

## Peculiar Odors of Bees Now Recognized as Basis of Their Existence

U. S. Experts Reveal Great Importance to Keepers of Knowing Various Types of Smells

Washington.—Bee culture is learning more and more to depend for substantial profits on a knowledge of such unsubstantial things as odors.

Certain odors are so important in the social and economic life of honey bees, James H. Hambleton, chief of the bee culture laboratory of the U. S. Agricultural Department's Bureau of Entomology, points out, that a working knowledge of them is of great economic importance in the life of beekeepers.

Evidence that honey bees make use chiefly of odors in the highly developed system of communication by which they maintain their closely-knit colonial form of life and carry out their work of gathering nectar for honey and pollen for "beebread" has been assembled by Dr. N. E. McIndoo, senior entomologist for deciduous fruit insect investigations of the Bureau of Entomology.

This and other knowledge already gathered has made it possible to eliminate many of the hazards of bee culture, but much, the scientists agree, remains to be learned and they are continuing their efforts to complete man's understanding of the significance and employment of odors as they affect the lives of these valuable insects.

**Study of Bee Odors Essential**  
Many beekeepers, Mr. Hambleton finds, cling to the old idea that bees will take care of themselves and store up enough honey to provide an income for their keepers, but this is going slowly before the advance of knowledge and the repeated discovery by individuals that the idea doesn't always work. Bee culture, he observes, is much like the cultivation of chickens for profit. While bees do not require as much time as chickens, they do demand closer attention, since the colonies are likely to go to pieces more quickly than a flock of chickens and the beekeeper has less opportunity to prevent or minimize his loss.

One of the big problems of bee culturists in the fall is to unite weak colonies of bees in a single hive. It is fairly well known that each hive has a distinct odor of its own. That is the odor which enables the bees of a colony to identify each other as members of the same group and live peacefully together. Bees from other hives, with their different odor, are recognized as enemies. An effort to unite two colonies without attention to the control of these antagonistic odors would result in warfare within the hive that would cost the lives of many bees.

**Smoke Blown Into Hives**  
To prevent this loss most bee culturists make use of the odor of smoke. When smoke is blown into a hive, Dr. McIndoo explains, it not only modifies the hive odor but greatly excites the bees. In their excited state the bees fill themselves with honey. Gorged with honey, they are not inclined to fight. With two colonies thus made peaceful and given the additional mutual identification of the smoke odor, they can be successfully united. By the time the smoke odor is gone from their joint hive, they have all acquired its distinctive odor and are ready to live together in harmony.

Introduction of a new queen into a hive is another important operation requiring a knowledge of bee odors. Without a queen the colony cannot continue. A new queen not only has a strong individual odor, but carries the odor of another hive. Possibly, too, she will have another antagonistic odor from the hands of the beekeeper. Unless protected while she is talking on the new hive odor and getting rid of the odor from her keeper's hands, her new subjects will smother her to death. To prevent that, she is usually put into the new hive in a small cage, the opening of which is closed with candy. By the time the queen, from her side, and the other bees, from the outside, have eaten away this candy door, she has acquired the new hive odor and can be accepted by the colony.

**Bees Dislike Peppermint Odor**  
In addition to the help which the study of odors in relation to bees has provided for the culturists, Mr. Hambleton points out, it has had other applications. Oil of peppermint, for instance, has been found extremely repugnant to bees. It has been used to keep the insects from invading such places as candy kitchens during seasons when a lack of nectar-bearing flowers has caused them to search elsewhere for sweets. In Spain it is used to keep them away from certain fruits, although this is rarely desirable, since the bees, apart from their production of honey, perform the highly important function of mixing the pollen of plants and trees, and in that way assisting in the perpetuation of the species.

**Odors Affect Bees' Lives**  
By means of specially devised experiments Dr. McIndoo was able to prove that the bees themselves can distinguish a much greater variety of odors than those he detected, and that they play a most important part in their lives. With respect to the ruling spirit or power in a colony of bees, he was inclined to believe that the normal hive odor serves this purpose, preserving the social life of the bees from dangers without, while the queen odor insures a continuation of the social life within. The guards, for instance, will attack any stray worker from another hive that enters their own unless it brings a load of nectar or pollen, which it is allowed to deposit before leaving unmolested.

"Of all the odors produced by bees," Dr. McIndoo observed, "the hive odor is probably the most important." It seems to be the fundamental factor upon which the social life of a colony of bees depends, and perhaps upon which the social habit was acquired; without it a colony of bees could not exist. The hive odor is composed chiefly of the individual odors from all the workers in a hive, and is supplemented by the odors from the



Who could resist the appeal of this brown bear in St. Louis, Mo., Zoo when he stands and begs for a bite?

### Pheasant's Cage

I watched, through net-work wire, a royal pheasant. His tenuous crest spread on the blossomy air. In mating mood. He made me very pleasant. Bird-music in his throat. He spoke in fair. Sweet nuptial sounds such as I never heard. Till 'then. It was the time of all the year. When you behold the colors of the bird Transmuted into murmurs, melody-clear.

This feathered masterpiece became a creature More lovely than the rose called Talisman. More gentle than the treading dove by nature. Gentle as Jove come down to be a swan. And in his eye there burned the jewel of ad fire. Of every mortal body's bright desire. —Isabel Fiske Conant.

### Hungarian Aristocrats Enter Business or Trade

Budapest.—The end of the war brought great changes to Hungary. The loss of Transylvania and Slovakia, in particular, meant that many of the leading families saw large parts of their estates pass into foreign hands. Their wealth decreased, and in consequence many of the younger members were forced to fend for themselves. Formerly, it was considered quite undignified for a Hungarian aristocrat to enter trade or business, and even becoming a civil servant was more or less a concession. But today things have quite changed. A correspondent of the Christian Science Monitor, The sons and daughters of the highest families are in public service, banks and industry. Countesses and baronesses, and their daughters are doing applied art work, interior decoration, fancy leather work, while others are busy translating novels and general literature. A popular figure in Budapest society has become a guide for foreign tourists in this capital, using his linguistic gifts to great benefit. Though they regret the circumstances which have compelled them to adopt such measures, few of them would say that they are any less happy thereby.



Said one, "Grace shows good form and speed." As with a friend he talked, "Good form is right," his friend agreed, "Believe me, I'm admiring it."

### New Method Devised To Test Milk Purity

Birmingham, Eng.—What is said to be an infallible method of determining whether milk has undergone adulteration is now being used in the Birmingham city analyst's department. This new test was only recently introduced into this country, though it has been in use for some time in New Zealand and Holland. The test is carried out by means of an apparatus which determines the freezing point of milk to the thousandth of a degree. If the milk is exactly as it came from the cow, its freezing point is never above minus 5.30 degrees Centigrade. If it freezes at a higher temperature it is certain that water has been added, and the exact freezing point indicates exactly how much water has been added.

### Canadian Fisheries Production

Salmon comes first among the fisheries of Canada and it provided last year more than a third of the total value of Canadian fisheries production. Next came lobster and cod among sea fishes, while in the inland waters the principal kinds are whitefish, trout and pickerel. The main catch of salmon is on the Pacific coast although a small amount is taken on the Atlantic. The Atlantic salmon, however, is a different species from that which is caught on the Pacific. The Atlantic salmon is the salmon salar, while the Pacific salmon is the oncorhynchus. Of Pacific salmon, sockeye is of most importance, but the runs on the western coast include also spring, coho, pink and chum salmon. The value of production of the fisheries in Canada last year was \$47,798,920. Of this total sea fisheries contributed \$41,451,977 or 87 per cent, and the inland fisheries \$6,346,943 or 13 per cent. The value of the total production was less than in 1929 by \$5,713,601, but the decrease was chiefly due to a fall in prices. The total catch of fish of all kinds in 1930 amounted to 10,974,334 cwt. compared with 11,508,588 cwt. in 1929. The value of the fish at the point of landing, that is, the amount received by the fishermen for the catch, was \$29,766,142 in 1930. The value of the total production given above represents the value of the fish marketed, whether sold for consumption fresh or canned, cured or otherwise prepared.

### Summer Treatment

Mr. Newlywed—This steak tastes queer. Mrs. Newlywed—I can't understand it, dear. I did burn it a little, but I rubbed vasoline on it right away!

### Off the Coast of Devon



Brixham Torbay Royal Regatta at Brixham, Devon, is well named "fisherman's sailing festival," for chief feature is race for Knig George V. challenge cup. Trawlers, as they got under way.

### Housing Scheme

All summer through The field drank showers of larksong. Offering in return The hospitality of grasses. And flowers knee deep.

Over those wide acres Trooped the plovers, Mourning and lamenting as evening fell. From the deep hedgerows Where the foam of meadowswet broke. The rabbits and mice Peeped out, and boldly sat in the sun. But when the oaks were bronzing, Steamrollers and brickcarts Broke through the hedges. The white-haired grasses, and the seedpods Disappeared into the mud, And the larks were silent, the plovers gone.

Then over the newlaid roads And the open trenches of drains, Rose a hoarding to face the highway. "Build your house in the country," —Richard Church, in "Mood Without Measure."

### Russia Increases Orders From Britain

Berlin.—The Soviet Government, between July 15 and Aug. 15, placed orders with British industries totaling about \$17,000,000, almost equaling the entire Soviet purchases from Britain in 1929, it was learned recently. The sharp rise in Soviet business with England followed the British decision in July to increase guaranteed credits for Russia. German industrialists have begun urging banks and the Government to facilitate credits for the Soviet to meet British and French competition.

### Morning Song

There's a mellow light just over the hill, And somewhere a yellow daffodil, And honey, somewhere, that's sweet or still, And some were meant to stay like a stone. Knowing the things they have always known, Sinking down deeper into their own; But some must follow the wind and me. Who like to be starting and like to be free, Never so glad as we're going to be! —Karl Wilson Baker, in "Dreamers on Horseback."

### Canadian Grapes Delicious Food

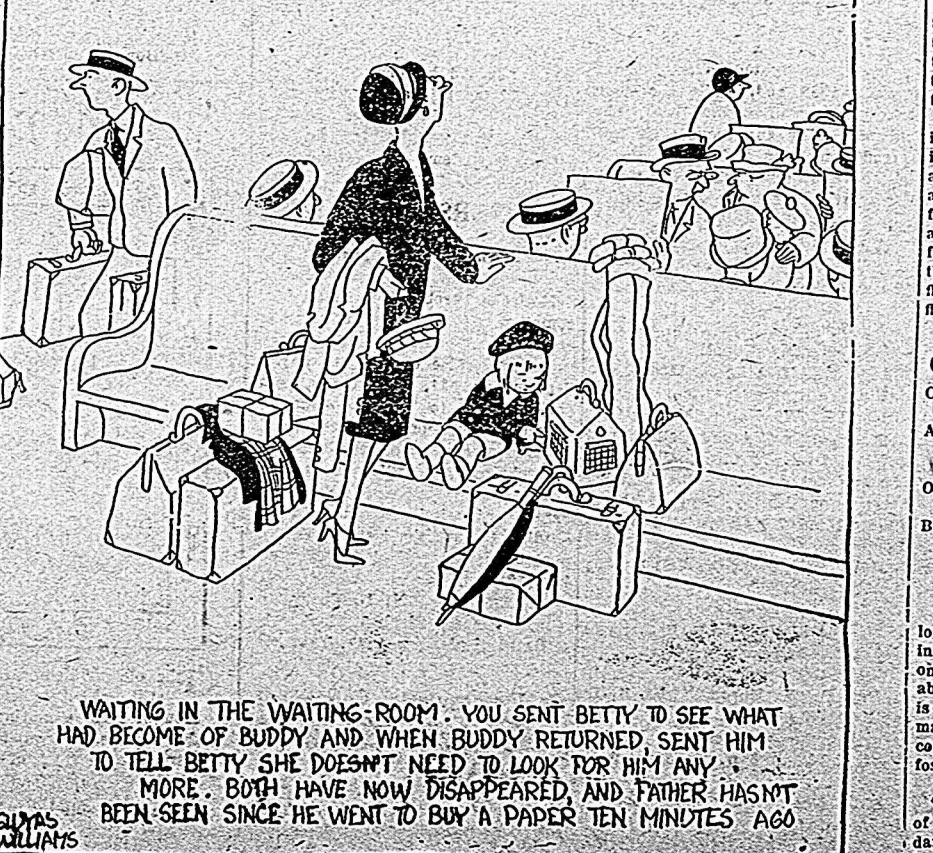
Made Delicious Conserves and Desserts During Winter Months  
Reports received by the Fruit Branch of the Dominion Government indicate that the Canadian grape crop this year will amount to 32,000 tons of grapes, coming from vineyards in Ontario and British Columbia. As any doctor will say, there is no fruit more healthful than the grape. It contains iron, and eaten raw adds bulk to the diet. In conserves, it offers carbohydrates also to the diet, supplying heat and energy. Grapes make wholesome conserves and refreshing beverages. The Canadian grapes include blue, white and amber varieties, and both in quality and flavor are equal to any imported fruit.

A simply made grape conserve is made as follows: Separate skins and slimmer pulp of 3 lbs. grapes for about minutes in a covered kettle. Remove seeds by sieving. Crush skins (tough skins need chopping) and mix with the cooked pulp. Add ½ cup of water, stir until mixture boils, cover and simmer slowly for 30 minutes. Then measure 4 cups (2 lbs.) of cooked fruit into large kettle. Add 7 cups (3 lbs.) sugar, mix and bring to a full rolling boil, over hottest fire. Stir constantly before and while boiling. Boil hard 1 minute. Remove from fire and stir in ½ cup of liquid pectin. Skim; pour quickly. Cover hot jam with film of hot paraffin. When jam is cold, cover with 1/8 inch hot paraffin. Roll glass to spread paraffin on sides. If desired, grated orange rind may be added to the jam. This recipe makes about 10 eight ounce jars of jam.

### A Perfect Alibi

It was the twentieth time Bill Sluggers stood in the dock at the local police court. The magistrate opened the case: "You are accused of robbing the defendant at four o'clock on the morning of the tenth. What have you to say?" "Bill shrugged his shoulders. "Lullaby" echoed the magistrate. "You mean an alibi, I suppose?" "Bill shrugged his shoulders. "Call it what you like, your worship," he continued, "but my misadventure will swear that I was walking the floor with the twins at the hour mentioned in the charge."

### THE WORLD AT ITS WORST



By GLUYAS WILLIAMS

## Drop 7500 Feet Below Surface "To Work" World's Deepest Mine

Morro Velho, Brazil.—What is said to be the deepest mine in the world—extending into the earth for almost a mile and a half—is being successfully operated here by a British concern. The mine pit lies more than 7500 feet below the earth's surface and the workers declare that they are laboring at the "bottom of the earth," the farthest down man has dug and worked with any success.

The Prince of Wales when visiting the mine on his South American tour soon went so far as to help in the grilling work at the bottom of the pit where holes were being made for placing explosives. So far is it from the surface to the bottom of the mine that the journey is made in several stages, by elevator, cable car, and finally in a heavy iron dump cart attached to a strong steel cable.

The mine is about fifty years old. Work at present is not really going on above the 5000-foot level, for that area has been exhausted. The first stage down into the pit is a drop in an elevator of 2200 feet—almost twice the distance from the top to the bottom of the Empire State Building in New York. Then there are several drops to be the deepest mine in the world—extending into the earth for almost a mile and a half—is being successfully operated here by a British concern. The mine pit lies more than 7500 feet below the earth's surface and the workers declare that they are laboring at the "bottom of the earth," the farthest down man has dug and worked with any success.

At the eighth level, 7100 feet down, the air is musty and hot. The last 400 feet from this level to the bottom is made in a heavy iron dump cart, barely large enough to hold four persons. Mine officials explain that the heat at the lower level rises to a temperature of 133 degrees. The trip to the bottom of the mine and back requires almost four hours. The Morro Velho mine dates back to 1834, when the St. John del Rey Mining Company of England purchased the old mine for \$232,175. The monthly total of ore now treated averages 17,000 tons, from which about 91 per cent. of the gold content is extracted. The average content of gold per ton is about \$14, and the production of the mine in 1930 amounted to \$2,690,930.

### June in Scotland

We hail the bonnie, bonnie month of June, When the wild flowers cheer the hearts of men. The cuckoo's song is still in tune And we have no need of the silvery moon To light our evening roaming; For the clear, gray northern gloaming, Broods over hill and glen. We hail the merry, merry month of June, When the students leave the old gray town, And turn their thoughts from learned themes, To cast for trout in midnight streams, Whilst the dew falls thick on the gloaming, And the clear, gray northern gloaming.

### Manufacturing Growing in Canadian Provinces

The growth of manufactures on the prairies of Canada has been greater proportionately in recent years than in other parts of the Dominion. For the five years ended with 1929 the manufactures of Canada as a whole increased by a little over 50 per cent. Those of Manitoba in the same period increased by over 60 per cent., Alberta by nearly 65 per cent., and those of Saskatchewan by over 120 per cent. The volume of increase in Manitoba was greater than in either Saskatchewan or Alberta, while from this point of view Saskatchewan in turn led Alberta. At the end, as at the beginning of the five-year period, Manitoba led in total value and was followed by Alberta and Saskatchewan, in the order named. Within the period, however, the increase in Saskatchewan, both proportionately and absolutely, was greater than in Alberta.

The value of the manufacturing output of Manitoba in 1929 was \$161,909,127. In 1924 the value was \$102,252,013, and in 1923, \$159,475,094. Capital investment in Manitoba manufactures in the five-year period rose by about \$24,000,000, while in the last year of the period the increase was over \$13,000,000. In 1924 the capital investment amounted to \$110,011,602; in 1923 to \$159,721,124 and in 1929 to \$174,152,948. Of the capital invested in 1929, \$123,274,605 was fixed and the balance was divided between materials, stocks and cash and trading accounts.

### Moscow Pity Feature Its Annual Flood

Moscow.—Picture the scenes accompany the annual flood of the Moscow River which this year was of greater dimensions than usual. Rowboats and barges navigate the low-lying parts of the city, which are temporarily transformed into lakes, transferring some thousands of people to greater safety and conveying food to those who preferred to remain in the upper stories of their houses, the food being hoisted with ropes. Searchlights play over the fast-flowing river with its floating blocks of ice. Preparations are made long in advance for even a bigger flood than actually occurs, and considerable forces of police and other volunteers are constantly on duty along the river to avert serious accidents, all 44 females. The ages as given in death certificates ranged from 100 to 103 years.

### Out of the Dingy Alleyways

Out of the dingy alleyways Like Lazarus he comes A pity to the sumptuous gates, And proffers song for crumbs. O song is such a precious thing To barter off for bread; But seven cities clamour still For hands when they are dead. —J. H. Brooks, in "The Crisis."

### September Roadways

Woodside roadways in September Fill my heart with glee! Ageratum, goldenrod, Black-eyed Susana dance and nod Woodside roadways, in September, Bring a song to me! —Charlotte Champeaux

## What New York Is Wearing

Illustrated Dressmaking Lesson Furnished With Every Pattern BY ANNEBELLE WORTHINGTON



The cross-over lines need no introduction. They disguise weight without a tell tale. The one-sidedness of the bodice with softly falling jabot rever deserves mention, for it is so beautifully detracts from breadth. There is still another important slimming point—the clever arrangement of the skirt fulness concentrated at the front. In black and white crepe silk crepe, it's especially smart for all-day occasions. Style No. 273 is designed in sizes 36, 38, 40, 42, 44, 46 and 48 inches bust. Size 36 requires 4 1/2 yards of 39-inch material with 3/4 yard of 10-inch lace and 3/4 yard of 35-inch lining. Crepe silk in burgundy shade is an advanced fall idea. Crepe saten, crepe marocain and supple wools are very smart.

### HOW TO ORDER PATTERNS

Write your name and address plainly, giving number and size of such patterns as you want. Enclose 20c in stamps or coin (coin preferred; wrap it carefully) for each number, and address your order to Wilson Pattern Service, 73 West Adelaide St., Toronto.

### Why Not Live 100 Years?

Some interesting facts are brought out through the perusal of the Eighth Annual Report of the Dominion Bureau of Statistics, Ottawa. One of particular interest is the fact that in 1923 there were 79 deaths of reported centenarians, 35 of whom were males and 44 females. The ages as given in death certificates ranged from 100 to 103 years. Each province of Canada was represented in this loss, Ontario having 23 and Manitoba and Alberta, two each, the others being distributed between these figures. That living for a century or over is not so uncommon as may be supposed is evidenced by the following record of deaths of centenarians during recent years in Canada. 1921—72 deaths. 1922—63 deaths. 1923—65 deaths. 1924—39 deaths, (22 males, 17 females; from 100 to 113 years). 1926—91 deaths, (34 males, 57 females; from 100 to 116 years). 1927—80 deaths, (34 males, 46 females; from 100 to 113 years).

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