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 Vol. $\begin{gathered}\text { New , Series } \\ \text { No. } 5, ~ 1894 . ~ a u g u s t . ~\end{gathered}$


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## A NEW DEE : DTURE

## The Bee Keepers Quarterly

Will bo ismued Aprllyst, 1894 , and be largely deroted to edinorial review of apicultural litorature. It will contaia not only all pracaical methods of man: agement and devicest foud in Boe Journals, but many point, not given elsewhere. Earnest efforts will ben made to eliminate the impractical theories and claims so often met with in bee literatare, givins oniy prac. tical information, which gray invariably berelied upon There is some who makc a financial sucooss in thoso hard times and to show you hom thoy do it will bo Quartoriy's mission. Pilee 250 per year. JAMES HEOMON, Dowagiac, Mich.

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The results of 18 years' carciou sulection and beeding. They are gentle, industrions, grooi comb huiders, enter the sections rendily, are mot inclined to wharm and are second to nome in beaty: By practical test they excel ali competitors in storing honey. Quenens reade to whip from April to November pit pices as low as good queens can be sold for.

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HITED FGR BUSINESS 8 FOR 83.25. DOZEN FOR B6.

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Skit, DURABLE FENCE: ONLS \$8). PER MLe FATD OTITPD gave one-half the coso uand undith and avoid dan-gerons-barbs. AGENTG, make \$2nal pir month and expenstr CASH. The Gest local and triveling agents aranted everywhere Write at once for circulars and choile territory: address A. G. Hulhert Patentee, care of HULBERT FENSE \& WIRE Co. 9 H OLIVE ST. St. LOUIS Mo.

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## COMMERCIAL <br> 

TILBURY NEWS BOOX \& JOB OFFICE TheUBY CEETRE ONT.

# The Practical Bee=Keeper. 

New Sfries
Vol. 1.
Tilbury Centre, Ont., August, 1894.
No. 5.

Mr. Peter Bussey of South Essex repurts an excellent harvest and encourasing reports from other places have been received. Still the total honey crop will be light and good prices should rule. Comb honey should be disposed of rapidly at 15 cents and extracted should bring at least 10 cents.
J. B. Case of Port Orange, Fla., writes us as follows: " WWe are having a good season here."- 6 tons extracted honey from 50 colories and abont three weeks before the close of season. Weather has been rainy for last three weeks or we would have done better.
H. E inquires:-(1) If a queen once fertilized and laying well, will be all right for more than one season without being mated again. (2) If they need to be mated agam at any time will they get mated in the hive if they have their wings clipped and cannot fly.
Ans. (1) A queen is never fertilized but once. This fertilization lasts during the whole life time of the queen allhough her fertility decreases in proportion to the number of eggs she lays. Sometimes a yuetn after laying for three years contains so few spermatozoa that she rarely or never fertilizes the eggs and consequently breeds nothing but drones. Apropos of this the following from the pen of Mr. Heddon is timely: "Super seding queens used to be a popular subject to write about. In those days we kept atill on the subject, but always let our be $s$ s boss that job. Now leading writers ad ocate our long time practice."

The honey crop in this vicinity will not be up to the average. Very little rain has fallen and the white clover crop was a failure.

The second number of The Bee-Keepers' Quarterly is on our desk at this writing. Mr. Heddon has experienced some trouble in getting his paper accepted by the post-ofice authorities at Washington but a little difficulty like that does not daunt a man of Mr. Heddon's calibre. The new issue appears as a supplement to his newspaper "The Don agiac Times" and is just as interesting and brimfull of practical matter as its predecessor.

## Western Fair, London.

As usual at this time each year the Western Fair Office staff are busily engayed in mailing Prize Lists and other advertising matter throughout the Province, in connection with their great Live Stock and Agricultural Exhibition which they hold in London, September 13th to 22 nd, this year.
The Secretary writes us that he will be pleased to mail a Prize List to $a n y$ who may have been overlooked, on receiving their address. Thousands have been sent out, but still there are more to follow. On examining them you will find the Directorate have had their eyes open to the continual advancement of this great fair, and have made several additions, alterations and amendments to the last year's list, some of them very important to breeders and agriculturists,
and others of a lesser magnitude. All of the live stock departments have received scme new sections, and an increase of prizes which will no doubt be received kindly by intending exhibitors.

## Standard Sections.

Is the standard $44 \times 4 \frac{1}{4}$ section absolately better than one of other dimensions for any other reason than that it is the standard? If not, is it advisable to rediscuss the question of a standard size?

Why is seven-to the-foot better than any other width?
I suppose of course you don't agree with the Canadians and others who have lately expressed a preference for the $1 \frac{1}{2}$ inch widths. What are your specific objections to that width and have you tried it? F. L.T.
Ans. No there is nothing better about a $4 \frac{1}{*}$ section, as adapted to bees, than one which might vary an inch in height and several inches in length, other than likewise it is a great benefit to have your wagon, track with other wagens. The good reason for discussing a standard size is to the end that we may all use one size.-Bee-Keeper's Quarterly.

## A New Theory

on the formation of pollen ballis.

## PIRRRE blois,

Bees are raised for recreation and also for the pecuniary profit that may be in them; some people raise them for pleasure only and do not deprive themselves of them even if they do not obtain the remuneration for their care which they should receive, but the great majority of apiculturists everswhere make bee-keeping an industry, and eagerly seize upon anything that will increase their profit, so that all means of obtaining large results are carefully studied and discussed. Apart from those
who study this matter because it has 0 . direct influence on their purses, there are others who study it from their love of exploring nature's domain. Here are a few rules laid down by M. Pierre Blois in Revue Internationale governing the formation and pollen balls by bees.
(1) All pollen gathered by the bee receives an addition of saliva outside the hive and before being formed into balls.
(2) The only organs which gathir pollen is the tongue, the mandibles, the front and middle feet
(3) The mouth of the bee forms a receptacle into which all pollen must pass in order to be subjected to a certain operation and receive an addition of saliva.
(4) The tongue is the principal organ used in gathering the pollen, it is the only one which operates upon very small flowers and upon flowers having deep petals ; it is the principal organ used by the bee in gathering pollen on the wing.
(5) The mandibles are the anxiliaries of the tongue, they gather the pollen which the tongue transfers to the mouth.
(6) The bee has under the throat, a second receptacle or auxilary depot for the dry pollen, where all pollen is as safely placed as if it were in a covered basket.
(7) The front and middle feet are also auxilaries of the tongue in gathering pollen, and the pollen gathered by them is immediately placed in the receptacle mentioned in No. 6.
(8) The tongue takes the dry polleu from this receptacle, as it requires it, and transfers it to the mouth in order that it may be there manipulated.
(9) The pollen is held a certain time in the mouth of the bee, where it receives the saliva and where it is submitred to a special preparation with a view to its ultimate use as a food for the brood.
(1.0) The prepared pollen being drawn out from the mouth by the
tongue, is seized by the ends of the front feet, and by them transfered to to the middle feet; the latter place their double load between the compressers (tive posterior feet.)
(11) The work of the compressors seems to consist in submitting the pollen to a second necessary operation-to drive from them the globules of air which have penetrated them while being mixed with the saliva, to destrov the animalculae or their eggs, which might be contained in the pollen.-(abridged.)

## Satisfied.

Embro, July 25, 94.
Mr. C. A. Ouelette, Dear Sir,

Your Queen has arrived all right, in good order, much obliged.

Yours truly, Dr. Geo. Duncan.

Wingham, July 7, ${ }^{9} 4$.
Dear Sir,
I received your card about the Premium Queen, and notified you at the time that the Queen had not come at that time. I received the Queen all right and have sately got her introduced and she is laying first rate now. I think she is an excellent color and I only wish I had ordered some more to breed from. l? $r$ bees in this section have not done very well so far this season but may pick up yet. Thanking you for your prompt attention. I remain,

Yours truly,
J. W. Dudd.

Gien Farnham, June 28, 94.
Dear Sir,
Your premium Queen receired in good order ard is a good layer. I put her in hive on the 9th. She has now six racks filled with brood.

Yours truly, J. J. Persons,

Sweetsburg P. O.

South Caṛuga, June 23, '94.
Dear Sir,
The premium queen arrived in good condition, and is giving good satisfaction. I think her a dandy.

Yours truly,
Isaac $^{(x .}$ Wismer.
Bond Head, July 5 th, 94 .
Dear Sir,
The premium Queen was received all right last Saturday. I have not looked into the hive since I let her out of the cage on Monday but she will be all right. I remain, Yours sincerely, J. Carswell.

Kingscourt, June 30, 94.
Dear Sir,
The Queen came to hand two days ago all right. She must have been on the road quite a while but she was lively among her yellow cornpanions.

Yours respectfully,
M. Bryce.

Calderwond, June 30, '94.
Dear Sir,
The Queen arrived on the 28th in good shape for which receive my thanks. I am very well pleased with her.

Yours tanly, Mrs. E. Calder.
Poole, July 2, 94 .
Dear Sir,
Your Queen arrived here on the 27th of Junc.

Yours truly, Courad Eugel.
Peterborough, June 28, 94.
Dear Sir,
The premium Queen arrived all right yesterday in fine condition. She appears to be a beauty. Thanks.

Yours truly,

## N. Lush.

Rockingham, June 27th, 94.
Dear Sir,
Queen arrived safe.
Tours truly,
Jos. Kinder.

Dundas, July 1, 1894.
Dear Sir:-I got my bees on Wednesday night allright. two fiames well filled with brool, and got my queen on allright and doing well. I hope you will have a grod season and a good demand for your bees.

Yours truly,
David Towns.

## $\left\{\begin{array}{l}\text { Montreal Colleger } \\ \text { 11xi Sherbroke St }\end{array}\right.$ 1181 Sherbroke St. <br> Montreal, June, 20, 1894.

Dear Sir-
The Queen sent as a premium safely received with all the attendants alive. Thank you.

> Respectfully,
> H. Dupret.

Waterford, June 22, 1894.
C. A. Ouclette,

Sin.-Your card of the 20th received saying you sent me a premium queen on the 19th. I have not received any this week, but got one, I think on the 6th, from you, she is first rate, I acknowledged it by card about the 8th, supposing that was the premium one. If that was not the one that you sent, and if another comes, I will answer and remit.

Yours,
J. J. Chureh.

## Helping Cottagers.

how a hants cottager selles mis hovey.
[18e3.] Seeing that your correspondent, Mr. Routh (1864, p. 212, May 31). is desirous of helping cottagers and working men who are bee-keepers, I beg to say I have always sold the whole of my honey without much trouble, and being one of the same class 1 am very pleased to say how I do it. As som as I take off my first super of honey I put up a notice on the wall of my cottage in large letters "Honey for sale," and stage some of it in the window, so that passers by can easily see it. I also send round
to houses near, and my sister, when only twelve years old, has herself in a small town near sold $£ 2$ worth in one day. Many cyclists r:ling by have stopped on seeing honcy in the window, and become purchasers; some of them send regularly every year from London for several pounds. Last year'I staged 140 pound in sections, bell glasses, and hottles ai the local show. It gained first prize. I brought it home and staged it up in my cottage window the same as at show, and sold the lot in about a week. Let it be known that you have good honey for sale, and after buying once, purchasers will be sure to come again. Do not ask or expect too high a price, for the day of 1 s . 6d. per pound for honey has gone by, although some of our bee-keepers expect that price now. Mine averages about $8 \frac{1}{2} d$. per pound. In this way I have sold 7 cwt . in one season, and have almost got into hot water with the good wife because of so seldom having any for our own use, for it is a rare thing to bave a pourd left after October.

I have this year increased my stock of bees, and hope to get twice 7 cwt., and I have no fear of being able to sell all I get The weather, however, is not at all favorable for honey gathering at present. I think that the County Association honey labels should help to sell the honey of those who are not good hands at making a market for themselves. That we may all have plenty of honey, and more customers than we can supply is the wish of -H . Rowell, Hook, Winchfield.

Elbow grease is the only stuff to make gold with. Shirt sleeves rolled up lead on to the best broadcloth.

Don't give up a small business until you see that a larger one will pay you better. Even crumbs are bread. In these hard times he who can sit on a stone and feed himself had better not move.

## Queens for Fall Work.

Written for the American Bee Journal by mrs. effie biown.

On page 595, I find that H. G Acklin has given his experience with Southern queens, and, as the editor, on page 232 , reguested all to do so, I will drop in my mite with the rest.

I must agree with Mr. Acklin and ochers who have also written, that queens reared in a southem latitude do not stand our cold weather and sudden changes as well as the Northern bred queens and their progeny.

Before I go any farther, let me tell those of the south, that I am not writing merely for the sake of opposition. I have only one purpose, and that is to help place the merit where I justly feel it belong's.

Through all that I have seen and learned of Southern Italims (I keep) nothing but Italians), I have found them to be beautifully marked, and very well bred as to color. No doubt they are as nearly perfect as it is possible to rear them in their own latitude. They are great "hustlers" here during July and August, but in September they begin to fail.

I know some of you are saying to yourself now, that no wonder queens stop laving at that tins.; there is no honev coming in. There you are mistaken, for many bee-keepers here receive no surplus at all until buckwherat bloom, which comes just before the fall frosts. Then we have an abundance of grolden rod and other fall flowers for brood-rearing. For working on these and tilling the hive with young bees late in the fall, I think there is none equal to the queen whose mother came from imported stock, and was bred in the North.
I have always been of the npinion that bee-keepers spend too much useless worry over the bees in the spring, and
not half enough of the necessary work in the fall. We all of us know how it is. We start out in the spring very enthusiastic, and can hardly think of anvthing else than our pets. More or less of them live and build up, and the honey-flow comes on. It is then work, work, work, from eally till late. By-and-by we get tired, for it is hot, and the bees are cross, and when the flow ceases, we are, many of us, almost guilty of being glad. We look them over and see that they have a little honey, and likely mough do not examine more than two or three colonies again before we put them away for winter. We suppose of course that the queen is doing her duty filling the combs with egg's so that there mav be a hive full of young bees for the winter, but many times she is not, and we have a weak colony or no colony at all for next spring. With us here in the North, where our winters are so long, I find that if we do less "fussing" with the bees in Harch and April, and more in September and October, we are dollars and cents ahead the coming season.

And to come back to the queens again, I find that a Northern bred queen will respend to the fussing a good deal better and quicker than her Southern sister; and her bees are more able and willing to help her out. For this reason, if no other, I prefer her even if I du have to sacrifice beaty just a little.

Ea Claire, Wis.
A great deal of water can be had from a small pipe, if the bucket is always there to catch it

Look most to your spending. No matter what comes in, if more goes out, you will always be poor. The art is not in making money, but in keeping it. Little exuenses, like mice in a barn, where there are many, soon make great wast:.

## SEVERAL MATTERS.

AldLEN PRINGLIS.

REXELLING INTRUDERS.

But two or three times in all my experience have I known friendly strangers in the shape of swarming bees that are loaded to be repelled and kiiled by the colonies to which they were offering themselves. But the exception only proves the rule that loaded and friendly strangers are usually received into the domicile and accepted graciously. The other day one of these exceptions occured, a portion of a swarm which attempted to enter a strange colony, having been killed and ejected outright.
fanfing guebens.
A new experience with me the present season was to have a queen I was clipping, go off into a dead faint. Like some timorous, frightened dansel, she 'fainted away with the shock of being caught and clipped. She curled up and fell over apparently lifeless, and after witching her for about a minute, I did think she was dead. But I quickly placed her in the thick of her progeny on a frame and watched the result. She was soon surrounded by solicitous and attertive nurses who seemed to be rendering "all the aid in their power." In about five minutes the dead began to show signs of life, and in two or three minutes more she was apparently as well as ever. The lesson from this is never to throw away an unconscious queen as dead without first giving her a fair chance to come to life. I did not hurt her ladyship at all in handling as I have clipped hundreds of cureens, except that her feelings were, no doubt, badly hurt.
what to do with sticky fingers.
That is the question now with some of the bee journals-What to do with honeystuck fingers. Our friend Hutchinson of of the Review, licks his fingers to clean them, and many others no doubt do the
same. Some who do not liek their fingers and some who do, are asking anxiously what to do with the sticky fingers. I shall tell them freely without charge, at any rate how I have managed that for many years without any licking, for the licking I never could do. I want to eat my honey at meal time, and I want neither to eat food nor lick food between meals. The practice is a bad one. And now about the sticky fingers. Every bee kecper knows that water is the thing to take the stick out of honey. Well when I staut out to manipulate, I wet my fingers cloth and wring it out lightly and put it in its place in the tool basket. When my fingers get sticky, I merely lift my finger cloth from the basket beside me and wipe them off-three second's work-and, dear me, how much better they feel. The cloth will remain wet enoush to do its work for hours. Go thou (licker) and do likewise.
neterodory.
The American Bee Journal, which is called "the old reliacle," by some of its friends, and which is so very orthodox, is getting a little heterodox, which is a good sign, for that is progress. It has made a "new departure," and it is really a good departure. This new and good departure is "Our Doctor's Hints," in the last issue (July jth.) The Dr. is F. L. Peiro-whose portrait is given-a fine, intelligent and kindly looking man. But this good doctor"s "hints" are about as orthodox in medicine as the writer's hints would be in theology and no more so, and this is of course so much the better for the hints. If the hints were orthociox they would not be worth the space in the Journal because we can get the orthodoxy any time and everywhere, but the heterodoxy is scarce and precious. Here is my hand Dr. Peiro! Here is my hand Editor York! But here also is what bothers me, and there is no understanding somethings. How it happens that Brother York can so complacently swallow so
much medical heterodoxy (common sense), and make such wry faces over so small a pill of religious heterodoxy (more common sense) is past finding out. But he might beter swallow a little good medicine than none at all. Levity aside; Dr. Peiros hints in his first article are really valuable-more valuable than gold. Nothing could be more useful, no advice cotild be better for voung mothers, or prospective mothers than that the Dr. gives on "overfeeding the Bahy." Well do I remember when a little strang. 4 first appeared in our own household, some twenty years ago, how I advised the mother about the nursing of it, and the feeding of it, and the other manage ment. The "good wife" inad the good sense to listen to good adrice and to put it into practice. and the cons. ${ }^{\text {qu }}$, was that that child was never siek, and cross and feverish and fretful irom overfeeding or any other cause, and never swallowed any medicine of any kindnot even "paragoric," or "soothing syrup" or anything. Dr. P., calls it "stuff," and I call it stulf.
P. S.-I am writing this, as you will see, Mr. Editor, from New York on my way to Mexico. I shall try and hunt up some bees in my travels in Mexico and tell the Pracreal about them.A. ${ }^{\prime}$

## Removing Bees from Trees

[18S5.] I see in this werk's Jommal (1881, p. 2e:i) ia cuestion about removing bees from trees.

I and my man removed some two years ano successtully. The bers entered by an opening a little distance mp the trunk, and the night before remoring them we nailed perforated ginc over the hole, thus making the bees prisoners. We then sounded the tree to see how far up it was hollow, and then bored a hole with an auger large cnougin to take one and of o lamp glass. The first hole was too low; but our second
attempt was more successful, for we came to the new madd comb; we then plugeed up the holes for the night.

Next moming we took down a shephive, securely corded to a floor-board, and we first slung the hive to a small branch of the tree above, then placed one end of the lamp-glass chimney in the hive, and after removing the pluge in the tree fixed the lamp chimney to the hole: then conmenced to puff in smoke through the hole covered with zinc. For above an hour we thought we should not succerd: but at last the bees, becoming tired of the smoke, began to work their way through the glass, the queen being almost the last to leave the tree and enter the hive.

As "Hawk-eye," Tadeaster (1878, p. 226), infers, we lorkshire bee-keepers have not all been so successful as Mr. lothery in gathering surplus honer. Although only nine miles further down the Wharfe, and in the midst of planty of bloom, I hava been obliged to feed my bees. Although, when the winter was over, my hives were well stocked with honey, if the weather had been in any way favorable I should not have had to feed; but my hives are all large, and well stocked with bees, but we have had no swarms yet.
I had a honcy-box made last year, and at the bottom of each compartment is a lit,le square of oiled butter-paper filled with paper shavings, and sealed up so as to prevent litter. On the top I have a large square the siz; of the box packed with paper shavings, so that it holds the bottles tight; but we put the corrugated paper round each bottle, as Mr. Woodley suggests, and on the top is a strong wooden hamdle, so that the box camnot be set the wrong way up.-(Miss) Helen Lauranee, East Keswick, near Leds.-B. B. J.

In getting rich, the more haste the less speed. Haste trips up its own heels. Hast climbers have sudden fails.

## Bees and Pollination of Blossonns.

BY PROF, A. J. COOK,
[A LECRURE INELIVEREI) BEFORE THE southiand californi. horticulTURAL sOCHETY AT PASADENA, ON MAY 3, 184.4.]
(Concluded.)
It is a curious and suggestive fact that all of the four covered blossoms that I actually saw the bees visit while uncovered and under ohservation, have up to this date large, fine plums. The apricot tree is a curious exception. The number of blossons on each twig, underexperiment was 32 . The twir corered all the time of bloom showed last Friday, ten fine apricots. The one where I put the hees inside the sack, six; and the uncovered only five. Here the cover would seem to have been an advantage, but we can hardly see how this could be truc. It seems certain that this rariety of apricot at least does not require cross pollination.

Another fact observed makes these experiments all the more interesting. I saw many thrips on all the blossoms, especially on the oranges where I saw ten at once on a single blossom. These minute insects would almost surely have carried the pollen f: om the ancher to the stigma of every blossom, and without doubt in some cases from the anther of one flower to the stigma of another close by. Yer all the blossoms to which no bees nad access, if we except those of the apricot, failed to develop, and were presumably non-pollinated. This seems to demomstrate, mo at least strongly indicates, that these fruits require cross-pollination, and that some agency is rerpuired to aceom plish it.

As already stated I am not ready to report on the orange. Several of my students and myself are experimenting with oranme-hlossoms. The gullen is applied artificially hy hand
and each stigma receives exclusively either the pollen from its own blessum, or that from other blossoms of the same iree, or that from other trees of the same rarlety, or again that from blossoms of other varieties. We are waiting results with great interest. It is a pretty well settled law that neetar, showy blossoms and fragrance in bloom are all indicati us of the necessity of cross pollination, and are so many invitations to nectar-luring insects to come to the aid of the needy and waiting blossoms. In this view we should expect to find the orange one of the most dependent of fruits-one that with out the aid of bees and other sweet-loving insects would be barren and unfruitful. It goes without saving that the settlement of this question experimentally is of great moment to Southern California.
enperiments of the dephimpent of agricultere.
After commencing this essay I received Bulletin No 5, of the Division of Vegetable Pathology, from the United States Department of 'Agriculture, on the "Pollination of Pear Flowers," by Merton B. Waite. I much regret that I did not receive this in time to fully describe the many valuahle cexperiments, or at least to sive a full summary of the important conclusions reacherd. The expriments seem to have heen very carefully planaded, very ingenious, and from our kumbledre of the men who had them in charge, we know that they would be very carefully executed. The experiments ware conducted at Brockport and Rochester. N. Y., at Chestunt Farm, Virginia, and at Washington, by Mr. Waite; and at c.mpra, N. Y., hy Mr. D. (7. Fairchild.

Thirty-sis varieties of prars were mder experiment, of which oe were fomend silf-sterile. Ynder the head of insect visitors we note the following: "The comum honer-here is the most rexular, important and aluadant visitor, amd
probably does more grod than any other species." In this comnection I have in a recent letter from the distinguished horticulturist, P'rof. L. H. Bailey, of Cornell University, the following:
"Bees are much more effective agents in pollination than wind, in our fruits, and their absence is always serious. Various other insects are capable of taking their place to a very limited extent."

Mr. Waite finds that vigor of tree, condition of weather at time of blossom, and visits of insects, are all important factors in securing a crop. The following conclusions close this very valuable Bulletin, which you may all procure by preferring such request to the Department of Agriculture:

1. Many of our common varieties of pears require cross-pollination, being partially or wholly incapable of setting fruit when limited to their own pollen.
2. Some varieties are capable of selfpollination.
3. Cross-pollination is not accomplished by applying pollen from another tree of the same grafted variety, but is secured by using pollen from a tree of a distinct horticultural variety, that is, which has grown from a distinct seed Pollen from another tree of the same. variety is no better than from the same tree. The failure to fruit is due to the sterility of the pollen, and not to mechanical causes.
4. The impotency of the pollen is not due to any deficiency of its own, but to the lack of aftinity between the pollen and the ovules of the same reri ty.
5. The pollen of two viairties may be absolately self-sterile, and at the sarr., time perfectly cross-fertile.
6. The state of mutrition of $t$ : tree, and its general environment ruects its ability to set fruit either with its own poler, or that of amother tree.

7 Bees and other insects are the agents for the transportation of pollen.
8. Bad weather during flowering-
time has a decidediy injurious infiuence on fruitage, by keeping away insect visitors and also by affecting the fecundation of the flowers; conversely, tine weather favors cross-pollination and the setting of fruit.
9. Pears produced by self-pollination are very unitorm in shape; they differ from crosses not only in size and shape, but also in some case in time of maturity and in flavor.
10. Among the crosses the differences were slight or variable, so that their variations are not to be ascribed with certainty to difference in pollen.
11. Self-defundated pears are deficient in seeds. usually having only abortive seeds, while the crosses are well supplied with sound seeds.
12. Even with those varieties which are capable of self-fecundation, the pollen of another variety is prepotent, and unless the entrance of foreign pollen be prevented; the greater number of fruits will be affected by it, as shown by the study of Buffiman pears.
13. The normal typical fruits, and in most cases the largest and finest specimens either of the self-sterile or selffertile sorts, are crosses.

He who can wait will win. Stick-toit is the conqueror.

Hard work is the grand seeret of success. Nothing hut rags and poverty can come of idleness.

Altarnative is not always improvement, as the pigeon said when she got out of the net and into the pies.

A good artsele, full weight, and a fair pri e, brings customers to the shop, hut people do not recommend the place. where they are cheated. Cheates never thrive.

Intil the millenium comes we shall all have a deal to put up with, and had better bear our present hurdens cheerfully than to run holter skelter where: we may find things a deal worse.

"Bee-line" Newly Defined.-In a distriet school the pupils were asked to define a bee-line. A small hoy answered: "I know it: Its the line a feller makes fer home when ajbee's stung im." Probably he had in mind an experience all his uwn, and he knew what he was talking about.

## - $0^{-0} 0^{\circ}$

We notice by one of the late bee papers, that a poor fellow down in Ohio "winters in the cellar." Now that is a bad place for a ma to winter, and besides, it is time enourin for people to stay under grgund after they are dead and not before. Whe feel sorry for a man who has to "winter in the cellar." But it mav have meant that he winters his bees in the cellar, though it dudn't say so. It's quite an art to be able always to siry what you mean, isn't it?

## - $0^{-0}{ }^{-6}$

"Entrance Diagnosis" is something' that Mr. C. W. Dapton wrote about quite charmingly some time ago in "Gleanings." There is more in this than some of us think. A nlance at the entrance of a hive will often tell many things to an experienced eye. Because of this there is an advantage in having all the entrances face one way-they cin all be seen at a slance. I remember the tirst vear or two when my hrother begran working with me in my aniary. If absent a day or two. I would. from simply walking through the yard and slancing at the entrances, ask prrhaps half a dozen questions; such, for instance, as "Doesin't that hiveover at the end of the row med another case of sections? ${ }^{*}$ and at first it was a puzzle to hrothor as to how such ennelusims could be drawn without wen opening the hive.-Bre-Kerpers' Review.

Persistant people begin their sheress where others end their failures.

- $)^{-8}$ -

Northem vs Sumhern queens is heing. diseussed in the bee joumals, hat nome of them show why southern quems are not as good. We shall try and tell you why there is any difierence, if there is. The cold northern winters weed out all stock that is not hardy, while the same stock in the south, owing to its breeding nearly all the year, would continue to live and send out its dron's to mix with other colonies nurar ber tinus gradually pulling down others to its own level.-The Progressive Ber Kerper.

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