, make fine displays. But California, Washington and Oregon put all others in the shade with their great profusion and commercial-like aspect.

It is enough to make the gods jealous to see the vast multitudes of smiling youth, men and women, quaffing the rich aromas and admiring the mountains of fresh and preserved fruits in the capacious halls of this division. Every fruit that grows from Labrador to the southern points of California and Florida, is there. Foreign nations cannot well compete in this division, owing to the difficulty in transporting and keeping their fruits, yet there are some such exhibits.

Great Texas, that should have spread her effulgent rays to the farthest limits of her five-limbed star in every department of the Fair, as has California and several other states, shows nothing anywhere in its own name. The great official guide has not a mention of Texas and South Carolina within her pages as exhibitors. A few ripe grapes of the European varieties were shown by some individual from Laredo, Texas, ripened early in June, 1893, which attracted considerable attention. With half the appropriation used by California, Texas might have stood foremost in the galaxy of states in the Exposition, but now "there needs a poor state to do her reverence." Texas is a stench and a by-word everywhere about the Fair. Its only advertisement is a small, unfinished, closed-up building, built by individual contribution, and that partly by donations by Eastern capitalists who have been driven from investing more largely in the development of our grand State by the narrow policy of our law makers. Never did my pride for my State receive a severer shock than on the evening we took our sleeper for home from the great Fair and marvelous city of Chicago. On entering the

through sleeper for Texas shown us, a well dressed, business-like gentleman entered the car with us and suddenly stopped, scanned the coach a moment, and then remarked, "What manner of old, dusty, second-hand sleeper is this to put a person in for the long journey to Texas?" One of the officers of the long train, which carried some five grand, fresh sleepers for other states, quickly remarked, "That is good enough for Texas." The gentleman at once disappeared from the car and was seen no more. It is supposed he went and drowned himself in the lake, for the circumstance had a mighty suggestion in that direction to ourselves. But, nevertheless, we took the dirty car and endured its hundred and one old smells until we reached our glorious land, that we love all the more for being so maliciously maligned, but do hope some of our old mossbacks "colonels" and "generals," who stick around our State House like lichens, and pass fossilizing laws, may go to the Exposition and learn a lesson in progress and true economy.

But we must not neglect to say that the Divisions of Floriculture and Viticulture are each as well represented in the Exposition, if not really much better than is Pomology. So far as foreign exhibits are concerned, they certainly are. There are devoted to pot plants and propagation for out-door decoration sixteen immense hot-houses. In these the leading florists of Europe and America have made, in their season, the most gorgeous displays of hyacinths, tulips, Persian violets or cypripediums, carnations, primroses, gladioli, orchids and numerous other species of beautiful and wonderful flowers and foliage plants. In the great rotunda of the horticultural building and its north and south wings are the richest and rarest displays of great tree ferns, palms, arocaras and other tropical wonders from every side of the earth. Japan is there with great displays and its little century-old pines and arbor vites in great porcelain vases. There are the strange elk horn, and hundreds of other remarkable ferns, from the damp places of earth, and the myriad forms of those savage-looking, dry-climate plants, cactus, yuccas, agaves, etc. The mountain of palms, ferns, and every variety of rock plants, with water-falls among, in the great rotunda, is a grand study for the floral student. We follow the work of this division out door into its wonderful groves of rhododendrons, azaleas, roses, pansies, geraniums, and thousands of other shrubs and perennials about the buildings, and especially in its crowning profusion on Wooded Island, lying between the horticultural and manufacturers buildings, a quarter of a mile in length, and we can well understand how the \$30,000 or more, used by this division alone, have been consumed to the great comfort and delight of every visitor to the Exposition. Pen and words are poor paints for these gorgeous scenes. You must see them to form any adequate conception of their magnitude and beauty.

But there remains the Division of Viticulture, which occupies all the great south hall of the building. This division is chiefly filled with wines and brandies in bottles, built into pyramids, castles, domes, spires, and numerous other designs. Here France, Germany, Spain, Italy, Australia, Mexico, and other foreign countries, vie with each other, and several of our own states, notably California and New York. The temperance people shun this division as though it were a great saloon. It seems to me that the section is short of its chief glory, and which properly belongs here, by having the fresh and bottle grapes and raisins in the Pomological section, where they make a grand display. If viticulture had these, as by right it should, they would make one of the most delightful sections to visit, as it certainly represents the most wealth producing part of horticulture when considered the world over in all its bearings. In this division are shown the vine and its species by an individual from Texas, the only display of the kind in the Exposition. It is a complete botanical exhibit of all American species of grapes, with most of the European and Asiatic species. They are shown in dry herbarial specimens, in the roots, young and old wood, the seeds, in growing plants and photographs of nearly every species, life size, in leaves, fruit and etc., with numerous hybrids between different species to show capabilities in this direction never before used in an attempt to produce better vineyard varieties. Later in this exhibit will display several hundred varieties and hybrids originated in Texas in the shape of plates of fresh fruit.

It should be known by every fruit eater that the grape is richer in actual and most healthful food elements than any other fruit; that this country—in California—produces now more fine raisins, the best of all dried fruits, than the United States consumes, and in five years will produce, if same rate of increase continues, nearly double our present consumption, so that this delicious, healthful food will become

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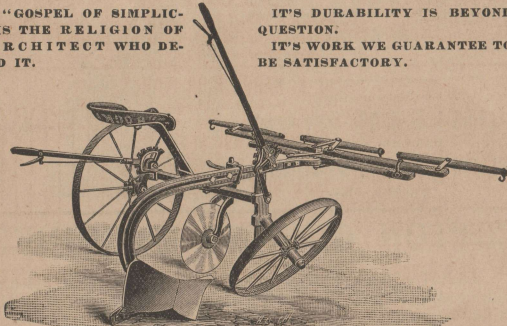
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Rock Island Plow Co., DALLAS, TEXAS.

US GINNERS

PALMER, TEXAS,
April 1, '98.
Murray Ginning System Co., Dallas, Texas.

Replying to your favor of a recent date asking how I am pleased with the Murray Ginning System, will state that after using it one season will submit the following facts: I have ginned about 2,300 bales of cotton on two 210-saw Murray Gins, having ginned about 1,600 of the above amount on one gin and could have ginned 4,000 with perfect ease on the outfit, and have never had an hour's trouble caused by the outfit during the entire season. Have never had a hot box nor a belt to slip. My belt-to-day is as good as it was the day I put it on, and the gin throughout is ready for another season's work without a dollar's repair, and I consider it a model of success throughout, being far superior to any other system now in use. Sixty-five bales per day is an easy, quiet run with my two Gins. You may rest assured that you will never miss a sale to any competent ginners who will take the pains to investigate the different systems before purchasing, as the Murray Ginning System has no equal.

Yours truly,
J. A. JACKSON.

KNOW THAT THE

MURRAY GINNING SYSTEM

Has been granted a patent by the Commissioner of Patents for the United States of America.

Being the very latest and best, it is not yet imitated by any one; all other systems for handling and ginning cotton are badly left, and later may try to catch up with the procession.

Experienced and prosperous ginner, such as Mutz & Cassidy, Ferris, J. A. Jackson, Palmer, Mr. Wilbrink, Garrett, A. H. Rowe, Ennis, W. A. Collier, Hubbard City, and many others have discarded the other systems, after thorough trials, and put in the Murray, which has no spikes to get loose from the belt and ruin gin saws, no slat feeder to get out of order, and runs a gin of thirty bales daily capacity with one belt.

—WE GIVE—

Greatest Capacity

—FOR—

Smallest Investment,

with perfect work and no break-downs. Space in this paper costs too much to describe our patents and detail our numerous advantages, but the ginner who will investigate for himself, will never buy any other outfit. Write or call at our factory.

Murray Ginning System Co.

DALLAS, TEXAS.

HUBBARD CITY, TEXAS.
Murray Ginning System Co., Dallas, Texas.

Have been running Gins since 1880 in Texas, using at all times the latest improved machinery for the purpose. In 1884 I put in a complete

* Suction outfit, using it until September, 1891, when having seen the Murray System, I decided to lock up the ginners I was then running and build one having the Murray outfit complete. Of course this left a complete outfit idle, but since putting up the Murray System I am convinced that it will pay any one running any other outfit to turn the key in the door and build another using the Murray System. I have ginned since September 15, '91, on two 210-saw Murray Gins, 2800 bales, some days ginning 61 bales. Have investigated all machinery and improvements for ginning and packing cotton, and am convinced that any ginner using other machinery can make more money by giving it away and putting in the Murray System than he can by continuing to run the other.

W. A. COLLIER.

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Reasons of the superiority of Wintersmith's Tonic over Quinine and other Remedies.

The remedies usually given only prevent the paroxysm or break the chill, without reference to the condition the system may be left in after the chills are removed; whereas the mere breaking of the chills in a small part of what is required to effect a radical cure. The various organs of the body, more especially the liver and stomach, must be brought into a healthy condition, otherwise a return of the chills is probable. A proper use of Wintersmith's Tonic never fails to remove the cause and cure the most obstinate case of fever and ague. Two sizes, 50c and \$1.00.

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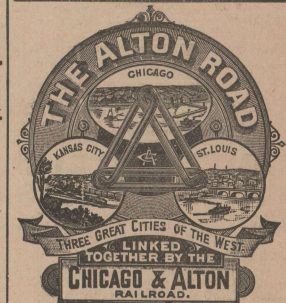
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Household.

Address all letters for this department to Mrs. E. E. Buchanan, Dallas, Texas.

THE HOUSEHOLD AT ROCKPORT.

Dear Household: Our chat is omitted this week, for, for one week in life we have been too busy and too happy to talk back. Wednesday morning the 21st we awoke in the charming little city of Rockport to the music of the waves of the beautiful bay of Aransas. We saw the sun rise in the west (seemingly) clear and bright, but he was shorn of his strength to a great extent by the strong south wind which blew almost continuously, making the weather delightfully cool. Nothing can be lovelier than the view which met our eyes when we looked out over the water, flashing and sparkling in the morning sun, here and there over its broad expanse floated small sail boats, and many row boats were shooting hither and thither as the busy fishermen plied their trade. At 9 o'clock we went to the pavilion and after meeting many members of the Horticultural Association of whom we had heard before only known by name, we were kindly taken in hand by Miss Allie Nold principal of Nold Seminary, who introduced us to a number of visiting and resident ladies. The morning was most pleasantly passed in social intercourse, and in examining the exhibits in the "Ladies Department," which in points of excellence, variety and artistic skill we have never seen excelled, as an exhibit of one country. There were pickles, preserves, jellies, dried fruits, wines, catapans, jams, bread and cake, all of the very best quality and in quantity and variety. We are ashamed to own, and hope the Household will not blush for us, but the cake looked so tempting, was something so entirely new to us, and we walked around it and wished we could taste it, until we could stand it no longer, and just like a child, we kind of intimated the fact to one of the ladies in charge, it happened to be Mrs. Pugh and she very kindly said, "Why certainly, I know Mrs. Baldwin will be glad to have me cut it," and she did so, and we were so glad, for it was the most delicious cake we ever ate. Then Mrs. Baldwin did more, she gave us the recipe for the Household, and furthermore made us a cup of the caramel to take home. That's the way the ladies treated us in Rockport, so you can readily imagine that all this was very gratifying.

In the display of works of art, paintings in oil and on China, the exhibit was fully up to the standard of our State Fair, of course much smaller in numbers. There were handsome old pictures by two young misses, very creditable indeed, Misses May Mathis and Hallie Holden, the latter had some studies in still life, from the object, very good, the former, landscapes and figures ditto. The best piece of work in that line was the portrait of an old negro man, done from life, by Miss Fiehl, an art teacher, which was very fine. In China painting Mesdames Holden and Seaur made a beautiful display, which in delicacy in coloring, tone and execution were very lovely. Mrs. Holden had a tea-pot which to our taste was most exquisite, the decorations being particularly suggestive and effective. Quite a number of Japanese maidens in their native costumes, storks and lilies. There was many very handsome embroideries in the various fashionable styles, all elaborately and delicately finished. Mrs. G. W. Fulton, of Fulton, had on exhibition a number of exquisitely wrought point lace handkerchiefs, which are destined for exhibition at the World's Fair. Mrs. Fulton finds her chief pleasure and recreation in the creation of these filmy confections, having recently finished the seventeenth handkerchief, besides many yards of lace, one or two dress waists and numberless small articles. Mrs. Fulton is more than seventy years of age, has lived all her life almost, on this beautiful bay where her husband Col. G. W. Fulton has built a magnificent home, surrounded by much that is beautiful in nature and art. This delightful old couple recently celebrated their golden wedding. Time has dealt very gently with Mrs. Fulton, she does not appear to be more than sixty years of age. There were also articles of fish scale work in flowers, jewelry and toilet articles in shell work, exhibited by Mesdames Hickenbach, Corns and Letz, beautiful in design and finish. In Roman embroidery handsome articles of use in doilies, carving cloths, table covers, throws, cushions and articles of dress were exhibited by Mesdames Belcher, Kern, Trimball and Henderson, and by Misses Collett and Herring.

On Friday the citizens gave two excursions one by land and one by sea, we chose the latter, and nine o'clock found a gay party of old folks and young folks, among the latter myself, impatiently awaiting the order to board the beautiful

yacht, Novice, built and owned by Capt. Bludworth and brother, young men of Rockport to the major born. This is said to be the fastest yacht in these waters or Galveston bay. Finally we little barque shot like an arrow from her moorings, her sails spread, the captain at the rudder and away we sped over the clear waters of the summer sea, across the bay, tacking east, then west but keeping a southerly direction, we passed on the bay, by the quarantine station floating its yellow flag past the light house, through Aransas Pass to the jetties with their long dark lines of caissons. Here we landed and went to the hotel for dinner, which a long joyous ride had prepared us to enjoy to the utmost. A splendid dinner was served in a short while, and then we scattered along the gulf shore to gather shells, sea-weed or anything of the sort. We were shown through the United States life saving station by the courteous gentleman in charge who interested himself to explain the manner of working the boats, and signals. Being the youngest member of the party we climbed to the top of the lookout above the station and with the aid of a glass, had a magnificent view of the Gulf of Mexico, some old wrecks in the distance, and the sand hills and dunes to the landward. Our search for shells was not rewarded with much success, this shore is visited daily by sight-seers and persons who make curio collecting a business, so there was very little of interest. The return home was made in one hour and three quarters, before a fair wind, and no excursion we have ever made was so delightful as this glorious sail. How we wish we could paint for the Household these greenish opalescent waves, which the prow of the boat cut into millions of diamonds and pearls, as she dashed onward—of the great white trumpet cranes, and the lesser sea gulls who were getting their suppers of fish and shrimp as we sailed by—of the schools of strange fish, called nettles, because they sting when touched, like our bull nettle, the variety most abundant was the "batter cake," an octagonal shape with four white rings near the center set around like the outline of the petals of a flower. When we drew nearer the shore, there were hundreds of another variety known as the cabbage fish, shape somewhat resembling a cabbage head, we found these in all sizes floating in the water. That night the city tendered the association and visitors a ball at the pavilion; from fatigue, age and conscientious scruples we did not attend, leaving the description—this pleasant and congenial task—to the facile pen of Uncle Short. He did not report how many polkas, waltzes or other dances he indulged in, nor if he led the german, we do know however that he complained very much the next day of headache and fatigue, which in a gentleman so given to pleasure was a little remarkable. On Saturday Mrs. Pugh called and took us out to return some calls, and we had the pleasure of meeting Mrs. Baldwin, who although almost a "shut-in," is considered an authority on many matters, especially all matters pertaining to the cuisine. She is a famous cook, a genial well read woman, and she has promised to become one of us. From Mrs. Baldwin's we drove to the very new but very complete and elegant home of Mrs. Belcher where we were welcomed by the lady in person, and most courteously entertained. Her home stands where but little more than a year ago the brush was standing. It is shaded by lovely water oaks and salt water cedars. She took us out to see her young vineyard, pear orchard and garden, all of which are very promising. We also had a peep into her well filled pantry, where row upon row of well filled jars of preserves, pickles, jellies and jams, attest her skill and industry, and tempt one to break the command which reads, "thou shalt not covet." After this a long drive on the beach in company with our charming hostess, then back to the hotel to pack our traps, which have somehow outgrown their wrappings, to be ready to say an unwilling farewell to the lovely bay and away to the sandy streets of Chestnut Hill, bordered by "figger heads, horse mint and coreopsis," which we have been thinking beautiful, until we were beguiled by these sparkling waves, waves, blossoming oleanders, stately sails and delightful breezes. May the little city by the bay with its hospitable citizens ever prosper and grow, and become what they so ardently seek, a great port, in which the sails of great ships from all shores may be seen coming and going, bearing on its bosom the choicest products of this and other lands.

A NEW MEMBER.

LALLA.

I have read so many interesting letters that I cannot resist the temptation of writing one myself, although it may go to the waste basket, if such there be in this de-

partment. I have read your good advice given to girls, and I think they all should take advice. I know I will. I agree with Dents, I think he hit the nail on the head. I do not know much about how city girls do, for I am a country girl, and think myself if a girl should kiss a young man, he would lose all respect for her, and moreover, I don't believe he would be the only one that knew it; he would tell some one else. I cannot agree with the Old Bachelor. I think because he has found so many of such pure character, it is because they did not fancy him, therefore they would not kiss him. Indeed, I feel sorry for him and old maids, although I may be an old maid myself some day. If I do, may joy be with me. I think I shall remain single until I am grown anyway. If I had ever been engaged to anybody, and the engagement were broken, I could not be ignorant enough to put it in the papers. Poor boy! I know they feel bad when they read it. If you ever loved him, don't expose him to the world. I will take exit and come again some time when I have not so long to stay.

Kietz, Texas.

HIS FAITH UNSHAKEN.

WANDERING BACHELOR.

Geo. B. Jones, in his very able letter of recent date, refers to the time when male flirts will pass out of existence. It is a blot on the fair fame of true and noble manhood that they are allowed to exist at all. What is a male flirt? A peijurer, a creature devoid of principle or honor, making vows and promises to credulous girls that he never had any idea of keeping. Analyze his character carefully and you will find nothing in it consistent of true manhood. If a man in business circles betrays a trust reposed in him by a friend, his character and reputation for integrity are very highly suffers. How, then, ought society to regard a man who has basely betrayed the trust reposed in him by a young and innocent girl. Surely if there is a promise that ought to be held sacred above all others, it is that made to a woman. How a man can expect any one to have confidence in a man that will deliberately lie to every girl he meets is beyond comprehension. That this is the age of flirtation and that all girls expect it, I will not believe; that a sensible girl may be deceived for a short time by a sap-headed male flirt is possible, but as soon as she discovers his true character, he will send him to seek the company of his prototype, the female flirt.

One of your correspondents says that after marriage, the flirting girl will have the consolation of knowing that she is no worse than her husband, and vice versa, a poor argument, for two wrongs will never make a right, and if my idea of married life be a correct one, that it should be a life spent in perfect confidence toward each other, it is impossible when both know that they have lavished their caresses freely on all who would ask for or receive them.

Although many of the sisters have taken sides with Dents, I had rather risk my experience than their theories, and although they have said a great deal to shake a man's faith in their own sex, mine still remains unshaken. When I lose confidence in the sex in which my beloved one belonged I would on earth I will lose my faith in the Delty.

Mrs. Buchanan's idea of equal moral for both sexes is certainly the correct one and all parents should bring up their children to realize that fact. I admire Stella and Sunshine's noble defense of their sex. I feel safe in saying that they would not be slow in discovering the difference between a brainless, heartless male flirt and a true man.

Housley, Texas.

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cultural interests of the State. In 1874 \$1000 was appropriated for the expenses of the exhibition and publication of the reports of the State Horticultural Society, and the same in 1875. In the three following years \$1250 were appropriated annually.

Ohio.—The Ohio State Horticultural Society was founded in 1867, in which year an appropriation of \$300 was made by the Legislature for its aid, and since then \$500 have been appropriated every year. The reports of the society have been printed at the expense of the State—of late years an edition of 18,000 copies. Also \$1000 are appropriated annually for the State Horticultural Commission.

Indiana.—In 1875 the Legislature passed an act giving the use of a room in the State Capitol to the Horticultural Society. It also appropriated \$500 in aid of the society, and up to 1881, inclusive, \$300 were appropriated annually, and \$4000 in 1882. Besides the transactions have been published at the expense of the State. Now \$1000 are appropriated annually for the State Horticultural Society and the proceedings published by the State.

Iowa.—In 1869 an appropriation of \$300 was made, which in 1873 was increased to \$1000, and this amount has been continued annually since. In addition the reports are all printed by the State.

Michigan.—The Reports of the State Horticultural Society are printed by the State.

Minnesota.—In 1873 the Legislature appropriated \$500 per annum in aid of the State Horticultural Society and provided for printing 2000 copies of the report. In 1880 the appropriation was increased to \$1000 and provision was made for printing 5000 copies of the report.

Wisconsin.—In 1873 the Legislature voted to print the reports of the State Horticultural Society. In 1873 provided for printing 3500 copies. In 1883 it was provided that 12,000 should be printed at the expense of the State. The act of March 1, 1879, appropriated \$600 annually in aid of the society.

Washington.—Appropriated for the State Horticultural Society, 1891-92, \$7850; for 1893-94, \$7500 per year.

Missouri.—I have no official report of this State, but the St. Louis Republic published an appropriation of \$7500 per year for 1893-94, and \$40,300 for Farmers Institutes, etc. This State also prints the proceedings of the State Horticultural Society, as well as all the other States mentioned above.

Texas appropriates no money to the State Horticultural Society, nor in aid of agriculture in any way. As Commissioner of Statistics and Insurance, the Commissioner has an appropriation and certain defined duties to perform, but as the Agricultural Commissioner of our State he has no duties, no appropriation, and is no assistance in any way. He cannot experiment on varieties or methods. The ravages of insect pests and remedies are matters he can contemplate, but as to actual work or accomplishment of results, he is prevented for want of an appropriation. I single out our Agricultural Commissioner as the only one in existence that is so situated.

Having shown you that our demand for aid is not new or revolutionary, we will now look at the expediency of such aid. Why Texas should give us such aid? The fact that other States give it, proves nothing to our State, as it stands upon its individuality. I will point you to 18,000,000 acres of school lands in our State that hangs upon every effort to develop Texas. The State has made no effort to find out what these lands are good for; it leaves that labor to the citizen. This is unjust, as it works a hardship upon the citizen for the State's benefit. You have in this county 42,240 acres of State school land, or one-fifth of the whole county, and the work and expense of importing grapes and other varieties of products from latitudes similar to this and experimenting with them falls upon a very few men. When you succeed, the State steps in and takes possession of the real estate business and enjoys the profit free from all costs.

In the vicinity of Galveston, Mr. Stringfellow discovered that pears would grow. Mr. A. Rawlins, a member of our Society, writes that he has succeeded in growing grapes in the West, and he is a man who knows what success in grape growing is. Search out this grape and you will find that members of this Society are importing and experimenting with all kinds of horticultural products at their individual cost. When success is achieved, they come to this Society and the Texas State Fair with their specimens, and the State of Texas hires a new clerk to sell lands in his locality, and that is the only interest that is manifested by the State in the State's development.

Our locality, climate, etc., places us beyond the benefits of the experience of other States. Our conditions conform to those of no other State in the Union. Our

best plums come from Japan, peaches from China, and it is from these countries that the horticulture of Texas has been enriched. The members of this Society search out these countries for varieties, experiment on methods, and then come to our annual meetings and give the whole result away to the people of the State. They also pay dues and are at other expense to keep up this Society and have a place where they can give to the public what has cost them much money, labor and time. They have also been at the expense of publishing the reports of the annual meetings of this Society. The burdens are upon a few men. The State of Texas is the beneficiary and spends nothing for the benefit.

Texas is a new State. It is unknown in every particular. Every advancement made is not the advancement of an individual, but of Texas. The necessity of Texas spending money on this Society is greater than that of Massachusetts, and yet Texas spends nothing, Massachusetts over \$100,000 annually. Now look at results: Average wages paid on farms in Texas, 1891, \$14 per month; in Massachusetts, \$22 per month. The lands in Texas are cheap, and we have 158,639 farms and 95,000 tenants, or over 50 per cent tenants. In Massachusetts only 13 per cent are tenants, with high priced lands. We had 87,000 tenants in 1890 and 95,000 in 1891. Compare these figures and you can see that we must be asleep somewhere, and trace up the matter and you will find it to be in our legislation. In this report from Washington we find seven acts of the Legislature in the interest of agriculture; in this report from Massachusetts we find three, and in this from Texas—none! After the most vindictive campaign ever known in our State, in 1890, and the victorious candidates appealing the farmers alone, the Legislature met in 1891 and staid in session for a long time, and this report for Texas for 1891 is the only one on this table that does not rectify a number of laws passed in the interest of agriculture.

It is not my purpose to censure our Legislature. I want to call attention to the fact that legislation in Texas is not based on the experience and wisdom of other States; that Washington and Adams and Franklin were men who were members of societies that received State aid, and that these States have thrived and the people have received benefits therefrom. The proposition to give aid to this Society may be unconstitutional, un-democratic, paternal, summary, and the like—I know what else in Texas, but it is the mode adopted by the fathers of the country and by the best conditioned States in this Union. It has removed tenantry from among them and brings to the hired man the neat sum of \$8 per month more wages. On the other hand, we can sit down and try "natural advantages" for all time, and the work of developing Texas will still remain to be done. The world is full of riches for Texas, and the burden and expense of searching them out must no longer rest upon the members of this Society. Our Commissioner of Agriculture is a most worthy man to do such work. So give him the means; place his department on a level with other States and see the grand results. Place the agricultural societies of Texas on a level with those of other States and relieve them of an unjust burden.

Let us hope that the next report of our Commissioner of Agriculture, etc., will contain laws passed in the interest of agriculture, and among them will be one granting aid to the Texas State Horticultural Society and the printing of its reports.

PROPAGATION.

Address by Prof. H. Ness, A. & M. College.

Under propagation are included so many of the most essential operations in horticulture that it would be a futile attempt to discuss all, or even a number of them, in a short paper of this kind. I shall therefore confine myself to budding, and within this, to only a few things that have come under my observation.

Every one who has even a faint knowledge of the propagation of fruit trees, knows that budding is done during the season of growth, when the bark slips; and that during the winter, when the sap is said to be down. The principle underlying both grafting and budding is the same, namely, that the cambium layer of the scion, or the bud, shall be placed in contact with the cambium layer of the stock. By cambium layer we understand that layer of cells between the wood and the bark, from which the wood is generated on the inner side, and bark on the outer side; hence, it is the seat of growth in thickness. When the bark of a plant is removed during the growing season, we find, by scraping with the knife on the wood, that it is covered by a layer of a

slimy constituency; this is a part of the cambium, the rest adhering to the bark. The reason why the bark slips during growth is, that the walls of the nascent cells in the cambium layer are very thin and watery, and thus easily torn. In late fall, when the temperature is low, the generation of new cells ceases, the wall of the last formed cells becomes thick and firm, and consequently the bark adheres to the wood. During the season of rest the cells, both in cambium and adjacent to it, are charged with reserve materials, such as protein, starch and related matters, to be used in early spring for the production of the first shoots and leaves. These reserve materials can, in case of accident, also be called into use during the winter, when the temperature is above freezing. If, for example, a slice of bark with some wood adhering to it, be removed from a tree, or even a cutting, and the wound be protected from the drying influence, it will be found, after a few days, that a process of healing is going on in the edges of the injured bark, and that this healing is most rapid in the part next the wood. It is upon this principle that cuttings callous and the union in grafts is perfected during the winter. Upon this same principle budding may be performed during the dead of winter, though all the works on horticulture that I have been able to obtain prescribe the season when the sap is in good flow as the only time for budding.

During last fall, and winter I carried on some experiments in budding, and that by changing the operation so as to suit the condition of the stock, one can bud with as much success during the winter as during any other season of the year. As the bark does not slip after cessation of growth, the bud cannot be placed between the wood and the bark of the stock, but instead of an slice of bark, with some wood, corresponding to the shield of the bud to be used, is removed from the stock and the bud put in its place. The upper and larger portion of this slice may be separated from the rest by a transverse cut, while the lower is left to form a crevice in which the bud is held until secured by the tie. By this method I budded, on January 10th, fifty peach seedlings with buds from Mamie Ross. On January 24th I examined one and found that the bud had taken. Many of these buds sprouted with the earliest on the stock before the top of the stock had been cut back. Out of the fifty buds only one failed to make a shoot, as it was accidentally injured after it had healed to the stock. I also experimented on several four-year-old standard apple trees by inserting buds where branches were wanting. Nearly all of these buds are yet living, but owing to the low vitality of the stock I have not dared to force them out. On cuttings of Marfiana plum, quince and LeConte pear, I had less success. The buds took on the LeConte pear and were doing well until the cuttings were planted, when most of these died, owing to the dry weather at the time and the general difficulty with which the cuttings of the LeConte pear form roots. Winter budding on cuttings of LeConte pear, I think, would be a success provided one could grow the cuttings with success. On cuttings of Marfiana plum and quince, the experiment proved even more of a failure, evidently because the wood and bark of these two trees are very dry and sapless during the winter time; so that if winter budding on cuttings of them should ever be a success, the greatest care must be taken to keep all parts in moisture until the buds begin to sprout.

From these and several other experiments in the same line, which I will not take the trouble to describe, I have come to the conclusion that budding can be performed on all kinds of stock in soil after the cessation of growth with as much success as during growth. On cuttings, especially of a dry and sapless nature, and stock out of soil, the buds are liable to die from evaporation before the stock has formed roots of sufficient absorptive power.

To be able to bud during all seasons of the year would, doubtless, be a decided advantage to tree growers; and the method described is so simple that it cannot only be performed in much shorter time than that of ordinary budding, but by more inexperienced hands.

College Station, Texas

ORCHARDS.

Paper by J. B. Baker, Fort Worth.

Orchards in Texas are profitable, even with our limited experience. As yet nearly all orchards have been planted at haphazard, regardless of variety, location, soil, treatment, etc. When the planter learns what, when, and where to plant, how to care for the trees, and especially how to handle the fruit, then orchards in Texas will be doubly more profitable than now.

In horticulture, as in everything else, experience is the best teacher. Realizing this fact, I prepared a number of questions

and sent to the leading fruit growers in all parts of Texas. Their answers contain much information that is interesting and valuable to me, and no doubt will be to many others. Without exception every one agrees that orchards pay; none put the net profit at less than \$50 per acre, while some growers realize \$500 to \$800 per acre.

Fruit growing in Texas has been, and is yet, to a certain extent, but an experiment, as to what varieties to plant and how to care for them. We have been planting the kinds that succeed best in Georgia, Missouri or California, regardless of their adaptability to the soil and climate of our own State. Such plantings have necessarily been more or less disappointing, and occasionally a man is found who thinks fruit culture is not profitable. Such men were more plentiful a few years ago than now.

As I have already said, all the leading nurserymen and fruit growers of the State from the Red River to the Gulf, and from the pine lands of the East to the plains of the West, not only say that orchards pay, but that they pay well; in fact, the majority of them are enthusiastic on the subject. They are not enthusiastic on the prospect of what may be, but on what they have really done. They are now marketing their crops and enjoying the fruit of their labors, while their neighbors, who continued to grow only cotton, corn, etc., are many of them, as poor as they were ten years ago. While some judgment should be used in the selection of soil, location, care and cultivation of the trees, it is of most importance that we select the right varieties. Nearly all growers cultivate twenty or more varieties of peaches, pears, plums and apples, while often not more than half a dozen of them are profitable for market.

One of the questions I asked the fruit growers was "Name in the order their market value the best six varieties of peach, plum, apple and pear?" The answer to this included a long list of varieties, showing that they are by no means agreed as to which are most profitable. While all the lists contained some of the old standard varieties, yet nearly every one was headed with a new or comparatively unknown variety. This was especially true of peaches and plums. From this I would infer that we are gradually gaining an entirely new list of peaches and plums that are better adapted to our State, and that when these varieties are better known and more generally cultivated, we shall hear less complaint of failures.

Of peaches the Elberta is the favorite, followed closely by Mamie Ross, Gen. Lee, Mixon Cling, Heath Cling and Crawford's Late.

Of plums, the Botan and Wild Goose divide the first honors, followed by Burbank and Golden Beauty, while the Arkansas, Lombard, Lone Star, Botankio, Robinson, Hytankio and Weaver, are favorites in some localities.

Apples are not so generally grown, though in Eastern and Northeast Texas they are profitable. The Red Astrachan takes the lead, followed by Red June, Ben Davis, Shockley, Carter's Blue and Bradford's Best.

Pears are not so popular, some growers reporting them not profitable. The favorites for market are Kieffer, Garber and Howell, while in the coast country the LeConte leads everything for profit.

The sour varieties of cherries succeed in the Red River country from Texarkana to the Panhandle, and apricots in the Panhandle and West Texas, while figs and Japan persimmons bear abundantly all through Eastern and Southern Texas.

In conclusion, I will say my observation teaches that any man of energy and intelligence, who will exercise judgment in the selection of location, soil and variety, and will cultivate, prune and spray his trees, and gather and pack the fruit carefully and ship or market it judiciously, cannot fail to live comfortably and make money, while the indolent man who will not exercise brain or muscle will make as grand a failure in this as in any other business.

Fort Worth, Texas.

TEXAS AS A FRUIT STATE.

Paper by David Watson, Brenham, Texas.

The question that is being seriously considered by many of those who are seeking homes in our State is, is the soil and climate of Texas adapted to the culture of fruit? Will it pay to plant fruit for market. Horticulturists and those who have studied the matter are fully convinced that with the proper care and selection of varieties as fine fruit can be and is grown in Texas as in any state in the Union. There are many people who still believe that Texas will never become a fruit State; that it will not pay to plant orchards for market, and our Legislature seems to be of that opinion, but I am glad to say that such ideas are fast passing away. The early horticulturists of Texa

mon corn or boll worm; his peas full of worms before they are grown, the larvae of the weevil.

The florist has his troubles both in greenhouse and garden. His oleanders, the bark lice; the roses, the blight, a disease of calyx sparcid origin, and nearly everything, plant lice.

The grape has its enemies in the root, the stem, the foliage and fruit.

Mention is made of only a few of the many insects which infect the different plants from which we derive our agricultural products, but enough is shown to illustrate the fact that millions of dollars worth are destroyed annually, and that if a small per cent might be saved by the labors of an entomologist, it is well worth the effort.

An entomologist, appointed by the State, provided with ample means to employ his whole time in the study and investigation of remedies for the destruction of these foes, and to make public the remedies which have already proven efficacious, with the proper appreciation and careful application by the people, enough would be saved to the State annually to pay the entire expense of the agricultural commission for a dozen years.

Medical science has advanced to that degree toward perfection that the causes of nearly all our diseases may be traced to the presence of micro-organisms, either in the blood or in the organ effected. We are enabled to make cultures of these micro-organisms, and to recognize, by their peculiar methods of culture and reproduction, the diseases which they produce and by inoculation of the lower animals to produce the same disease, with the same train of symptoms, indefinitely. Now, why may not the entomologist take advantage of this knowledge, as has been done in the chicken bug infection, and infect all the gregarious feeders, such as pig lice, squash bugs, potato beetles, army worms, etc., and turn a few of these infected insects loose among those of their kind, and completely annihilate them as soon as they appear in any locality. This is speculation, but not at all unreasonable, and I predict this will finally be done to a degree of success beyond our expectations.

DOES IT PAY?

Paper by A. Rawlins, Marlenfeld, Texas.

This is the all important question before entering into an enterprise. This is illustrated in Scripture when it says, "Ere first steth down and counter the cost." It is a plain business proposition. Does it pay? We will only ask the question of horticulture. If we want to know if a thing pays, let us see what we could do without it. Apply this test to agriculture. History tells us that the destiny of nations is often decided by the success or failure of crops. Pharaoh gathered the shekels into the treasury of Egypt for the sale of the grain, until it became the wealthiest nation in the world. Rome exported her golden grain until all nations became dependent upon her for food, and submitted to her tyranny. Our own nation, just emerging from her infancy, raised in 1892 \$900,000,000 worth of corn and wheat, one-third of which was exported, returning to us as gold, and yet thousands would rather be dependent in a city than work out an independent living from the soil.

But we apply the same question to horticulture in its various branches. There is no one worthy of notice who will argue that vegetables and fruits are not necessary. Even physicians concur in this: that fruits and vegetables are necessary to the public health, hence these articles figured prominently soon after the creation of Adam and Eve. Throughout Scripture, no less than all history, the human race have continually had these things before them. The Creator gave Adam this privilege, that "Every tree in which is the fruit of the tree bearing seed, to you it shall be for meat." And again: "Of every tree of the garden thou mayest eat freely." There is no reason for us to believe they did not do so. They are freely and lived to a good old age. Hence it paid Adam and Eve and their immediate descendants to raise fruit. As to this fact, I do not think there is any diversity of opinion—all are a unit as to fruit and vegetables paying physically. Much of the fruit paying depends upon the man, the location, the soil, supply and demand and the capital employed. I do not expect to convince every one with figures, but will give them to you from reliable sources, some of which are members of this Association: Prices per acre, as quoted in the market at Dallas, is, sweet potatoes, \$100 per acre; watermelons, \$100 to \$300 per acre; onions, \$300 to \$400 per acre; sugar corn, \$100 per acre; cabbage, \$100 to \$300 per acre.

According to a statement of Prof. T. V. Munson, Vice-President of the American Horticultural Society, gives the following yields: Sweet corn, \$100; asparagus, \$100; melons, \$60; sweet potatoes, \$300; black-

berries, \$350; strawberries, \$750; peaches, \$850; grapes, extra fine varieties, \$500 to \$1000; grapes, ordinary varieties, \$300 to \$500.

This is what has been done at Denison by one man under high conditions of culture. To these could be added many more witnesses to the effect that it pays financially to raise garden vegetables, and that there is more ready cash in it than in cotton, and yet people adhere to cotton just as if they knew nothing else.

As to the money yield of fruits I submit in condensed form a letter of W. P. Connolly to Mr. F. E. Roessler, of Dallas, Texas:

"So far as a report of the money yield of such crops as you name at Denison is concerned, I will give you the statement of Prof. T. V. Munson, the Vice-President of the American Horticultural Society, and practical horticulturists, regarding the yield with him of some of these crops. It is as follows, the figures being per acre: Sweet corn, \$100; asparagus, \$100; melons, \$60; sweet potatoes, \$300; blackberries, \$350; strawberries, \$750; peaches, \$850; grapes, extra fine varieties, \$500 to \$1000; grapes, ordinary varieties, \$300 to \$500. This is what has been done at Denison by one man under high conditions of culture. As to these crops, they have canning factories at Tyler which buy these and other fruits.

For peaches, they pay an average net price to the producer of 50 cents per bushel, while peaches shipped yield an average net price to the producer, I should say, from my observation during two years there, of \$1 per bushel. Thus, the average net price from shipping about half the crop (the better ones), and selling the other half to canneries, put at a very conservative figure, is 75 cents per bushel. At this rate the net yield to a careful and intelligent orchardist is, according to my observation, for an acre of peaches the third year, \$100, increasing yearly until in its prime, the net yield should be \$500. When I say net yield in this connection, I do not count the cost of cultivation, interest on lands, investments, etc., but I mean net so far as cost of boxes, commissions, freight, etc., is concerned. At Tyler I saw a fair lot of the yield of blackberries, in the case of Mr. E. Gooding, who has just one acre carefully cultivated. He sold the product of this acre to the Tyler canning factory in 1898 for \$500, he delivering the berries.

"I have a report from Thomasville, Ga., of the money yield per acre of LeConte pears. In this case the money yield was between \$500 and \$600 per acre on a six acre lot. Mr. H. M. Stringfellow, of Hitchcock, Texas, can, however, report a larger money yield per acre from LeContes, I believe.

"From credible reports of strawberries in Smith county, Texas, I believe the average net money yield per acre of this fruit in that county, one year with another, among a lot of say four of the best growers, for the past five years, would not fall below \$300 per acre per year. In this case also, not counting cost of cultivation, but net so far as cost of gathering, shipping, freight, commissions, etc., is concerned. In single instances I can report net profits well accredited, of \$450 per acre.

"From my observation of the growing and sale of Red June and Red Astrachan apples, in Smith county, Texas, I believe that this crop will yield in money \$300 to \$600 per acre, from the second bearing year. I believe early apples next to the best paying fruit crop in that section of country.

Now I wish to add here, that I believe Wild Goose plums will yield more money per acre than any fruit crop mentioned in the foregoing. I never knew a shipment of them to meet a dull market yet, no matter where shipped, when they went North from Texas, and they bring fine prices. I should put the money yield of these, per acre, at \$600.

This should be considered satisfactory proof that fruit growing in North and East Texas will pay. But I deem it not out of place to recommend to you a country in which you can raise fruits and vegetables which will bring the best return in money. I present to you the great Staked Plain of Texas. A country comparatively unknown to the people of a great part of the State, uncared for by the legislature, and left to be developed by a few wandering phantoms, who seek to redeem a part of God's vineyard for public benefit. These people have made progress with the little means at their command, and have proven to the world what can be done in horticulture. To substantiate my assertion, I will give extracts from letters written by some of our settlers to Mr. F. E. Roessler, and published by him, which will prove that we can raise the Mission and raisin grapes, with other fruits named, equal to California:

It gives me pleasure to make the following statements regarding raisin growing on the Staked Plain and Pecos Valley.

The character of the soil, the condition of the atmosphere, and the absence of rain at the proper (ripening) season, is certainly conducive to the perfect development of these fruits. However, my opinions are not based entirely upon the above named conditions, but rather upon the fact that at Midland and Big Springs the raisin grape was grown to perfection last year (1898), and there can be no doubt that when this grape grows, the prune and apricot will succeed.—J. M. HOWELL, Dallas, Texas.

I saw the first raisin grapes grown by Mr. J. S. Curtis (who lives six miles north of Midland) about two years ago. I noticed particularly one vine, only eighteen months old, which had thirty bunches of raisins on it. They were as fine grapes as I have ever seen. As to the income per acre in grapes, will say they were grown experimentally, there being no means at hand to promote their sale, and therefore I cannot even approximate what their value would be in open market.

Mr. Curtis' estimate was that they would yield two tons of raisins per acre. As to the prune and other fruits, I have great confidence. Two years ago I planted 500 fruit trees, consisting of mulberries, pears, apples, apricots, plums, prunes and peaches. I have never irrigated them in the least—not even when I planted them. I have now the finest young orchard in the county, if I do say so, and all who see it think as I do. Instead of irrigating, I gave it good tillage, which holds the moisture. Some of my mulberries only two years old are three inches in diameter. Pears have grown excellently, apples not quite so good, but some of them have made a growth of 4-12 feet last year. The apricots grew very vigorously, but the prunes and plums made the best growth of all my trees.—Z. T. BROWDER, Midland, Texas.

All kinds of fruits which have been tried in Martin county are an assured success. We have passed the experimental stage, and know it is profitable to grow grapes, prunes and several other kinds of fruit, which are peculiarly suitable to the soil and climate of this country, because we have tried them.

The raisin, wine and table grapes grow to perfection, and several thousand vines are being planted this season, principally the California varieties. In a few years I predict this county will be an immense vineyard, and the commercial value of the wines, raisins and other fruits will be immense.—ETHAN ALLEN, County Judge, Martin county, Texas.

I am not certain as to whether I did or did not give you my opinion on the question of growing the commercial raisin grape or prune on the Staked Plains. If not too late, I would say that I am quite sure that the Plains are well adapted to the successful growth of the commercial raisin grapes, and as soon as the natural water supply is developed in this region, the lands will become very valuable.—E. W. KIRKPATRICK, McKinney, Texas.

Replying to your request, would state that we have grown the raisin grape and the El Paso Mission grape in this country, adjacent to Midland, and as near perfection as I have ever seen, and other fruits have done exceedingly well, and the commercial prune promises to do well, but had no trees over two years old, they fruited the last season and I have no hesitancy in saying that the raisin grape and commercial prune can be successfully grown here.—JOHN M. MOODY, Midland, Texas.

Regarding the commercial raisin grape and the commercial prune, I have no hesitation in saying that they can be grown profitably on the Staked Plains. To these I would add, for this locality, the wine grape, the peach, the apricot, the almond and the English walnut. Our warm, rich, sandy soil is especially adapted to fruits and vegetables, and all the above sorts grow splendidly in our climate. Grapes, when properly handled and irrigated, will pay expenses the second year, and thereafter will pay from \$100 to \$300 per acre. One-half acre of three-year-old vines here made 174 gallons of excellent wine in 1898. Peaches, apricots and almonds will come into bearing a year or two later, and then yield about the same revenue as grapes. There is no doubt but what our Staked Plains country, with its cheap land, offers more attractive inducements today for this same business than any other portion of the United States.—N. S. SCHMITZ, Midland, Texas.

In presenting the recorded opinions of these gentlemen, I do not wish to convey the impression that this is Paradise, and that we are angels. But I do think that by the aid of windmills, wheels and pumps, fruits can be raised here more free from blemish than in any other part of the United States. This is surely the Eden for grapes, especially the raisin grape. I do not wish to convey the idea that all this is not costly. It takes money to commence

and muscle to carry it on. You will need two 12 foot windmills and two good wheels, with pump fixtures and fence for ten acres, tank 100 feet square and six feet deep, house and wagon and team. This will give you tank capacity to irrigate ten acres in trees and vines. State school lands as well as homestead lands are within easy reach of railroads. No swamp, no malaria, and good water, with a healthy climate. Like the old patriarch, go out and plant you a vineyard, that your days may go well with you.

If the standard fruits of California can be raised here, why go to California? If the raisin grape is a success here why not plant 1000 miles nearer market. If it will pay to raise fruit in California it will pay here.

In the Rio Grande Valley of Texas a twenty-acre orchard or vineyard is considered ample to support a family in comfort. The annual income is generally estimated at about \$100 per acre.

In the Rio Grande Valley a twenty-acre vineyard of Mission and table grapes, three years old, is at a moderate estimate deemed capable of producing two tons of grapes to the acre, or 80,000 pounds to the 20 acre tract which sold at El Paso, Ysleta or San Elizario, at 2 to 3 cents per pound, yield annually from \$1600 to \$2400. For a number of years the yield will increase in quantity, until the crop reaches from 5 to 6 tons per acre. A bearing vineyard from 3 to 5 years old is considered worth from \$300 to \$500 per acre.

Converting the yield of a 3-year-old vineyard into wine, from 300 to 400 gallons may be expected per acre, which, sold at 50 cents per gallon, would yield an income of \$150 to \$200 per acre. Generally the yield of a vineyard is calculated as follows: Two year old vines will pay expenses; three year old vines will yield 3 tons per acre; four year old vines will yield 4 tons per acre; five year old vines will yield 5 tons per acre; six year old vines will yield 6 tons per acre; seven year old vines will yield 8 tons per acre.

The wine made at Marlenfeld resembles port and sherry, and pronounced by dealers in wines to be of a superior quality, and produced in sufficient quantity, would meet with a ready sale at good prices. Raisins have not yet become an export commodity on the Texas Staked Plain, but will be within three or four years. The Muscat of Alexandria, the Muscatella and other raisin grapes, mature to perfection, are free from blemishes, and attain a wonderful sweetness. According to California and Arizona estimates, it will take three tons of grapes to make one ton of raisins, and it can be safely estimated that seven years old vines will yield two tons of raisins per acre, which are worth \$175 per ton, and are from 1200 to 1500 miles nearer the market than California raisins.

A much neglected crop, and one that is grown as easily as the peach, is the paper shell Almond, which can be raised to the greatest perfection and at good profit any where on the Staked Plains.

While I have said much on this subject, the half has not been told. Go, like the writer, and investigate. Millions of acres are waiting for you, ready to respond to your intelligent effort, and prove the truth of what I say.

[AWARDED FIRST PRIZE] THE FLORA OF TEXAS.

Paper by Miss S'ella Moore, Sherman Institute, Sherman, Texas.

Who can be equal to the task of giving any definite idea of the variety and beauty of the flora of Texas, save some painter who has dipped his pencil in the sunset, or a poet whose lips have been touched with a coal from the altar of inspiration? The term flora includes all plants, whether used in arts, as cotton; for food products, as corn; for medicinal purposes, as wild sarsaparilla; or for beauty, as the rose. Time would fall us to tell of the half of these that are found within our border, and we may not more than mention the sturdy oak, the hackberry, the perstemon, the beautiful pecan, the cedar, the elder, the bolts dale, and many other trees which outline in emerald green the courses of our prairie streams. Neither in so short a space can we give any definite account of the various native grasses, which covered in billowy waves the prairies when the wild horse and the Indian were sole masters of the soil. Many of them droop and rise in fairest forms of silken tracery, plumed and pendant, here running out like a branch, there pressed close, like a velvet carpet, to the earth. We all know them—Texas blue grass, pepper grass, mesquite, wild oats, hair grass and many others, which for delicacy and the beauty of form are worthy a place among our fairest flowers. Instead of examining these, however, we must refer you to the fairest forms that cultivation glories in, as seen in the beautiful fields of wheat, corn, oats

STATE NEWS BOILED DOWN

The Terrell Iron Works were burned on Friday last.

Thirteen cars of beef cattle were shipped from Kaufman, on Monday, for St. Louis.

The large railroad water tank at Hempstead collapsed last week and deluged a portion of the town.

Wm. Simpson, of Valley Mills, Texas, shipped to Chicago last Monday, five car loads of corn-fed beaves.

A. J. Jordan, of Kaufman county, last week, filed a complaint against his son for assault with an ax handle.

A train at Virginia Point ran into an open switch, collided with a North Galveston coach, killed a brakeman and wrecked the coach.

A man named Cameron, peddling vegetables at Oak Cliff, on Wednesday last, had his neck broke, by his horse running away and throwing him out.

Groesbeck had a wholesale jail delivery on last Saturday night. One of the escaping prisoners was killed and several had not been captured at last accounts.

Duval county has broken the record of first bales. It was ginned at San Diego by E. G. Perez & Co., and shipped to Houston, where it was received at 8 p. m., June 30.

The wife of a drunken husband, at Oak Cliff, tried to escape from poverty by poisoning herself and children with Rough on Rats. At last accounts only the woman had died.

Capt. Frank Jones, of the Texas Rangers, was killed by Mexican bandits near Yaleta, El Paso county, on Thursday of last week. There is great excitement, and threats to pursue the murderers into Mexico, for retaliation.

Adjutant-general Mabry has designated July 17 for the assembling of the companies in State encampment. Those in charge, if they want to encourage the State militia, should put a crupper on such foot officers as become too large for their uniforms.

A desperate, but futile attempt at train robbery was made at Brackenridge, in Wilson county. It was the Sap passenger. The robbers killed the fireman, and meeting some resistance, all left but one, who undertook to complete the robbery single handed, but was arrested.

It is becoming custom, where a girl refuses the attention of some masculine fool, for the masculine fool to get him a gun and shoot the girl and then blow a hole in his own empty skull. One of these occurrences for the week was at Operas Cove, Texas, and another at Texarkana.

Two young men in Denton county, named Jeff Mackey and Pete Colvin, on Sunday night last, visited the watermelon patch of J. M. Davidson, a neighbor. Mackey was killed and Colvin probably mortally wounded. It is stated that Davidson had warned these young men, as well as others, to forbear stealing his melons, but they would not.

The American Horseman and Farmer says:

The horse's foot is what the blacksmiths make it.

The pacers are coming to the front in the race for popularity.

Breed to a type; indiscriminate breeding is an unprofitable business.

Tail docking is punishable by law in the State of Ohio.

Pay more attention to the walking gait. Good walkers are rare.

A CORRESPONDENT of the Southern Cultivator calls upon Southern farmers to cease their grumbling and honor their calling. To do this it will be necessary to bring improved methods to bear. Old ideas, that have no foundation but tradition, must be discarded.

Victoria Daily Times: H. M. Stringfellow, the most successful fruit grower in Texas, and who has the largest pear orchards and strawberry fields in the South, was in the city yesterday en route to Hitchcock, where a few years ago he shipped the first crate of Le Conte and Kleffer pears. Mr. Stringfellow stated to a Times reporter that Victoria county was just as well, if not better, adapted to the growth of fine strawberries and the growth of Le Conte and Kleffer pears than any other county in Texas, and that from present prospects there would be a larger immigration of home seekers to this county than ever before, and that any one who has ever been here was more than pleased with the country, and that each and every one had proved a big ad. for it, for they had written their friends and relatives glowing descriptions of this section, and they had all told their friends that there would soon be a grand rush for this section of the State. The Times thinks Mr. Stringfellow is correct.

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has often wasted time and material in trying to obtain a shade of color, and has even resorted to the use of ready mixed paints, the ingredients of which he knew nothing about, because of the difficulty in making a shade of color with white lead. This waste can be avoided by the use of National Lead Company's

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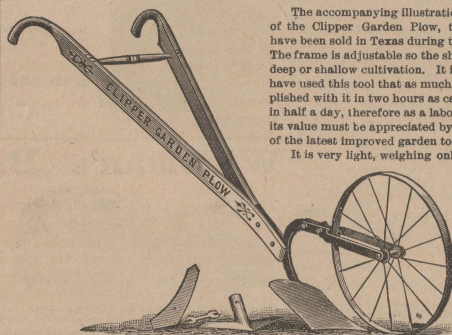
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The accompanying illustration gives a fair idea of the Clipper Garden Plow, thousands of which have been sold in Texas during the past few years. The frame is adjustable so the shovels can be set for deep or shallow cultivation. It is said by those who have used this tool that as much work can be accomplished with it in two hours as can be done with a hoe in half a day, therefore as a labor saving implement its value must be appreciated by all who are in need of the latest improved garden tools.

It is very light, weighing only eighteen pounds, although it has a steel wheel and malleable iron frame, giving it strength and durability. We are the manufacturers and will be pleased to send circulars to all who are interested.

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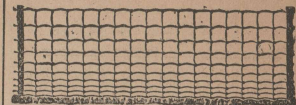
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The President has issued his proclamation convening Congress in extra session on the 7th of August to consider the financial condition of the country.

For the beautiful and artistic cut of horses' heads which adorned our first page in July 8th issue, we are indebted to that standard paper the Western Agriculturist and Live Stock Journal.

J. H. CONNELL, the new Prof. of Agriculture of the Texas A. & M. College and Director of the Experiment Station, has arrived at the College and entered upon the discharge of his duties.

A RECENT census bulletin gives the native population of the country in round numbers at 45,000,000, and the foreign population at 9,000,000, and yet the foreigners furnish more than half the paupers and criminals of the country.

It seems that the "gold bugs" have succeeded in giving silver money a fatal stab. It is true it required a financial panic to accomplish the work, but almost every argument and artifice had been used, without avail, and the panic was only brought in as a dernier resort.

CAPT. W. J. ALLEN, editor of the Texas-arkana Interstate News, was last week held by the county commissioners court for contempt, because he criticised some of the court's official work. The reports say that public opinion is with the editor, who paid his fine, and it is said he holds the court in greater contempt than before.

The financial depression which now affects the country from one end to the other, though long looked for has come at last. Texas is in a better condition to bear up under any possible circumstances than any other State in the South. This is the natural result of the policy which is becoming popular of producing a greater variety of crops and feeding and raising a greater variety of stock than any other Southern state.

TEXAS FARM AND RANCH is proud of the many good words spoken of it at the Rockport meeting of horticulturists, and especially is it thankful to Messrs. E. W. Kirkpatrick, of McKinney, and J. S.

Kerr, of Sherman, for putting the "precious ointment" on thick enough to make us feel good all over. Silver may be demonetized, greenbacks depreciate and gold pass at a discount, but the words of these our friends will always pass at par, with TEXAS FARM AND RANCH. Renewed effort to merit such praise is pledged for their redemption.

THE East Texas Horticultural Fair, as we learn from the papers, met on Wednesday for a four days session. It would have afforded us great pleasure to have given this meeting wide publicity but it seems our East Texas friends neglected to take printers ink into their Horticultural account, and consequently we did not know of the meeting in time to send a reporter to write it up.

A SUBSCRIBER, in ordering his paper stopped, sends his regrets and says: "But to tell the truth money is so scarce farmers have none to spare. We are buying bread and meat and corn to try to make a crop." Of course money is scarce. It always was and always will be scarce with farmers who buy meat, bread and corn. Such farmers, certainly cannot afford to pay for papers, and it is really better thus, for it would be a sort of refined cruelty to open their eyes and have them, like Josh Billing's church door dudes, "see themselves as they am."

BELL county has organized a Horticultural Society, and we do not think we risk much in predicting that these people will make horticulture "hum," so to speak. Bell county has a large number of fruit growers and farmers whom TEXAS FARM AND RANCH considers equal to any emergency that may arise. If horticultural development is demanded, horticulture will develop, or we are badly mistaken. Who will send us a list of the officers of this new society, or anything else of importance concerning it? Don't all write at once; and don't all forget to write at once.

"YESTERDAY afternoon about 3 o'clock * * * In a corner near the bar they saw a white man and a white woman in a heap, and at their feet lay a negro." Several pistol shots were fired and the police ran in. The above quotation from the morning paper tells what the police found. The negro said he was "considerably" drunk, the white man said he was asleep; the woman said she was a variety actress. This don't need comment. It occurred in a high-toned Dallas saloon at about 3 p. m., Sunday, and it is presumed the keeper of the saloon is under bond to keep an orderly house.

THE grand productive power of this country is being rapidly supplemented by means of irrigation. Not only are arid regions being made fruitful, but fields where natural humidity has always been considered sufficient are made to double their productiveness. In a few years wind mills or other economical pumping engines will be used on every well managed farm, and will help to hasten the time when man will be independent of nature, and disastrous drouths and ridiculous Dyrenforth's will be no more—or at least their several occupations will be gone.

We hope the Texas building at the World's fair will not be run for political effect. All know that the fair authorities alone prevented the State from being represented by a splendid exhibit. In the management of Texas matters at the fair there seems to be a lamentable lack of "mutual understanding." Circulars are out calling on patriotic Texans to supply Mrs. Tobin with \$1000 per month "to place a grand State exhibit in the Texas building," while the same papers which contain the circulars publish a statement that Mrs. Tobin will not permit an exhibit to be placed in the building. She wants it for social gatherings and public speeches. There seems to be a conflict here that should not exist.

TEXAS HORTICULTURE.

THIS issue of TEXAS FARM AND RANCH contains more good reading matter relating to horticulture than any issue of any paper ever published in Texas. And what makes this matter especially valuable to our readers is, it is like the reliable family almanac, calculated for the latitude of Texas and contiguous states. These papers and these proceedings are made and authorized by men and women who know what they talk and write about—not guess work or second-hand rubbish, borrowed from others, but the result of actual practice, and of knowledge dug from the soil of Texas, often with much labor, and occasional failures, but in most cases with final success.

The value of this Rockport meeting to Texas and the entire Southwest, if properly utilized by the people, will be incalculable. It is just beginning to dawn upon our people that fruit can be raised profitably in every portion of the State, and that certain sections are peculiarly adapted to certain kinds of fruit and garden products of great commercial value. The Legislatures of the State, with a conservatism better suited to the eighteenth than the latter part of the nineteenth century, have failed to recognize horticulture as a matter of any importance, and probably thought they were serving the State by refusing to encourage that industry because it would cost a little money which might be used to further schemes that had more glitter on them, and, perhaps, more political capital in them. And thus, while other states were liberally fostering horticulture, and selling to us fruits and vegetables, Texas has saved her cash at this epigot, while tusseling with the problem of how many new salaried officials could the people be made to support without a kick. Therefore our legislators have found both their ignorance of the wants of the people and their penuriousness to work together for no good purpose.

So far as we know, every State, except Texas, has given some substantial recognition to horticulture, and the policy has worked so well that in all cases appropriations for this purpose are gradually increased. In order to remove this blot from the escutcheon of the State, it will be necessary for those interested to commence educating their proposed representatives as to what they are expected to do, and to teach them that their election and future prospects depend upon their conforming thereto.

Commissioner Hollingsworth has taken upon himself the responsibility of recommending that Texas follow the example of her prosperous sisters and make such provision as enlightened statesmanship may suggest, to encourage the horticultural development of the State. The publication of the proceedings and papers of the annual meetings of the State Horticultural Society in sufficient numbers by the State would greatly stimulate the industry and add yearly to the resources and wealth of the State increasing thousands of dollars, and multiply the pleasures, contentment and health of the people. With proper encouragement from the State, and a little more energy, push, toil and talk by horticulturists themselves, Texas could be made to produce from her orchards, vineyards, gardens and truck farms, marketable products exceeding in value the greatest cotton crop of this the greatest cotton State.

ON account of the money crises the Confederate re-union which was to have been held at Birmingham, Alabama, on July 19th and 20th, has been officially postponed until September 15th and 16th.

A DALLAS prodigal, after spending a large amount of the bank's money in riotous living, is now required to give a \$80,000 bond to appear for trial at the proper time and place. "The fawning parasites of present cheer," who reveled in his substance while he was flush, don't

know him well enough to go on his bond and the jail invites him to remain.

THE State of South Carolina is now testing a new variety of saloon. It is a state concern kept by a state bar-keeper and in regard to it we shall see what we shall see.

WHEN the case of I. G. Randle, for murder of Ed. S. Randall, in which a mistrial was had on a former occasion, was called on Wednesday last for a new trial, it was discovered that every one of the State's witnesses were "non est inventus."

QUESTIONS AND ANSWERS.

Please tell me through your valuable paper how I can keep Irish potatoes all winter and oblige—P. L. MOORE, Cooper, Texas.

ANS—Have fall raised potatoes. Dig when fully ripe and store thinly in a dry place, exposing to sun as little as possible. Cull out bad potatoes occasionally. Orlet the potatoes remain in the ground until spring.

I have a crop of sorghum, and want to cut it for feed. At what degree of ripeness and how do you cure it? Do you shock like oats or let it lay in the sun and cure, and what is your experience in saving it in rainy weather?—R. TEEB, Saratoga, Texas.

ANS—Sorghum for hay should be planted thickly and cut while small. It can only be cured in dry weather, and it should be well cured, loosely shocked and closely watched before being bulked or baled. It is better as a soiling crop, and can be cut several times during the season.

I have a horse that has a swelling under both eyes, extending from the eye to the nose. He is eight years old; can't see that he is falling off any; can't find any blind teeth. He eats hearty. No sign of maddening. Been affected about a month.—S. S. LEAVINE, DeKalb, Texas.

ANS—The horse probably has big head. The disease is not common in Texas. It is usually found in the Mississippi valley. Its exact nature is not known. It manifests itself by causing an enlargement of the bones of the body, especially the upper and lower jaws. Frequently the bones of the legs are affected causing lameness. I know of no remedy for it.—F.

Will you kindly let me know through your valuable paper what is to be done with a horse's neck?—F. A. KOENIG, Cuero, Texas.

ANS—If the fistula has not broken you may be able to scatter it with a sharp fly blister. If you think it contains matter, open it at the lowest point and wash it out with strong carbolic water. If it is a case of long standing there will probably be pipes and pockets. The main points are these: Open at lowest point to secure perfect drainage. Scald the fistula with a caustic, say caustic potash, arsenic or corrosive sublimate. When the diseased tissue is destroyed encourage healing with the compound tincture of iodine or with salol. Sometimes you will fail. In some cases it is necessary to strap the horse down and open the pipes and pockets with the knife. There is no secret in the treatment. The success depends on the thoroughness in carrying out the above.—F.

My best work horse has two sores, one in his right flank and one in his right side about eight inches from his back bone. I washed the place well with warm water and quite a discharge came from the places. I see, today, other places on his body about the size of a marble that look like ulcers in the cows. He has not been worked any for over a year only to a wagon for a few miles. He is in good condition.—S. VALLADE, Running Water, Hale Co., Texas.

ANS—There is an insect that produces grubs under the skin of the horse somewhat similar to those so common in cattle. If you find the grubs please send them to me in whiskey. You cannot do better than fill the pockets with carbolic acid.—F.

I have a fine yearling colt that has lumps on the hind knees like wind-galls or bog or blood spavin. The lumps are in the hollow of the knee and show inside and outside; are soft and increasing in size; has never caused lameness, but disfigures him. Please tell me if it can be cured and give remedy.—BENJ. STEWART, Manchester Mills, Texas.

Do not open the enlargements, it may ruin him. These often disappear without treatment. If they continue and become worse you can get a bog spavin truss that will cure the trouble. I would not be in a hurry about it.—F.

I have a yearling filly that had distemper in the spring. A lump formed at figure 1 which was treated with poultices and liniments. A lump then formed on the neck at figure 2, which was lanced and discharged freely over a pint. The lump on throat went down but rose again as soon as No. 2 commenced to heal and was lanced. She then commenced to improve but when she was turned to grass the place at No. 1 would swell up also on the side of jaw up towards the ear, which would go away as soon as stabled, to return when let to grass, and has continued to do so up to this time. Otherwise she seems to be doing well. The swellings are all on the left side except No. 1 which was directly in front.—R. E. JOHNSON, Alvarado, Texas.

ANS—If the lumps are hard, blister them. If they contain fluid open them and wash them out with carbolic water.—F.

vines must have a little judicious pruning every year to keep the fruit close to the roots, and to keep the vines from overbearing. If this is neglected, in a few years you will have all vines and very poor grapes, or perhaps none at all. Hence, to succeed, you must buy and read some good book upon grape culture. If you do not know how to prune your vines, and are determined not to learn, you had better not attempt to grow them at all, for you are sure to fail; but if you will study up on it and learn how to manage them, I know of nothing that will give you more solid comfort and luxury than a few well cared for grape vines, and at less cost of time, labor or ground.

Vines may be grown in your front yard, made to shade your porch or window, trained up to single posts or on trellises, or on the garden fence. I have on my place two-year-old vines on their own roots—six of Concord and six of Herbemont. I have just finished sacking the grapes, the bunches that were large enough to pay for sacking, and these numbered 1100, in this their third year. After vines are planted and staked or trellised, their cultivation costs no more than a corn or cotton row the same length. A dozen good, thrifty, well cared for vines will supply any family bountifully with grapes, the finest fruit in the world.

INJURIOUS FUNGI AND THEIR TREATMENT.

Address by R. H. Price, Prof. of Horticulture A. & M. College.

It is with a feeling of pleasure and gratitude that I meet with the representative horticulturists of this great state. Some have devoted their lives to the development of horticulture and now have a national reputation.

After nine months work at our Agricultural and Mechanical College, trying in my humble way to teach the art of horticulture to the young men of this state—trying to teach them how to beautify "our southern sunny homes," and after considerable study of your soil and climate, and examining your exhibits, I am now thoroughly convinced that this state, with its fertile soil and varied climate, will enable it to take rank in horticulture with any other southern state. We see now only the rising sun. The influence of horticulture in diversified agriculture is only beginning to be felt in this state.

We have met to consider how to take advantage of our opportunities, to gather resoluteness and fresh courage. Our interests are the same, they unite us into one common brotherhood.

In every occupation of life, however inviting it may be, there are some difficulties to overcome. The great and successful man is he who has the power to overcome these difficulties. Horticulture has its difficulties. Injurious fungi are, perhaps, the most serious.

It is my purpose today in this short talk to consider these difficulties in general, and to tell how we may overcome some of them, and in doing so, I shall feel at liberty to quote from bulletin number 23, which I have published on Black Rot of the Grape. Many things I shall say which constitute the fundamental principles upon which the successful treatment of fungi is based may already be familiar to most of you.

NATURE AND CLASSIFICATION.

Do you ask me what are injurious fungi? They are parasites. There are many parasites in horticulture, of which the commission merchant or middle man is a type. A parasite is any organism which lives upon and draws its sustenance from another living organism. The mistletoe is an example. Fungi are commonly known as rusts, smuts, mildews, blights and rots. There are two groups of fungi, one lives upon the inside of plants and fruits and the other lives upon the outside. The mildews are examples of the group which lives upon the outside and they can easily be seen with the unaided eye. Black Rot of the Grape is an example of the group which lives inside and it can only be seen with a microscope—its presence being indicated by the discoloration and shrinkage of the infected tissues. Inside growers, or endophytic fungi, are more difficult to treat than outside growers, or epiphytic fungi. In order to be successful in the treatment of fungi it is important to remember that they are plants just like the host plant upon which they live, though they do not have the power of obtaining their food from the air and soil. Their food is already prepared for them by higher plants and they go to work and steal it. They send their roots down into the tissues of the fruit or plant and absorb the vitality. The plant then sickens and dies from the effects of the robbery. If we examine the diseased plant with a microscope at different stages of the disease we find that the fungus has a life history which is interesting and often very complicated. To find out the few things we now know about some injurious fungi has required years of patient study and scientific research

with the microscope, but the results mean millions of dollars to American horticulturists.

The dreaded black rot of the grape which once threatened to destroy most of the Labrusca and Riparia families of grapes, is practically now held in check where ever the Bordeaux Mixture is used intelligently; the same may be said in reference to the scab on the apple and pear.

We must know something of the life history of a fungus before we can prevent it in the cheapest and most practical way. For instance, a red rust known as Gymnosporangium macropus which is quite serious some places upon the foliage of apple trees, first starts from the apples or nodules found growing upon the limbs of cedar trees. During damp weather early in the spring oblong, gelatinous threads project out from the cedar apple which consists of thousands of spores held together by a mucilaginous substance. These spores are borne away by the wind to the apple orchard where they do their injury. In turn the spores are carried by the wind in the fall from the apple trees back to the cedars where the fungus grows and lives again over winter. Since we know these facts it is plain that one of the best things we can do to check its ravages is to cut down the cedar trees near the orchard. In the case of the black rot of the grape we have found that the dead bunches and leaves which remain in the vineyard carry many spores over winter to infect the vineyard again in the spring. These spores float in the atmosphere and wherever they find a suitable host plant under favorable conditions, they germinate and do their injury.

A fungus is propagated by a very small body called a spore. This spore can only be seen with a microscope. There are several kinds of spores for the propagation of the same disease, some are called winter spores and some are called summer spores; each is peculiarly adapted to the propagation of a fungus during the season in which it matures. In the main, spores correspond to seed in higher plants.

A spore is just as necessary to the production of a fungus as an acorn is to the production of a giant oak of the forest.

It is stated that nearly every organism has its own peculiar parasite. Some of our flowers and fruits have a half dozen. There is no branch of horticulture which does not suffer serious annual loss from their attacks, and no climate which has perfect immunity from their ravages. Parker Earle says that a single acre like the scab on the pear and apple costs the American fruit growers millions of dollars annually.

Prof. Galloway says that the probable loss to this country from the attacks of injurious fungi is over two hundred million dollars.

CLIMATIC CONDITIONS

have much to do with the seriousness of a fungus. Spores of most fungi will not germinate where there is no moisture. Hence, low wet land or land near large bodies of water where dense fogs are prevalent furnish the most favorable conditions to the development of fungi. This accounts for the fact that the black rot of the grape is more serious in some parts of this state than in others, also that many roses are grown here comparatively free from disease.

GENERAL PREVENTIVE MEASURES.

1. All dead fruit, leaves and rubbish which remain in the vineyard or orchard and may serve to carry a fungus over winter should be gathered and burned in the fall.
2. Any organism is more able to resist the attacks of a parasite when kept in its healthiest state. Therefore all plants and trees should be kept in their healthiest condition by good culture and fertilization.
3. Locations which are rather high, having good surface drainage, are less conducive to the growth of fungi.
4. Only the hardest varieties should be planted.

RATIONALE OF TREATMENT.

Very few things called remedies can be used with any success in treating injurious fungi after they have once made their attack, especially so upon inside growers. Therefore nearly all treatment must be preventive and not remedial. It has been found by experiment that minute traces of copper salt will prevent spores from germinating, and at the same time do slight injury to plants and fruits. Therefore so long as a slight trace of copper salts can be kept on the foliage or fruit they will be practically safe from the attacks of injurious fungi. Where failures have resulted in preventing the attack of injurious fungi they have generally been due to imperfect spraying, or to the applications being applied too late, or to their being washed off by rains.

Rainy, damp weather is the most favorable time for the growth of fungi and the most unfavorable time to keep the fungi-

clides on the foliage or fruit. Therefore fungicides should be applied more frequently during rainy weather. For diseases of the grape the application should be applied just when the buds begin to swell or open, and be repeated every twelve to fifteen days till the fruit has about reached its full size. Usually, four applications will be sufficient, the last one being applied several days later than the preceding one.

FUNGICIDES AND THEIR PREPARATION.

Although about one hundred preparations have been used in treating plant diseases, the most satisfactory one is what is known as the Bordeaux Mixture. This preparation is made of lime, water and copper sulphate or bluestone. The original French formula for this mixture was 16 pounds of copper sulphate dissolved in 23 gallons of water and then mixed with 30 pounds of lime. This preparation is best to use through spraying machinery. Recent discoveries have proven that much smaller quantities of copper and lime are just as efficacious. The formula which we have used with marked success on our vineyard and plum orchard this year is: copper sulphate, 2 pounds; lime unslaked, 2 1/2 pounds; water 25 gallons. We have added three ounces of London purple to destroy all insects. However, it is not a safe thing to use the arsenical poisons on peach trees, as their foliage is very susceptible to injury from their use.

Today our orchards and vineyards are practically free from the effects of injurious fungi and insects.

There is one slight objection to the use of the Bordeaux, however, in that if it be used on fruit very late it is apt to corrode the skin and injure its sale. To prevent this the following mixture is sometimes used for the last application: Copper carbonate 1-2 oz., ammonia (26 degrees) 6 oz., water 4-12 gallons.

The Bordeaux mixture may be prepared on a large scale by taking two large barrels and dissolving the lime in one and the copper sulphate in the other. Each quantity should be placed in separate bags or sacks and let hang down into a half barrel of water. The sacks may be easily shaken about to hasten solution, and at the same time they will act as strainers. After the lime and copper sulphate have been dissolved, the half barrel of one may be emptied into the other. Both may be dissolved quicker by first pulverizing them and heating the water. If slaked lime be used the quantity should be about two pounds more for 25 gallons, however, if there be any doubt about not using enough lime the free acid can always be detected by sticking in a red piece of litmus paper and if it be turned blue there need not be any fear of the preparation burning the foliage by the free sulphuric acid.

We have found the following preparation very beneficial for spraying vines and trees early in the spring before the leaves put out. It takes all moss and lichens off so that the bark presents a clean and healthy appearance: Concentrated lye, 8 cans, water, 50 gallons.

IS THE SPRAYED FRUIT WHOLESOME.

When from any cause people wish to injure the sale of certain fruit they take advantage of the fact that it has been sprayed to prejudice the people against it.

It has been proven by repeated analyses that over two tons of grapes would have to be eaten at a single time to get enough copper to prove a fatal dose. If one or two rains have fallen after the last spraying no fear at all may be had in eating the fruit. After we had sprayed our plum orchard three times with the Bordeaux mixture, using only three ounces of London purple with every 25 gallons, and a heavy rain had fallen after the last application, the fruit was analyzed by the chemist at the experiment station, Prof. Harrington, and not a trace of copper or arsenic could be found on the plums. However should any copper or lime remain on the fruit or stems so as to injure the sale they can easily be taken off by water and vinegar mixed together.

SPRAYING MACHINERY.

In order for spraying to be most effective it must be done thoroughly, and in order to be done thoroughly some form of a spraying machine and nozzle are necessary. The kind needed will depend upon the amount and nature of the spraying to be done. The Jappy Spray Pump is used for ordinary spraying. Perhaps the best style of the Jappy Spray Pump with the Improved Vermorel nozzle and the Agate Mortar is made by Robert Leitch & Sons, and sold for \$14. They write me they do not make the Agate Mortar unless requested to do so.

Where only a few vines or trees are to be sprayed, also for general green house work, perhaps the hand force pump, sometimes called aquapult, is best. It can be bought for \$6.50. We have arranged with them to change it so that the

Vermorel nozzle which goes with the Jappy Spray Pump will also fit on this machine. This machine is excellent for making the kerosene emulsion.

The Little Giant is very convenient where more work is required than can easily be done with either of the above machines. It can be pulled on its own wheels over the ground or it can be easily mounted in a cart or wagon and hauled over the ground. It will spray two rows at once.

TEXAS ENTOMOLOGY.

Paper by W. R. Howard, Fort Worth, Texas.

Your request to prepare a paper on the Entomology of the State of Texas has been duly considered and the work partially done, but for want of time I am unable to finish it in time for your meeting, but will have it ready for publication with your report. My time has been limited, as I can have but three or four hours per week from my professional work to spare. Most of my work on this and other scientific papers has been done between 10 p. m. and 1 a. m. I am more pushed for time now than usual, as the North Texas Medical Association meets at Dallas, Texas, June 20-22, and I am preparing for that meeting.

I will mention briefly the subjects which compose this paper and the purpose for which it is written. To enter into a detailed description of all the insects injurious to our crop products, would require the writing of a volume; to call the attention of the people of Texas to the importance of a thorough knowledge of their habits and transformations, rendering us more able to combat them and, in many instances, escape their damaging influences altogether. A lack of this information and the proper appreciation of it is to Texas the loss of millions of dollars annually, directly, by the damage of our trees and plants, lowering their vitality, shortening their lives and enfeebling their usefulness; and indirectly, by the influence on our marketable products. A fruit tree enfeebled by the presence of insects at the root, in body and among the branches cannot mature its fruit; immature fruit rendered more inferior by being infested with worms, the larvae of numerous insects injurious to the fruit itself, gives us a bad name where our fruits are exposed for market, and such a name abroad as will require the diligence of years to overcome. The fruit on the market to-day in Fort Worth is a fair representation of this condition.

While we have some very careful fruit growers who do all in their power to elevate the industry to a higher plane of perfection, we have carelessness enough among our neighbors to more than counterbalance all the good and render their efforts futile.

We lose one-half of our fruit and shade trees annually, or want of this knowledge and proper application of it. They may seem an extravagant assertion, but when we consider the number of trees planted which arrive at maturity and the zenith of usefulness, unmolested by these injurious influences, we appreciate the truthfulness of this statement.

Our cereals are injured in some seasons to the extent of almost a total failure of the crops, which may be traced to a lack of proper methods to prevent this loss. For instance, the chinch bug, which has for years destroyed cereal crops in some localities, has, by the labors of the entomologist, been successfully overcome by the introduction of a few infected or diseased chinch bugs, which, by their presence, have infected and destroyed all the chinch bugs within their range, thus saving the entire crops from certain total destruction. Many other insects injure the grain, causing short crops, inferior in quality and market value.

Our cotton has its enemies, the worst of which are the boll worm and army worms. These, in a few days, rob the planter of every hope for the fruits of his labors, after a hard season's toil.

The gardener and truck farmer is by no means exempt from the ravages of insects; no matter what has been his experience in the preparation of the soil, his care in the selection of his seeds, his caution in the cultivation and treatment peculiar to each plant, he, likewise, sees the realization of his fondest hopes frustrated. His squashes, melons, cucumbers and kindred plants lay a prey to the odorous squash bug, plant lice, flea beetles, leaf beetles, etc.; his cabbage, turnips, radishes, mustard and other cruciferous plants riddled with caterpillars and sapped by the Harlequin cabbage bug, the radish bug and the plant louse; his potatoes, by a half dozen species of blister bugs, the three-lined cut beetle and Colorado potato beetle; his tomatoes, when frosted trimmed by the large tomato worm, the larvae of one or more of the Sphinx moths; the fruit bored into by the com-

met with many discouragements, and as they had everything to learn by their own experience, they often met with failures. They did not give up the fight, but blazed a way, that others following in their footsteps might avoid the rock upon which they had been wrecked, and a most prosperous industry has been built up and is now being developed as rapidly as any other industry in our great state.

When my father started his nursery at Brenham thirty-three years ago, he was called the crazy bush man. His neighbors tried to dissuade him from attempting to grow fruit, assuring him that fruit would not grow in Texas. Yet he proved that with the proper care and selection of varieties we could grow good fruit and an abundance of it in that part of Texas. In 1878 I spent six months at Jacksonville, Cherokee county. At that time there was not a commercial orchard about Jacksonville. The people depended upon cotton for a living and but few had any fruit in fruit growing in that section. A Mr. Collins had a small nursery in the suburbs of Jacksonville and a Mr. Smith had planted a few hundred peach trees the winter before as an experiment. Mr. Yoakum had a nursery at Larissa, seven miles distant, and a few peaches were hauled from Larissa to Jacksonville in a wagon bed or large boxes and were there piled in the corner of a store room, like so many potatoes, after which they were boxed and shipped to market. Yet, from this small beginning, in fifteen years fruit growing has become one of the chief industries of Jacksonville. A few seasons ago 80,000 boxes of peaches were shipped by express from that station and now they have one of the largest canning factories in the State in successful operation. In 1878 but little fruit was raised at Tyler, but I do not doubt but that now the income from the fruit crop will nearly equal that of cotton in Smith county. Peaches, apples, pears, plums, grapes and strawberries are now shipped by car load. While several canning factories are doing a rushing business. Such men as Douglass, Shamburger, Allen, Whitaker, and the lamented Dr. Yoakum, have demonstrated that almost all kinds of fruit can be grown as successfully in East Texas as in any other part of the Union.

Dr. McMillan, of Chandler, Henderson county, says that he shipped the first box of peaches from that station five years ago. Yet last year they shipped 10,000 boxes and several car loads in barrels. In the black land regions of North Texas it has been proven that apples, peaches, pears, plums and grapes can be grown successfully. I have seen as fine peaches, plums and pears growing at Lampasas, Coleman and Angelo as can be grown in any country. At Coleman I saw the Mission grape growing vigorously and full of large bunches, apparently as hardy as the Heriberto is in our part of Texas.

The mountain region of Texas seems to be specially adapted to the growing of stone fruits, such as peaches, plums and apricots. Its dry atmosphere makes the fruit less susceptible to rot and the steady cold weather in winter keeps the trees in a dormant state until spring opens up and thus renders the fruit less liable to be killed by spring frosts. In many localities in this section, the pear and apple succeed admirably.

The great Staked Plains promise to rival Californian in the growing of peaches and plums, and California grapes, while away out at El Paso, which is so far away we can hardly realize that it is in Texas, the famous Mission grape is grown in such quantities that you will find them in nearly every market in the land in their season.

A few years ago the coast country was considered good for nothing except the grazing of cattle and the production of mosquitoes. But what a change has taken place since Mr. Stringfellow proved that pears of the Chinese class would succeed. Hundreds, yes, thousands of acres have been planted in pears, small fruits and vegetables. Car loads of fruits and vegetables are being shipped to market from Alvin, Hitchcock and other points in that section, while here at Rockport and Corpus Christi you promise to rival Florida in the production of early fruits and vegetables.

Texas is so large, her climate and soil so varied that we can grow nearly all the fruits known to civilized man within her borders. The apple, the peach, the pear, the plum, the grape and the blackberry can be grown in nearly every part of Texas, while in many localities, the strawberry and raspberry will grow to perfection, and here on the coast, since the introduction of the Oonah orange, this section promises soon to be dotted with golden groves beading with their loads of orange fruits.

When I say that fruit can be grown in all parts of Texas, I do not mean that all varieties are adapted to each locality, but I do mean that varieties can be selected that with the proper culture and care will suc-

ceed in each locality, and it is one of the missions of this society to point out to its members and the people at large, if the State will enable us to do so, what varieties are adapted to the different sections of our State, and thus enable those planting orchards, vineyards, and berry plantations to profit by the experience of others and save thousands of dollars wasted in useless experiments.

In addition to the advantage which Texas possesses in climate and soil, she has great advantage in nearness to the great markets. Texas is several hundred miles nearer the Northern and Eastern markets than California, and while Florida and the Atlantic states are nearer the Eastern markets, Texas is so much nearer the markets of Colorado, Kansas, Missouri and the great Northwest that she could easily control the trade in nearly all fruits and vegetables. We have direct railroad connection with all the leading markets of the Northwest, North and East and just as soon as we grow enough to justify them, the railroads will run fruit trains from Texas as they do now from California, Florida and Georgia.

Texas has all the advantages for the fruit grower in the way of soil, climate and railroad facilities, and I do not doubt but that in a few years the income from the fruit crop will equal that of the cotton crop. In spite of the fact that our legislature refuses to aid or encourage horticulture, Texas is making wonderful progress in the development of her horticultural resources and she promises soon to become the foremost fruit producing state in the Union.

OLD ORCHARDS.

Paper by J. T. Whitaker, Tyler.

I feel honored to be entrusted with so important a subject as "Old Orchards," as their care and management to retain vigor, and thereby reap a bounteous harvest. Your reward will require first, a thorough system of pruning; second, a thorough and persistent mode of orchard surgery, together with good fertilizing and moderately good cultivation will bring success to the grower. Now, in order to be better understood, I shall take up each class of work as is indicated in the above division.

Pruning an old orchard may differ somewhat from young orchards, inasmuch as it will always be the aim of the pruner to cut from the terminals, turning the growth nearer to the trunk and collar of the tree. Usually, there will be no need of thinning out, but a continuation from one year to another to shorten the long branches. This is especially true in regard to stone fruits. Cored fruits will require thinning out and opening up their main leads in order to admit the air, light, and the sun's rays to ripen the fruit perfectly. Orchard surgery consists in pruning, with the additional operation of cutting out or off every diseased limb or branch, also cutting out the deadly little enemy known as the peach or apple borer. The operation is sometimes very simple, consisting in only removing a small portion of the bark near the entrance made by the little enemy, while at other times it becomes necessary to perform quite an operation to succeed in capturing him. However, to facilitate the operation, we would suggest the use of an annealed wire with a sharpened and barbed end, also a chisel, gimlet, and mallet. With such tools in the hand of a skilful operator, the work can be readily accomplished. But as no surgeon would dare leave his patient with bleeding and freshly amputated limbs or sore and gaping wounds, it now becomes necessary that we give the proper mode for dressing and healing the trees just operated upon. Our mode of dressing and healing wounded trees is to make a compound of clay, alkali and fresh droppings from the cow lot, equal parts, to which add a small quantity of sulphur and carbolic acid; thoroughly mix and apply to the tree with a small wooden paddle, dipping it occasionally in water to complete the sealing process.

Third: Fertilizing or restating an old orchard will depend mainly upon what has been left in the soil up to the time you wish to commence fertilizing. To illustrate, we will compare soils widely differing in the component parts which make up their fertility. Sandy loam, as is well known; is deficient in alkaline principles, while the black land possesses it in great quantities, hence land that has become exhausted will require in a less or greater degree one or the other of these ingredients, just as would be indicated provided we had a chemical analysis of the soil. You will always find sandy land wanting in lime or the alkaline principle, while black land will indicate a deficiency in loam. Now with this knowledge of fertilizing, the soil can be restored to its original virgin purity with less than one half of what is usually required without such chemical analysis.

Cultivation of an old orchard consists in

a thorough plowing in early spring, after the danger or frost is over, after which time the harrow can be used to great advantage provided your trees are set in checks at right angles so as to admit of harrowing both ways. No other implement need be used save the cutting of a few weeds and bushes that may chance to grow near the collar of the trees. This process of harrowing should be continued during the entire summer season, or so late in the season as to not admit of the orchard becoming foul before a killing frost.

With all the above operations performed and young trees set to take the place of the old ones that have died out, the old orchard can yet be made to pay.

GROWING GRAPES ON MUSTANG VINES AND ROOTS.

Paper by H. B. Hillyer, Belton, Texas.

Grafting and budding are the simplest possible processes, and every man who owns a home or cultivates an orchard, or grows grapes, should learn to do them. I do not believe we should seek to do the work of a regular nurseryman, for it will not pay us to do so; for why should I plant seed, wait for them to grow, then graft them, and lose two years' time, when I can buy a two-year-old tree for 25 to 50 cents. Yet it is often very handy and profitable to be able to cut out some worthless tree or vine, or some we have an excess of, by grafting into it more desirable fruits, or such as we may not have or may have too few of.

One of the greatest drawbacks to the progress, as well as the prosperity, of our farmers is, they do not place the proper estimate upon the value of "book learning," as they call it. They do not study books upon their occupation, nor take and read the agricultural journals. I cannot understand why a man in any walk in life should be content to remain ignorant of the theory and science of his calling, and be satisfied to know only the common details of the manual labor required to carry it on.

I have nothing new to offer upon the subject of grafting in general, nor yet the use of the mustang vine as a basis of vine growth, for this has been done many years. But the manner of using these vines, and grafting into them, and the principles involved therein are new, if not to all my hearers, certainly to the great masses of our people, for I have never seen in print a simple method of utilizing these splendid vines that was brought down to the level of the understanding of the average farmer and home builder in Texas, nor has the real value of the mustang vine as parent stock been at all appreciated or well understood. The mustang vine is most prolific of far-reaching roots, and hence the most rampant grower and the heaviest producer on earth. Its extensive systems of roots enables it to thrive in the driest places and stand the severest drouths, and in Texas it seems equally at home in every character of soil. True, some of these vines are barren, but they seem to answer just as well for parent stock. Another peculiarity is wonderfully developed in this vine: that is, you may layer a vine of any size or age and it will take root at all its joints, and hence no reasonable amount of grafting into it can overdraw its capacity to furnish sap.

The efforts heretofore made of grafting into the mustang vine have been usually the old one of cutting off a vine or limb and grafting into the stumps. The great amount of sap furnished by the roots, having no use above, must result in bleeding, souring in the stock and early decay. This new system of grafting preserves the old vine, renews its vigor and converts it into a system of roots. And Mr. Whitsett's experiment fully demonstrates the fact that the most tender grapes and those subject to disease, and foreign varieties though unsuited to our climate and soil, are at once acclimatized upon the mustang stock, and become hardy, healthy, vigorous growers, and fruit and mature their fruit as well as those called iron-clad. If further experiments and more time confirm this claim of the new system, it will prove to be the greatest discovery of the century in the matter of grape culture in Texas.

It is a principle of tree growth that is not sufficiently understood, that the tap-root furnishes the growth of the tree—that it is its trunk—while the lateral or surface roots furnish the nutrition that makes its growth and fruit, and any cutting or pruning of the tap-root will dwarf the tree; and this is the mode in the East to dwarf trees, and is why trees are so dwarfed upon our rich uplands.

A substratum of limestone near the surface stops the tap-roots and checks the growth of the tree. Now vines bear no tap-roots, hence their foliage and fruit obtain a large per cent of their annual growth. It is also a principle of tree growth that the rooted stock furnishing the

sap and nutriment to the plant, controls its growth, while the scion grafted into it utilizes this sap and plant food, and by the mysterious action of its own vital energy upon its own organs, converts this sap into its own species, and has exclusive control of the resultant fruit; nor is the quality of the fruit at all affected by the present stock.

To examine this rule, take a pear tree that upon its own roots would require eight or ten years to come into bearing, graft it into a heavy-rooted, rapid-growing Japan pear stock, and the large amount of sap furnished by these roots will greatly increase the growth of the tree and bring it into bearing in one-half the time.

Only this spring I saw two grape vines of the same species—grapes from the same vine—the grapes on one were only as large as small bird shot, and the other the size of buck shot. Why the difference? The latter was grafted into a far more rampant growing vine, and was thus forced into more vigorous growth and earlier bearing. So you take a grape of slow growth and dwarfish habits, graft it into a mustang vine and it will be converted into a strong grower; and I deny that the fruit will be at all affected by the mustang acid. I have heard the contrary statements often made, but my own experience fails to verify it.

The most extensive system of experiments I have ever seen made of grafting into the mustang vines has been made by my friend, Mr. Whitsett, of Belton. He has quite a number of fine mustang vines on his place; some of them are barren vines. They are several inches in diameter and sixty or eighty feet long. He pulled these vines down, trimmed them up, laid them in trenches ten or twelve inches deep, just as you would lay water pipe; about every six feet he drove a chisel into the vine lengthwise, took a scion with two or three buds, sharpened its lower end into wedge shape, and stuck it into the vine until it came into contact with the sap of the vine. He laid a scrap of cloth over the split in the vine to keep out the dirt. When the layered vine was filled its entire length with these grafts the ditch was filled with dirt to the level of the ground, covering the grafts out of sight several inches deep. The side branches of the vine were layered at right angles to the main vine and treated in the same manner. The terminal buds of these layered vines were left above ground, and the following year would grow from thirty to sixty feet, and serve as basis of other grafts the coming winter. This layering and grafting was done in January and February. These layered vines took root at all its joints, also at the point of grafts. These, added to the supply of its original roots, produced a wonderful growth of all the grafts, some of them making sixty feet and fruiting the first year. Mr. Whitsett has one vine that was grafted in March, so late he had but little hopes of its living. It did not come up until August, and made a little growth that season; but this year it has grown all right and has now 180 bunches of grapes. Some one gave him a grape cutting called the Moore; it was grafted in January, grew nicely and made some fruit last summer, and this year has 325 bunches of grapes on it. Many of them will weigh one and one-half pounds. Out of fifty-five grafts put in last year fifty of them lived and are all heavily fruited this second year.

Mr. Whitsett has thus grafted fifteen or twenty varieties of grapes, both home and foreign, and in this their second year are all doing well, fruiting heavily, and at this writing show no signs of disease in either fruit or foliage.

One experiment is quite novel and interesting, as well as valuable: A lady in Belton had planted some seed of the Malaga grape that had been imported in sawdust. They came up, lived several years, making a few feet of growth not as large as pipe stems, but no fruit. He grafted a cutting of this vine into his mustang vine; it grew over twenty feet the first year, and this year has eighty bunches of grapes on it. They are well developed and growing nicely.

But suppose a man has no mustang vines on his place, then what? Mr. Whitsett's experiments answer this question also. He dug up quite a lot of mustang roots about as large as the little finger or a pipe stem, split the end (that is the one nearest to the body of the vine) and inserted into it a graft cut wedge shape, simply wrapping them tightly about the graft with a strip of cloth and buried them in the ground. They came up and made a good growth last year, and are in full fruit this year. This surely solves the problem of raising fine, healthy, hardy vines in the driest districts in Texas.

Underground grafting requires no wax; only see that the bark of the scion and stock come in contact and wrap with a strip of old cloth. But to be successful in growing grapes, or, indeed, any other fruit, requires some knowledge:

FARM AND STOCK.

"A hard row to hoe" evidently refers to a cotton row on sandy land in wet weather, and beautifully rounded with crab-grass.

The damage to crops by grasshoppers, in McLennan and adjoining counties, has exhausted the supply of arsenic at Waco. The supply has been renewed and the war goes bravely on.

The announcement of the election of Col. A. P. Bush as President of the Texas State Wool Growers' Association, which we noted in last issue, proved to be a fake, or a "cattleman's joke." No such election occurred.

A great many farmers fall, like the speculator, by "biting off more than he can chew," or "wading beyond his depth," or planting more than he can properly cultivate. All these aphorisms mean the same thing.

Texas is a vast field for the sale of oleo and other fraudulent substitutes for butter. The reason for this is that Texas has not progressed in dairying as in the other agricultural branches. We want more good dairy cows, dairymen, and more good butter made on farms.

The National Swine Breeders' Association will hold its annual meeting in Assembly Hall, World's Columbian Exposition, on Friday, October 13. This meeting occurring during the last and most important week of the swine exhibit, will be largely attended.

At various times TEXAS FARM AND RANCH has suggested to farmers that they make timely preparations for a fall crop of Irish potatoes. Again we say do not forget it. Have the ground rich and ready, and likewise the seed potatoes. Try to plant deeply, in moist soil, not on a ridge.

The Board of Directors of the Texas Trotting and Pacing Horse Breeders' Association have accepted the proposition of the Lamar County Fair Association and will hold its next annual meeting at Paris, Texas, October 31st to November 4th inclusive. This immediately follows the Dallas Fair. Paris, besides putting up a liberal bonus, promises to furnish the best stalls and track in the South.

THE OUTLOOK.

Crop reports from all parts of Texas, except oats and wheat, average up fairly well. In some sections oats were short and the wheat crop of the Panhandle was considerably shortened by drought. Corn is assured, a glorious fattening crop at that. Let every hog rejoice and every good man give thanks, for no better preventive of famine can be suggested than an abundance of corn and hog products. They not only adhere to the ribs, but lubricate the joints, harden the muscles and amuse the palate. The yield of cotton promises to be more satisfactory than the price. The prospects at present are that a large crop will be gathered the coming fall. There is nothing to show that subnormal crops, such as potatoes, forage, etc., will not also be abundant. In a few localities, from sporadic causes, some of the fields have failed to produce satisfactory crops. Those interested say it did not rain enough, or at the right time; or that it rained too much, or at the wrong time; or that grasshoppers got in and ate it up; or that it was their "confounded bad luck." They never charge any of the result to bad preparation, bad management, or lack of management, or laziness. If they have not kept a tell-tale diary, the trouble is easily explained—they must have planted in the "wrong time of the moon," or when "the sign was wrong."

Everything considered, Texas is all right. Just this day, an intelligent drummer, who has been selling stoves all over the State, told the writer that crops were "just splendid," and that his trade was never better. Texas is all right.

Texas farmers, having learned that there is just now great uncertainty in the prospects of the money crop, and that there is already a scarcity of the commodity, will tide over the period without difficulty. If a farmer is out of debt there is nothing he can do without with less inconvenience. He can't eat it drink it nor wear it. He can do just as country people do during an epidemic—stay away from town, live a little more plainly and wear last season's garments.

FEED THE PIGS THROUGH THE SOW.

N. J. SHEPHERD.

Generous treatment of the brood sows always pays in the increased thriftiness of the pigs; while to stint the sow is to stint the pigs, and in doing this an injury will be inflicted that no after treatment will entirely overcome. It is not necessary or

best to have the sows fat, yet it is very essential that she be in a vigorous, thrifty condition, and whether she is carrying or suckling a good litter of pigs, it is very important that she be supplied liberally with material that will supply plenty of nourishing food for her pigs. A good brood sow is either carrying or suckling a litter of pigs the greater portion of the time, and it requires good management to feed and care for her so that she will be in trim all of the time. The quality, as well as the quantity, of the food is important, as she cannot in anywise furnish the nourishment unless she is first properly supplied with the food.

Young pigs must commence to grow as soon as they commence to nurse. They are of course too young to eat themselves, hence must be fed through the sow. A good start secured while they are young will make it a much easier matter to keep them growing, and the easiest way of securing profitable hogs is by a quick growth, and if a quick growth and an early maturity is secured it is very important that the pigs be kept growing from the start. By feeding the sow liberally with nourishing food she will be able to furnish sufficient feed to her pigs to keep them growing right along, so that when the change is made to something else they will be in a healthy, thrifty condition and will not suffer in any way by the change.

For a week after farrowing, as a rule, the feeding should be light, and then the ration should be rapidly increased until she is given all that she will eat up clean each meal, and this must be kept up until the pigs are weaned. It will be difficult, no matter how well fed she may be, to keep her from running down, and the liberal feeding must then be kept up to have her come in again. And then after she is bred, liberal feeding is necessary so that she can properly nourish her pigs and be in a condition to stand the drain of suckling another litter.

Feeding the sow liberally, both during gestation and while suckling her pigs, will help materially in making her pigs vigorous. There is no danger of the pigs making too rapid a growth. In fact the feeding and management should be such as will secure the most rapid growth. A good sow will suckle her pigs an average of ten weeks and this is fully one fourth of the time they should be allowed to properly grow for market, and as it is the most important stage, is very essential that good treatment be given and this cannot well be done unless good treatment is given the sows.

Eldon, Mo.
A swine breeder in giving his own experience in growing hogs through the Swineherd says:

I have been raising hogs for several years, have raised a great many and have never seen the time when they did not pay unless they die. Farmers are too easily discouraged. If they have a dozen or two hogs on hand and crops are bad they will give them away rather than try to keep them over, and the following year brings a big crop and they have no hogs and rather than buy enough to feed for their meat they sell their corn from 15 to 25 cents per bushel, take the proceeds from their corn and buy their meat. This is a mistaken idea of farmers. They should always try to keep hogs enough (with their other stock) to eat up their corn, as ninety-nine times out of a hundred you will get better prices for your corn, besides you will have the manure on your farm.

SANTA FE'S COLUMBIAN FOLDER.

The passenger department of the Santa Fe road has just issued for public distribution a very interesting and artistic folder, containing accurate maps of the city of Chicago and of Jackson Park, the latter showing a complete diagram of the Exposition grounds and its buildings. It also contains a "key" to Midway Plaisance, giving the location of all the cosmopolitan exhibits displayed there. The folder gives some very interesting and important suggestions to visitors. The lithographs of the World's Fair buildings, and especially the bird's-eye view of the entire exhibit, are highly artistic and pleasing. Write or call on Santa Fe Agent for copy.

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I will not sell the boar without the herd. Also three head work horses for sale. If you need anything enumerated above, come and see me or write to me. I want to unload quickly and will make low prices.

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Poultry and Bees.

Lipscomb's Tennessee Game Fowl Monthly, Columbia, Tenn., is out with its first number. It contains a number of interesting articles concerning Games, and a large amount of standard information for cockers. The price is 25 cents, and it contains advertisements and all, fifty pages.

Profitable Poultry Farming, by M. K. Boyer, is not a large octavo volume, illustrated and incomprehensible. It is a small 25 cent book, and contains just what can be easily understood and practiced. It is a useful and practical little book. We would call the attention of George Heflybower, of Austin, who is noted chiefly, if not altogether, for his enthusiasm, to half of the thoroughbred Plymouth Rock, with "navy blue under color," that Mr. Boyer says, on page 10 of this book: "As many of my readers know, I favor the cross-bred bird in poultry farming." Now, Heflybower, go for Boyer, and give this editor a breathing spell.

EATING CHOLERA.

DR. J. M. FREY.

Stay with them, Uncle Snort. You told the truth if you are guilty of the charge. If you said chickens eat cholera, you told the plain truth—not the whole truth though. Chickens eat and drink cholera. It seems to me that the fact that cholera is dependent upon a specific bacterium is well established, but the people are slow to avail themselves of the advantage this should give them. If we can keep the germs of the disease out, we will never have it. So the first consideration is to quarantine our yards. The next is to look after the sanitary conditions in the yards. In time of danger you will never have the do all this properly you will never have the disease. But if you get it, stamp it out by immediately killing and cremating the sick fowls, with all objects contaminated by them about the yards. Correct or improve your sanitation. Give the survivors tonics.

I will say to N. B. Sikas that I accept all that has been said lately in the Poultry Department of this paper that I have read on the death of fowls by gorging on maggots from the putrid carcasses of other fowls dead from cholera. I cannot imagine a better way to inoculate a yard with the cholera bacterium. You are right; we did have maggots and screw-worms before the war and no chicken cholera. This was because the cholera bacillus had not been introduced into the country. It is not the maggot per se, put the contaminated maggot that inoculates the healthy fowl. If we all would always remember that the disease is produced by a specific microbe, and address our treatment accordingly, we would succeed better. We forget the disease and treat the symptoms of the disease. Prevention beats cure. If Uncle Snort's scientific statements as a novelty, they are worthy of our consideration.

Elmo, Texas.

ROUGH PLACES.

H. B. GEEK.

Yes, there are rough places, and plenty of them, along the path of poultry keeping, fancy or common. There are times of sore disappointment and causes for great discouragement that makes the most experienced feel like giving up the business. As in everything else, the person who sticks to it through thick and thin, good luck and bad, is the one who succeeds. There is always a certain amount of failure in every undertaking. The person who is successful to a high degree with his chickens one year is quite likely to encounter some of the rough places the next year, and so have his ardor cooled to a considerable extent. We all start out early in the season with the idea that we will outdo any previous year; that we will hatch more chickens, raise more and sell more chickens than ever before. But it is not always so. The season's work sometimes falls short of the year before, and our success is not so great. We work just as hard, or harder, perhaps, and with just as much vigor and determination as ever before, besides we are more experienced, but circumstances are against us—there are more rough places in our path.

Early this season the weather was favorable and prospects bright for a successful poultry year in Tennessee. The hens layed well and the eggs hatched well, and things started off in great shape. The young chicken crop was promising; but it began to rain. It rained and it rained, and many chickens sickened and died. About the last day of May a regular cloudburst struck the city of Nashville and vicinity, and four inches of rain fell in twelve hours—enough rain for a month—flooding everything, and many thousands of young chicks were drowned. The dunghill and the thorough-

bred were swept away alike; only those that were securely cooped, and that high and dry, escaped. Following the flood came a long hot, dry spell that brought forth the lice and mites by the millions—another rough place in the pathway, and one that has discouraged and disgusted thousands of new hands at the business. Kerosene is the club with which to beat them back, and when freely used success is assured.

Summer dysentery is now prevalent among the fowls, and many fine specimens succumb to it in spite of our best efforts to the contrary. Sulphate of copper in their water and camphor and whisky mixed with warm water is a good remedy that often cures the worst cases. But we would doctor the most valuable fowls only. Use the hatchet, bury them deeply and keep the premises clean.

We can get over the rough places only by good management and hard work, and that is what brings success in any undertaking. Nashville, Tenn.

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There have been from time to time various kinds of roofing material introduced to the public, and under names that bear no relevancy to the material from which they are actually manufactured, and our farmers having been victimized by these unscrupulous dealers, look with distrust on anything of a similar nature, no matter how good the quality may be.

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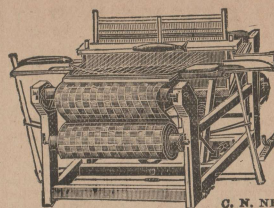
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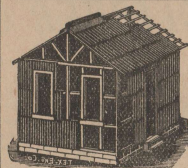
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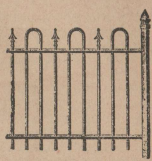
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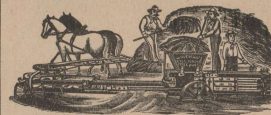
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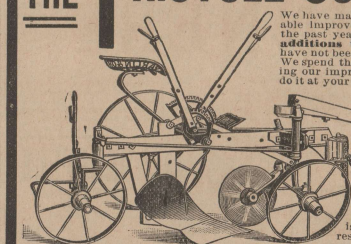
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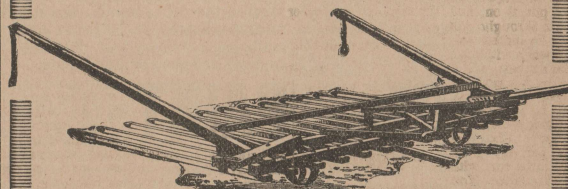


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or cotton, which please the eye of the traveler as he rides over the rolling prairies of our country now. But we will turn our attention more particularly to the embroidered train of flowers that garland the garments of Spring, decorate the brow of Summer, and cluster at the feet of Autumn, as she sits satisfied among her harvests of golden grain. "To us the meanest flower that blooms gives thoughts that do often lie too deep for tears." Away then from the dusty town, away to the woodland and field. Let us go to get into touch with Nature; there the tired brain will be invigorated, life will be cheered by its monotonies, care and sorrow of their sting, while the blossom of health will be painted on every cheek. And we should show ourselves unappreciative to forget the flowers' appeal to us, not only through the eye, but that sweet scent are the swift vehicles of sweeter thoughts, and bring to us tales of youth and tones of love. But Spring is planting her sunny feet upon the faded green of April, many a bird has returned from its winter home to welcome her with its song, many a flower has stepped forth to form a couch for her fair form, and we must notice them as they come and go. The apple blossoms are dyeing her cheeks, while her white neck is beautiful as a bed of lilies veined with the blooming violas. Around her head is twined a wreath of wild plum and redbud. Above her a hundred birds are singing. Stately Spring, the folds of whose robe are the valleys, whose breast is the garden, and whose blush is the vernal evening, without her this world would be a face without a smile. The green leaves greet her in their velvet gowns, and the happy marmoset runs through the grasses. We would like to follow her through all earth's kingdom, but must be content to watch her as she comes to Texas. The dandelions welcome her with "violets dim, but sweeter than the lids of June's eyes." Following fast upon them are the daisies in their scanty mantle clad, at first only a little cypsel, then a yellow head, with silver rays, a pretty flower, as its Latin name signifies. The primroses lift their fair faces, and by their side the shepherd's purse grows, white and dainty, in its green setting, while near both the allium lifts its delicate head like a lily. Shepherds and dooks are familiar plants. Of the latter it is said, when the flower opens, the stamens fall out and leaves only the calyx. The woods are gay with the daisies, primroses and the astragalus, which clings close to the soil beneath. The May apple and the wild hyacinth greet us at every turn. The prairies are matted with the wild strawberry blooms, that peep at us from their glossy leaves, and the dewberry flowers adorn the fences and hedge rows. Now the blossoms begin to fall, more birds are trilling in the air, the butterflies hover around, and the flowers of Summer are blooming. The Virginia Creeper and wild grape are now festooning lofty walls with leaves and flowers. Hay making has begun, and at every turn of the wheels of mowing machines, the field flowers are laid prostrate, and through the fallen and baled grass peep the Horsehair, Larkspur, Sweet William, and the blue flowers of the false Indigo. The wild rose, or queen of the prairies, nestles in the lap of Summer, her pale beauty dimmed by the more pretentious colors of her cultivated sisters. In the fields we have at intervals, erigerons, perennial flax, corydalis, and the feathery, delicate chervil. We need hardly make a point of introducing the thistle, for it has a faculty of pointing in indicating itself, and therefore most people do not care for a close acquaintance. However, its various colors and curious cut and jagged leaves are not without their elements of beauty, though it is not a friendly flower. Tassel grows near it and is rather unfriendly, too, although neither of them are more so than the nettle (*Solanum Rostratum*) with its coarse leaves, alive with prickles, and its yellow flowers. Rarer than this last, we see sometimes a nettle bearing pure white, beautiful flowers, which are as odorous as tube roses. The Texas plume, the pride of the prairie, towers above its neighbors, with its clusters of crimson flowers, growing on top of a tall stem, which in turn is covered with feathery leaves. At its feet are purple verbenaes. Far prettier than either, the Coreopsis adorns the fields with its red center and golden rays, and which our more northern neighbors are glad to cultivate in their gardens. In contrast with each other, at this season, and growing with a like prodigality, are also seen the Euphorbia, with its delicate green and white, and just over yonder the gorgeous sunflower lifts its golden head. The passion flower, so curious and interesting, trails its lavender and white blooms over the fences, and the morning glory wreathes the stalks of tree and flower, where the sun shines hottest, each day showing new beauties to greet first dawn, and then folding away their pretty faces until the heat and burden of

the day is past. On every roadside is a flower with a name which is a stumbling block to our young botanists, *Amphiscyllis Dracunculoides* it is called, and flaunts arrogantly as yellow Broom-weed, Cockle Burr, Datura, *Stramonium* run riot. The cactaceae luxuriate on our prairies and many bearing handsome flowers. The white water lily, (*Nymphae odorata*) the fairest "Lady of the Lake," now rears her head above the pilled velvet of her leaves and looks down into the clear water in which is mirrored her beauty. Summer now reigns in the full womanhood of her beauty, the sun has stained her cheeks with the richest dyes of Heaven, her hair is wreathed with the last of her choicest flowers, and when they are faded she must go. The leaves and flowers make her death bed, the birds will go away, for they cannot bear to look while she gathers her gaudy garments and lies down on faded flowers to die. Autumn, her yellow robes are comes amid rustling leaves and silent fields to gather what treasures Summer has left. The woods are beautiful; variegated foliage of the trees show richer coloring than artist ever threw on canvass. Red and black berries half tempt us by their gushing ripeness to taste the poisonous juice which is buried within. Wild Asters stay to enliven the dying grass, cat tails nod in the low places, and the fields and waysides are glorious with the golden red and the royal purple iron-wood, beautified by contrast. These together form the chief floral ornament of our autumnal landscape and blend well with the various tints which clothe our shrubs and trees at this season. The Golden-rod is one of the last of Autumn's bright things to fade into the sad, universal grey, and is the glory of the season's old age. Autumn has torn down the green curtains of Summer and with her crimson clad feet and somber robes, wanders about shaking the leaves from the trees and sending them houseless along the highways, over the withered grass. She leaves nothing but the cedar and a few other evergreens to remind us of the leafy season that is past. As we have noted carefully the march of the flowers, let us lift our thoughts for a moment from his works up to the divine Artist. "Not a flower but shows some touch, in freckle, streak or stain, of his unrivaled pencil." Even the Indians used to say that "God wiped his brush in the sunset after painting the flowers." "Happy are they who walk with him, and what they find of flavor or scent in fruit or flower, or what they view of the beautiful or grand in Nature, from the majestic oak to the green blade that trembles in the sun, prompts with remembrance of a present God."

FLOWERS.

Paper by Mrs. S. E. Metcalf, Dallas.

Flower growing the past spring has certainly been pursued under many, very many, difficulties, especially those grown out of doors. The cool nights, hard winds and rains have almost ruined them. The roses especially have suffered. Out of about seventy-five handsome varieties, consisting of hybrids, tea and climbers, I have had scarcely a dozen perfect blooms, those full to the center have not opened at all until the last week or two. It seems that spiders, aphids, and hundreds of kindred destroyers, have put in their work more effectively than usual.

My jasmines and plumbagos have done well. Fuchsias in this climate are a total failure, either under glass or outside. My begonias, of which have thirty-five or forty varieties, (blooming, rex and tuberous) are doing splendidly, under glass of course, as there are only a few varieties that will stand the wind and sun. They are certainly a delight to the eye. I have tried several new plants this year and they have proven very satisfactory. Seedlings do well if planted very early, otherwise they are a failure.

Pansies are magnificent if planted as they will come into bloom in February or March and continue blooming through April.

My oleanders, six varieties, are not very large, but are blooming beautifully. For profusion of blooms there is no plant that gives as much satisfaction, either in beds or pots, as geraniums, and many of the varieties are exquisite.

Chrysanthemums, our fall beauties, are a grand success, either grown in pots or the open ground. Those grown in the borders should be lifted in the early fall and taken in door in order to have them mature to perfection, else the early frost will surely catch the tender varieties.

My ferns are not doing very well, except one or two varieties. My success with carnations this spring has been unusually good. Taking it altogether, my successes have far outnumbered my failures; and in the same ratio increased my pleasure and encouragement.

Floriculture is not only a great pleasure,

but quite a source of profit to many. And as our country grows apace, flower growing will increase in importance, and grow profitable. Aside from all commercial considerations, flower growing enlists the keenest sympathy of vast multitudes of people everywhere. Nearly every home draws to itself some color and cheer from bright hued, fragrant flowers. Who does not love beautiful, fragrant roses or carnations? The influence which the love for the beautiful sheds abroad over the land can no more be estimated than sunbeams can be measured. Yet, wonderful as is its influence in elevating, refining and uplifting the people and their homes, it is strange that there is not more attention given to it in our agricultural colleges, where the broad principles of rural economy and the management of lands, with the cultivation of the great staples, as well as fruits and vegetables, are taught, thus breaking the formality of the old college course: yet in this diversification, floriculture, in any adequate or generous sense, has found no place. That which is nearest the hearts of the people is farthest from the college course. Those who cultivate flowers for the love of them, with no thought of money, are not those who proclaim their woe. Failure is often as instructive as success; or if it is disastrous, it loses only happiness, not money. Why more persons, especially women, do not engage more largely in the cultivation of flowers is surprising; for, what woman, devoting herself to the culture of flowers, can fail to be lifted with their sweet perfume, their wondrous and diverse colors and forms "from nature up to nature's God"? The care, while it entails labor, is a labor of love. One's plants grow to assume an individuality and looking into their faces we read a lesson of love. Their wants become known to us by constant association, and we learn to love them very dearly. We would present floriculture to our women as a profession in which they may embark, with the promise of success if they work and watch and wait, study every available source of information on soils, habits, culture, diseases, etc., and give time and thought to it as to other professions.

In conclusion, we would ask of this Association to give floriculture a more prominent place in their deliberations; give to the diseases and insects which destroy both greenhouse and bedding plants a more thorough investigation, and help us in our efforts to beautify and build up our homes and give a more legitimate and congenial avocation to our women.

TEXAS HOMES.

Paper by Mrs. J. R. Hastings, Lampasas, Texas.

In consideration that our subject covers all others, that it extends from the Rio Grande to Red river, and reaches through all earthly time into the great hereafter, you will realize that our sketch can cover only a small part of the ground.

Over the hills and valleys, through plains and mountains, under the towering magnolias of the East and the giant oaks of the West, nestling by the grim cedars of the mountain ranges and in the fragrant orange groves of the South, we find them scattered. From the marble palaces with their untold, priceless treasures of art and nature, down to the adobe hut of the Mexican half breeds and the camp of miners. All kinds, all sizes, all styles are typified in this the greatest of all the states; and a truthful pen must record that as fair and blist as our land is, the dominant party, by a coalescence with the Dutch and African, and all the other foreign voters, gave us drunkards homes too. Past records of all times show that "the rights" to be home-maker has by the common consent of mankind, been awarded to the feminine world, and the tremendous strides in the march of civilization, show how well the fact has been kept in our "New South."

Napoleon the great paid the highest compliment to the home-makers of the world when he said: "The hand that rocks the cradle rules the world." The leader of The Lost Cause dedicated his last book "To the Home-makers of the South," and immortalized "The hand that rocks the cradle rules the world," by using it in his quotation.

The most profound statesmen are beginning to realize the vast influence of early life and home association on the social, moral and political nature of man. The great good that is being achieved by the agricultural and horticultural societies is due to the fact that their great work is the elevating, purifying and beautifying of our homes. That they are doing this, the sentiment that is moving our home-makers to give visible testimony of the lofty aspirations and lovely idealizations that arise in the hearts and minds of a cultivated race.

Fortune's favored ones have realized that in this age when the "lightning has indeed been harnessed and the sea bridled,"

they have only to command and the whole earth lays its tribute at their feet. Many啊! so many, of the great masses have realized that the artist, soul and hand cannot portray alike in Parian marble and in common clay, that even the artists soul can find a vast deal to assimilate in so favored a land as this, that the alphabet of the angels flourishes as freely by the log cabin-sides as by that of the marble palace. The general rain and the golden sun bless both the rich and poor, and the health giving fruit can be had from Christmas to Christmas by proper care.

By general acclamation we, the home-makers of this great Lone Star State, where all fruits grow and all flowers bloom, where our skies are more blue and our climate more genial than those of Italy, tender our thanks to the great spirits that have crossed the great divide, that they framed our laws so we had the surest, truest and broadest foundation on which to build our homes, that nothing but unpaid taxes can separate us from the dearest spot on earth, that as yet, there is one place that the alien with his gold cannot control; where public sentiment did for once debar our law makers from sacrificing our fair homes on the altar of mammon—where we can still evolve a country that has

"No north, no south, no east, no west,
Only a country that God has blessed."

MRS. BUCHANAN AT ROCKPORT.

MRS. S. E. BUCHANAN.

Wednesday morning great crowds gathered in the pavilion to see the sights and hear the discussions upon the subjects which had brought together the fruit growers of the State. Where all these people came from was a source of wonder to us highlanders, as this country seemed to be sparsely settled from San Antonio down, and even above that city on the I. & G. N. R. R., but one thing sure, they were there, and aside from the educational interests of the occasion, it was an occasion of great social enjoyment. The long tables for the exhibition of fruits and vegetables were filled with the finest and most tempting display of grapes, pears, plums, figs, pomegranates and some oranges and lemons. Of course the latter were green, but they were grown in the open ground. One cluster from a seedling five years old contained three handsome young oranges. Two exhibits of Satsuma or Onahutu oranges, from trees under five years old, were very promising.

There was a fine limb from a Sicily seedling eight years old, containing one large orange nearly ripe and two smaller ones, labeled "2nd crop." The seed had been planted years ago by a man who received the oranges from a friend in Sicily.

Routine business consumed the morning hours, and the program for the evening was carried out with the exception of the absence of Col. W. M. Ross, of Dallas. The addresses were short, a cordial welcome from Judge Hathaway, President of the board of trade of Rockport was felicitously responded to, by Mr. H. M. String fellow. Mr. Watson reviewed the art and progress of horticulture in the State, described the advantages offered by the adaptability of soil and climate, easy access to market and the ever growing demand for the fruits of the orchard and garden. Only to look upon the luscious and lovely fruit which was spread in such profusion and perfection before us, incalculable the finest object lesson we ever saw; was convincing proof to the most skeptical that there was no reason why this state should not rank among the foremost in the culture of all vegetables and fruits grown in temperate, and sub-tropical climates. Quite a number of those who were appointed to read papers upon various important subjects were absent, and we were particularly disappointed in not having a full attendance of ladies, Mrs. Jas. Metcalf of Dallas, being the only lady, whose name was down for a paper who responded to roll call. Doubtless there were detained at home for other reasons than indifference, and ladies, you do not know how much you have missed.

The citizens of Rockport, and her citizenesses especially, made the meeting place a thing of beauty and the memory of it a joy forever. We had the pleasure of meeting personally quite a number of ladies, whose courteous attentions and wishes we might live among them forever, and their magnificent women's department added very largely to the success of the affair. It was very full and complete, embracing examples of the departments of domestic and house-wifely accomplishments. But we have decided to write this up for our own corner, and to give the recipe, obtained from the lady who made it, of the most delicious cake we ever ate. Among the ladies whom we have met, we have shaken hands with one who lends her aid to the entertainment and instruction of our corner, Mrs. Burch, of Lamar Point, whose husband is an enthusi-

by the reports of Vice-Presidents of the districts.

Rev. R. F. Butler ("Uncle Snort") dilated on "My Experience as a Newspaper Man." He said a newspaper man was like a tomato—you simply had to learn to love him. He had none of those attributes that suggest love at first sight. His first experience came very unexpectedly to him. He was suddenly called upon to edit a paper that had for its object the education of the farmer. The longest run that paper the less it seems the farmer knew. The idea is that newspapers molded thought, but they always borrowed the molds from the people.

In the discussion that followed J. S. Kerr of Sherman said: "I think newspapers should receive much encouragement for the good they do all industries of Texas and the way in which they disseminate knowledge of the same." He made some remarks expressing much appreciation of the official organ of the society, TEXAS FARM AND RANCH.

Mr. E. Crew, of Hempstead gave an interesting talk on marketing, and said he was glad to be selected to tell how to get the crude gold of Texas to a place where it can be rendered into coin. "The soil is streaked with gold and all that is needed is the industry to get it out. The demand for Texas horticultural products is wonderful. They write me from all parts of the union that they are now howling for them. We must stop the howl. The commission men have given us much trouble. I would advise to arrange with them so as to get what the products are worth before shipping. The best market for melons is the Mexican settlements in our State, and for vegetables, Dallas. Put up your stuff in good shape. See that it is packed well in boxes and the best ones on top."

Commenting, Mr. Kerr asked: "What about rail rates?" Well, they size us up to see what we can stand, but we do not antagonize them, as we can work them better in other ways. Have stuff the people want and plenty of it and you can get rates."

Mr. Grass: What soil do you cultivate? Sandy loam, clay subsoil in some cases. How many cars per annum have you shipped from Hempstead?

In 1898, 27 cars; in 1899 we will ship something over 500.

How much do you get net per acre? Melons \$50, vegetables \$500 per acre.

D. H. Watson: I believe in putting the best specimens on top and just the same kind in all other parts of the basket. Ship nothing but good stuff to market. I have only one trouble in fruit growing, and that is I cannot raise near what I can sell. The Alvin people complain of their prices and returns and I am not surprised. They ship stuff that should not be shipped at all, and in poor order.

Mr. J. L. Herron: I concur in what is said about shipping good stuff. We at Alvin broke the market this year by shipping poor berries. We should have shipped nothing but good and perfect stuff.

J. T. Whitaker: We have long since found out at Tivier that we get returns only on what is fine in quality and put up in good shape.

J. C. Newberry: Our fruit is never sold in original packages, but is assorted and repacked.

J. S. Kerr: I have tried wrapping as in California, and have thus given some young girls employment and with fine results.

O. Faulkner: I have found a paper on the order of unglazed paper which is much better to wrap in than tissue paper, and have sold fruit as high as \$6 per bushel in this way in Chicago. I get just as much by shipping only good fruit as if I had shipped my whole crop without care.

The committee on nomenclature reported that it was necessary to at once take some steps to get reliable names for our fruits. Fruits came from Japan all named alike and embracing all kinds of varieties. In Texas apples are sold under all kinds of names, and it is impossible to say how much can be gained by the proper naming of our fruits.

Prof. R. H. Price of the A. & M. College: I am now working on this very subject, and I would like very much to get the assistance of this society in my work.

H. M. Stringfellow exhibited infected trees sold by Florida nurserymen. The disease was on the roots and means death to the trees. It affects peach, fig and many other trees, and the only remedy is to destroy the tree. Pear blight was stated to be caused by freezing. The remedy is to prune or cut back and let the limbs grow without thinning.

J. K. Street gave calomel as a remedy for pear blight.

C. Faulkner showed a diseased tree affected as in the case of Mr. Stringfellow. D. H. Watson: I do not know what blight is, but I doubt Mr. Stringfellow's position. It is not known just what blight

is and the remedy is to cut off the blighted limb and burn it up.

J. S. Kerr: I would like for Mr. Kirkpatrick to tell us how this root knot affects fruit trees on black land.

Mr. Kirkpatrick had never seen root knot on black land.

G. Onderdonk: The first I ever saw of this root knot was in 1899 on fig roots.

Wm. Watson: I do not believe there is a nursery in Texas but what has trees affected with this root knot.

Legislative Aid, by E. L. Huffman, was next taken up and was handled in a way that created much interest. On the conclusion of this address Mr. Huffman was presented with a handsome floral offering from some ladies of Dallas in attendance.

Fairs, by J. S. Kerr. A complete recital of fairs was made by Mr. Kerr. As to education he considered fairly the greatest for farmers and all persons engaged in any industry.

An address was made by S. F. Sparks, one of the heroes of San Jacinto. Mr. Sparks said he had planted an orchard everywhere he has stayed and he has been moving all along. He had done so at Rockport and met with signal success. J. M. Howell made a few humorous remarks on the subject of spraying, gathering and shipping.

The following resolutions were adopted:

Resolved, 1. That the thanks of the Texas Horticultural Society be extended to the citizens of Rockport for the handsome manner in which they have received and entertained us. We are indebted to them for many unexpected courtesies and kindnesses, as well as for the material aid they have rendered us and the interest they have taken in our meeting. For while we have ever met the most cordial welcome in all our meetings, yet the city of Rockport has outdone them all, and we shall ever carry with us the most grateful remembrance of your beautiful city and her kind-hearted people.

Resolved, 2. That we would in an especial manner thank Mr. Atwater and the good ladies who have assisted him for the handsome and tasteful manner in which they have decorated the exhibition hall, and provided every convenience for the splendid display of our fruits, vegetables and flowers, as well as for the details of our associational work, which has greatly lightened our labors and contributed in no small degree to the pleasure and success of this meeting; and to the Misses Fultons for liberal financial aid in furtherance of these ends.

Resolved, 3. That this society extends its thanks to Secretary Hutton for his untiring efforts in working up an interest in this meeting and for his efficient labors as our Secretary.

Resolved, 4. That the thanks of the State Horticultural Society are hereby extended to the press of Texas for the interest it has taken in this society, and especially TEXAS FARM AND RANCH, (the official organ of the society), the Dallas Morning News, St. Louis Republic, the Houston Post, the San Antonio Express, Balton Reporter, the Victoria Times and Texas Gardener for sending special representatives to report the proceedings of this meeting.

D. H. WATSON,
H. B. HILLYER,
J. K. STREET,
Committee.

Be it resolved, that the thanks of this society are due to John E. Hollingsworth for the services rendered us in undertaking to publish our reports and for his championing the cause of this society in its demands for legislative aid, and we most cheerfully point him out as the only state official who has ever indicated that the agricultural interests of Texas had a value above politics.

The society then adjourned, and it was the general opinion of all that it was the largest and most important meeting ever held.

REPORT FROM THE SIXTH DISTRICT.

Paper by Natt Stevens, Forney, Texas.

Owing to a combination of unfavorable circumstances the fruit crop is light this year. Freeze, frost and blossom blight are the main causes of it. All of the earliest blooming varieties were affected by it, some varieties were entirely destroyed, others partially so. This seems to be a general complaint, while late bloomers have made the best success and will make about two-thirds of a crop of peaches, pears, apricots, plums and apples.

Small fruits and grapes which have not died out entirely, did fair to make a medium crop. Strawberries were affected by the freeze but recovered a little after wards, sufficient to make about one-half a crop. Blackberries are as usual a full crop, and this black soil is excellent for them. The birds carry and sow the seeds in every direction, and as a consequence blackberry bushes are springing up over this region where there never was one

before, and some farmers fear that there may be a time when it may become a nuisance; but there is no danger of that. Of currants, gooseberries and raspberries, scarcely any are raised here. Of mulberries there is a full crop, and the Hicks ever-bearing is the best of all, and every farmer and fruit raiser should plant from two to six trees of them near his house; feed the birds with mulberries because they are among the very best friends that the farmer has, for they make the insect suffer. So plant the mulberry tree and thereby ward the mocking birds—those merry songsters around our houses. It makes a good shade tree also.

BLIGHT.

The blight of the pear tree is troubling this section this year and last year. It is the worst on Mesquite soils; than on clay, and lastly on black soils. It seems to work the worst on Bartlett, then on d'Anjou and Bosc, and others of old type. Just why it should single out these fine old varieties, and by their side leave untouched such varieties as the Jefferson, Klefer and Duchess and some others, is hard to tell, but such it does do, perhaps it may be caused by the stocks becoming old and worn out—wanting vitality. Evidently the sap in the young, tender limbs first, and as the sap thus scoured descends, older wood becomes affected by it, and then the wood scavengers enter and destroy the wood.

REPORT FROM LOUISIANA.

Paper by L. T. Sanders, Plain Dealing, La.

As I have been assigned to this part of Texas, (Louisiana) as a Vice President, to report upon the horticultural interests of my section, I will endeavor to give a short report.

I regret very much that circumstances are such that it is impossible for me to attend the meeting at Rockport. It was once my good fortune to have the pleasure of visiting that beautiful little city by the bay, in company with some of the brethren and I would be exceedingly pleased to meet them and others there again, but can't come. I wish you all a pleasant and profitable time.

The horticultural interests are moving on to an upward plane in this part of our loved Southland. I am trying to stir up these people to a greater interest in horticulture, with some degree of success. Peaches do well here, especially those of the North China strain. I am especially working along that line and have found and produced some very fine Chinese Cing seedlings. I have one ripe now, June 15, a cling which promises to be quite an acquisition to our early fruit list. We have some early apples that do well here, and we have a few late apples that promise to give satisfaction, but most all late apples are destroyed by rot. In the plum line we find that the Wild Goose and Sweet Botan do best; the Sweet Botan produces wonderfully. Grapes do well here, but we have to fight the mildew and Diamond. Delaware, Beckman's, Rebecca, Mrs. McClure, Worden, Ives, Woodruff, Red and Perkins do very well, also the Herbemont, and we have a new grape, Goldstines Early, from Mississippi, that promises to supercede all the early grapes. It is ten days earlier than Mooers Early; berry, medium; bunch, compact and good size; color, black, and it ripens perfectly uniform and is a fine shipper. The strawberry is at home here and grows to perfection. The blackberry grows wild in abundance and is very full of fruit this season, while the Dallas is a complete failure. I can't account for it. Gooseberries live and bear here, but are not profitable. I have not fruited the currant. The Japan persimmon is a perfect success that is, a few varieties. There is considerable interest being taken in nut culture. The pecan is a success, but I fear that those who plant the chestnut and English walnut, will be disappointed. Forest trees are not noticed much, as this is a timbered country.

LEGISLATIVE AID.
Address by E. L. Huffman, Fort Worth, Texas.
One would naturally expect that in selecting a speaker on this subject some one familiar with legislation would have been chosen. Such is not the case, however, for I know nothing whatever about the subject in its relation to what I have learned from these agricultural reports from other States. Nor will I tire you with a long, detailed definition of what is meant by legislative aid, for I consider it sufficient to say it is the passage of such laws and donating of such moneys as will benefit the object. So far as horticulture is concerned, Texas has no such laws and makes no such appropriations, and we good citizens, in proposing that our State should give such aid, should show that we are not proposing a departure from the general principles of our government; that we are not

proposing new and untried policies that are revolutionary or experiments culled from the schemes of designing men.

In order that I may present this subject in full, I will take the Bible as my starting point. It is there provided that if a man has planted a young vineyard and has not eaten of it, he shall not go to battle, lest he be killed and another man eat of it. I was old enough to know something of the late war between the States, and I firmly believe that such a law in Texas in 1863 and 1864 would have caused the whole surface of our State to be planted out in young grapevines. With such a law in our State and a declaration of war, I could take Friend Kautlenbach's vineyard, near this beautiful little city, and bankrupt the nation. It is also provided that the fruit bearing tree shall not be cut down, not even during a siege. A most potent law was the offering of a basket of the first ripe fruits. In this offering the Israelites declared that he had come into the possession of the land which the Lord his God swore to give him when he brought him up out of Egypt. It was a declaration of ownership of the soil and citizenship forever. His land was inalienable. It was his forever, and the first and only declaration of this ownership was in the place appointed by God in the presence of the priest of the Most High, and over a basket of ripe fruit grown by him upon said soil. These laws were not in the interest of God, nor could they benefit man only as they encouraged him in horticultural pursuits.

The Greeks held that agriculture was the basis of all civilized life. The politicians of Texas hold the same views every election year, and they hold office the remainder of the time free from such admiration from agriculture.

The Romans divided their lands into two-acre tracts, named their best families after vegetables, had details for fruits and flowers and festivals to correspond, and in many ways kept a lively interest among the people on such subjects. Their grandest poems are on methods and varieties, and the wealth of the nation and nobility was ever employed in seeking the world over for something new and valuable in the way of horticultural products, and we are indebted to the Romans in no small degree for the magnificent display we have here to-day.

In England agriculture and horticulture was followed in a most crude and imperfect way to within less than 250 years. No solids were raised nor root crops grown. In 1777 the West of England Society was formed, and this was the first agricultural society ever formed. Next, in 1793, the Agricultural Board. They both received government aid in many ways. The Botanical Gardens were established at Kew. The government and nobility, following the example of the Romans, now sent out agents to search for varieties. In America two of rare importance were found, viz: the Irish potato and tobacco. The first is the main article of food in Ireland, and the latter, in a manufactured state, is the only vegetable to be found in many homes in Texas. The establishing of the Crystal Palace in England was of vast aid to agriculture. The first step in America in aid of agriculture was the formation of an agricultural society or board at Philadelphia in 1785. This was the second agricultural society ever formed in the world. George Washington was a member of the Pennsylvania Board of Agriculture, and resolutions in respect to his services in same were passed at the time of his death. The Massachusetts Agricultural Society, or Board, was formed in 1793 and John Adams was its President from 1795 to 1813. These two societies or boards exist at this time and are still receiving State aid. In 1839 the Department of Agriculture for the United States was established, and by it an effort is being made to aid agriculture in every possible way through experiment stations and other modes. In regard to the aid given by individual States, I give the following from letters sent me by the Auditors of the same:

Massachusetts appropriates annually \$600 to the Horticultural Society, and \$35,000 to \$45,000 for the Agricultural Societies.

Illinois.—In 1867 the Legislature appropriated \$2000 per annum in aid of the State Horticultural Society, for premiums, publishing transactions, procuring scientific investigation, and incidental expenses. This amount was appropriated until 1878, 1879 and 1880, when \$1500, \$1300 and \$1200 respectively were appropriated, but in 1882 \$2000 was again appropriated. Now \$4000 is appropriated annually for the society.

Kansas.—From 1869 to 1873 the Legislature appropriated \$2791.75 to the State Horticultural Society for payment of expenses of exhibiting fruits at meetings of the American Pomological Society, collecting statistics, and advancing the horti-

the cheapest of all dried fruits, and still be profitable to the grower. A new industry is also growing up with the increase in viticulture, that is the preservation of the pure, fresh juice of ripe grapes, with their full flavor, termed by temperance people "unfermented wine." It is a superb beverage, a reviving, luscious food for the children, the ladies, the weak and the strong, and it should make every one's heart glad to know that some of those pyramids of bottles in the Viticultural Division are filled with this untainted juice of the vine. But the use at the table and in the sick room—no where else—of pure dry wines would add to millions of homes a condiment far more wholesome and palatable than the peppers and pickles so common and dyspepsia-producing. The marvelous developments in every line in France, a great wine using nation, but non-whisky using, is a strong argument in favor of pure, dry wines, used chiefly as a condiment, as by the French. But the Viticultural section of the Exposition needs no aid from me to hold its own in the matter of display and virtue.

No horticulturist, who can possibly spare the time and the means, should fail to visit the exposition. Probably its equal will never be seen again. With close economy from \$60 to \$75 will enable one to spend a week or two there and pay the round trip from Texas. Doubtless the fare will become less as the season advances.

To say nothing of the other parts of the Exposition, it is much like leaving the feast when only the soup is eaten and the bouquets are smelled. But I have more than complied with your request to write a short article on Horticulture at the World's Fair.

FERTILIZING THE WILD GOOSE PLUM.

E. P. STILES.

The interesting and practical subject, the fertilization of the Wild Goose plum, has been considerably discussed in that progressive department, Orchard and Garden, and the attention given the topic shows at once the commercial importance of the Wild Goose and its great defect—relative unproductiveness. It is a curious fact, if, as a fact at all, in some localities this plum falls to produce good crops without fertilizers, while in others it will produce abundantly.

A tree which stood on my farm in total isolation from all other plum trees, never bore a fruit. In discussing the subject with Mr. David Watson last winter he expressed, perhaps tentatively, the opinion that there were really two varieties of Wild Goose. In this opinion I am inclined to concur. My opportunities for observation have been limited to my own grounds and to those of my neighbors, but so far as it goes, it supports the theory of two varieties.

I ask for information. Is locality known to affect the pollenization of the other varieties of plums or other fruits? Can a flower, perfect in all its parts, be affected by locality to the extent of the failure of its functions? It is a well known fact that the fruitfulness of plants is affected by locality, but it is through imperfection in the flower, produced by an ungenial climate. The climate of Texas is evidently congenial to the plum, particularly those of the Wild Goose class. Can then its flowers be affected? If abortive in a given locality eminently congenial, we may materially expect them to be defective in all—a characteristic of the variety, else two varieties. I have on my place a variety of plums, to all outward appearances a Wild Goose, but obtained by my father some thirty years ago under the name Suanee. Where it was procured, I do not positively know. It has always been productive, and this year, for the first time, I have had the opportunity to test its fruitfulness in total isolation from trees of the same or other varieties. This tree was loaded to the ground and I cut and photographed a twig thirteen inches long, containing thirty-two mature, but green plums. I doubt if a Wild Goose twig of equal length ever carried more plums, even in an orchard of Miner or Robinson. Another tree, set in 1869, but this year standing alone, also bore very heavily. Thieves thrashed this tree so vigorously as to injure the branches, yet they left us nearly a bushel of fruit.

All my bearing trees are on whole-root peach stocks. The characteristics of tree, leaf and branch are, to my observation, identical, but the fruit is a few days earlier and perhaps slightly larger than Wild Goose. The Suanee ripens here usually May 25th, this year a little earlier. I have the first naturally ripe Suanee, recorded under date of May 14th, '93. The Wild Goose ripens about May 30th. What the latter plums weigh I do not know, as I see them in market they seem smaller. I selected eight Suanee plums, which I considered a fair average in size and they

weighed eight ounces. The fruit is a red translucent capsule of liquid sweetness, and one's mouth waters for them in vain after the 20th of June.

Austin, Texas.

ADDITIONAL PREMIUMS.

The following are among the special premiums awarded at Rockport, and not heretofore published in any paper:

By Parlin & Orendorff Co., of Dallas, through their agents, Messrs. Burrows Bros., of Rockport, one Clipper Garden plow for the best display of vegetables. Also premium for largest and best collection of named varieties in quantities as noted above in each case, twenty-five dollars, in Nursery stock by Wm. Watson, Brenham, Texas.

One Improved Garden plow to the exhibitor that takes the greatest number of premiums—by Mrs. H. P. Atwater, of Rockport, Texas, awarded to D. H. Watson, Brenham.

Oliver Chilled Plow Co., Dallas, through their agents, Messrs. Burrows Bros., Rockport, one No. 8 two-horse plow for the most attractive display of grapes. Also for largest and best collection of named varieties of grapes in plates. One Meyers bucket spray pump by F. E. Meyer & Bro., Ashland, Ohio, awarded to M. Kaltenbach, Rockport.

Burrows Bros., Rockport, Texas, one Garden plow for the best display of flowers, awarded to Mrs. E. V. Deloquo, Rockport.

Miss Lilly Cooper took second premium on Herbarium, offered by John S. Kerr, of Sherman.

In the resolutions thanking papers, there was one thanking the Fort Worth Gazette and St. Louis Republic for the aid rendered the Society in publishing all matter sent out by the Secretary. Kindly mention this fact, as they are left out of the resolution thanking papers that had reporters present.—E. L. HUFFMAN, Secretary.

As a supplemental report your committee begs leave to submit the following on articles exhibited in Department B, not mentioned in premium list:

Three samples of very fine tobacco, raised by Mr. N. C. Phillips, Rockport. One sample White Burley, one sample Orinoco, and one sample Havana.

Two samples Banana muskmelon, measuring thirty inches in length, exhibited by M. Kaltenbach, Rockport.

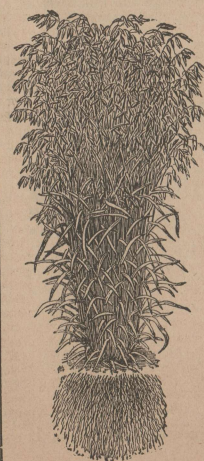
Several plants of navy beans of good growth, exhibited by J. C. Newberry, Pilot Point, Texas.

Samples of corn and cotton raised by J. S. Agee on the Coleman-Fulton land, eight miles from Rockport, that will compare favorably with that from any part of Texas! [Signed] Wm. Watson, Chairman.

M. J. HATHAWAY.
Mrs. H. P. ATWATER.

NO SKILL REQUIRED TO RUN IT.

The management of a Rider or an Ericsson Hot Air Pumping Engine is the simplest thing in the world. Start your fire, keep it burning, and your engine will pump, pump, pump all day. A farm hand or a little girl can attend to it. Mr. W. R. Grace, of the firm of W. R. Grace & Co., one of the largest firms in New York City engaged in the South American trade, has a 10-inch Ericsson Hot Air Pumping Engine at his country seat at Great Neck, Long Island, and says, "It is giving perfect satisfaction." The manufacturers, the De Lamar Iron Works, 87 S. Fifth Avenue, New York City, will ship an engine to responsible parties, subject to approval. Write them for illustrated catalogue.



SEEDS that Grow Money! PLANT NO OTHER!

WE NAME A FEW SEASONABLE VARIETIES:

CREOLE ONION SEED. This is one of the best onions ever introduced for Texas and the South for fall planting.

WHITE PEARL ONION. Very early, seed should be sown in September. Other fine onions for fall planting—Mammoth Silver King, Red Garganus and many other worthy varieties.

CABBAGE. Florida Header, Premium Late Flat Dutch and other choice strains are market gardeners' stock.

Bear in mind we carry a full line of Garden and Farm Seeds, and are prepared to meet prices with any first-class seed house in the country.

Winter Turf Oats.

One more season has passed and Winter Turf Oats has proven to be more than has been claimed for them. The farmer who planted them in 1892 is happy, and the farmer who did not plant them will plant this fall. The cut represents a stool of Winter Turf Oats, grown from one seed, containing 200 stalks, by actual count 4623 grains. They are rust proof and frost proof, and are adapted to any kind of soil. Sow in September. Send for our catalogue and descriptive circular.

DRUMM SEED & FLORAL CO., 800 Main St., Ft. Worth, Tex.

ROCK HILL, COLLIN Co.,
Tex., June 30th, 1893.

Parlin & Orendorff Co., Dallas, Texas.

GENTLEMEN:—In answer to your inquiry as to how I like the Tricycle Plow I bought of you, will say that I am highly pleased with it. I had used a great many sulks of different makes, and discarded them on account of heavy draft and imperfect work. I must say that the Tricycle runs much lighter than I expected, and it is the only sulky that I have ever seen or used that did not hurt my horse's necks. It has no weight on their necks at all, and the plow will stay where you put it no matter how hard the land is. Last summer I plowed right along when the ground was so hard that my neighbors could not plow with their sulks, as they could not keep them in the ground. I cannot say too much for the tricycle, and I would advise all farmers wanting a plow to do the work and of light draft to buy the Tricycle and be happy.

Yours respectfully,
WILLIAM DUNCAN.

SABINAL, TEXAS, Feb. 14th, 1891.

Whitman Agricultural Co., St. Louis, Mo.

GENTLEMEN:—I will say your Full Circle Press, bought through your Agents, Messrs. Peter Faust & Co., which I used one season, has given me entire satisfaction, and I will highly recommend it to all.

Yours respectfully,
(Signed) BASCOM LYLELL.

WHERE WILL YOU SPEND THE SUMMER?

The season of pleasure travel is here, and the question arises: Will we spend the summer among the romantic scenery of the Adirondacks or White Mountains, or betake ourselves to the sea coast resorts of Narragansett Pier, Rye Beach, Old Orchard, Bar Harbor, Marblehead, Jamestown, Newport, Hyannis Port, Nantucket, Nantasket Beach, or to the many resorts in the Virginias. Healing Springs, Hot Springs, Sweet Springs, White Sulphur Springs?

To either, of course, you will want to go via the most direct line, and the one that furnishes the most luxurious train accommodations and the most attractive scenery en route.

We do say that the Big Four Route is recognized as the Tourist's favorite line, is the only line that operates through cars between St. Louis and New York City and Boston, with absolutely no ferry transfer.

The Wagner Vestibuled Sleeping Cars now operated over this line are of the latest improved patterns, and are not surpassed by any run in America. Meals en route served in elegant Dining Cars. The Boston Vestibuled Sleeping Cars are equipped with Buffet compartment—the only line from St. Louis affording these accommodations.

Tourist tickets to all points where such tickets can be sold are now on sale.

Handsome books, descriptive of Eastern Summer Resorts, can be had on application.

If you contemplate a trip to the East, ask for tickets via "Big Four Route," Cleveland, Cincinnati, Chicago and St. Louis Ry.

For further information address the undersigned,
W. F. SNYDER,
Gen'l Western Agent, St. Louis, Mo.

Pure Wines at 20c. Per Gallon.

Make your own wine from the wild grapes and know what you drink. Recipe copyrighted by one of the most successful wine growers in the South, in reach of all. Circulars free. Address A. VOGT, Prop. Kappelberg Vineyards, Willow Point, Texas.

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FRUIT TREES.

GRAPE VINES. BERRY PLANTS. Finest hardy ornamentals, such as Trees, Shrubs, Roses, Evergreens, etc.

All home grown and thoroughly tested.

No doubtful high priced varieties to offer. Large bearing orchards to propagate from. Wholesale and retail. No traveling agents employed. Catalogues free on application.
STELL & CLARK, Successors to Paris, Tex.
W. W. Stell.

McKinney Nurseries.

SEND FOR OUR

NEW LIST

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