

Indiana State Board of Health

(Entered as second-class matter at the Indianapolis Postoffice.)

VOLUME XIII.

INDIANAPOLIS, MAY, 1910

NUMBER 5
25 Cents a Year

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The MONTHLY BULLETIN will be sent to all health officers and deputies in the State. Health officers and deputies should carefully read and file each copy for future reference. This is very important, for we expect to print instructions, rules and general information, which it will be necessary for officers to preserve.

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APRIL BIRTHS.

Birth reports are always a month late, because the law gives twenty days in which doctors and midwives may report.

Total births, 4,332: males 2,147, females 2,056.

Stillbirths, 129. Of the stillbirths, 128 were white and 1 colored.

Whites, males 2,104, females 2,015.

Colored, males 43, females 41; total 84.

Birth rate, 19.1. Excess of birth rate over death rate, 6.6.

Highest birth rate, Warren, 51.4. Lowest, Pulaski, 7.0.

ABSTRACT OF MORTALITY STATISTICS FOR MAY, 1910.

Total number of deaths, 2,641; rate 11.2. In the corresponding month last year, 2,793 deaths; rate 12. In the preceding month, 2,836 deaths; rate 12.5.

Deaths by important ages were: Under one year of age, 336, or 12.7 per cent. of the total; 1-5, 157, or 5.9; 5-10, 67, or 2.5; 10-15, 46, or 1.5; 15-20, 76, or 5.8; and 65 and over, 864, or 32.7 per cent.

SANITARY SECTIONS: The Northern Sanitary Section, population 931,435, reports 863 deaths; rate 10.9. In the same month last year, 916 deaths; rate 11.7. In the preceding month, 898 deaths; rate 11.7.

CENTRAL SANITARY SECTION, population 1,110,947, reports 1,160 deaths; rate 12.4. Same month last year, 1,236 deaths; rate 13.3. In the preceding month, 1,271 deaths; rate 13.9.

SOUTHERN SANITARY SECTION, population 722,147, reports 602 deaths; rate 9.8. Same month last year, 641 deaths; rate 10.4. In the preceding month, 667 deaths; rate 11.2.

REVIEW OF SECTIONS: The Central Sanitary Section shows the highest death rate, the same being 1.2 higher than the rate for the whole State. The Southern Section shows the highest death rate from tuberculosis, typhoid fever and whooping cough. The Central Section shows the highest death rate for measles, pneumonia, influenza and cancer. The Northern Section shows the highest death rate for diphtheria, scarlet fever, diarrhoeal diseases and violence.

CITIES: Total population, 1,074,289, report 1,305 deaths; rate 14.3. In the same month last year, 1,283 deaths; rate 14. In the preceding month, 1,427 deaths; rate 16.2. The city rate is 3.1 higher than the rate for the whole State, and 5 higher than the country rate. The cities show a higher death rate than the entire State in the following diseases: Consumption, typhoid fever, scarlet fever, measles, whooping cough, pneumonia, diarrhoeal diseases, influenza, puerperal fever, cancer, violence.

SUMMARY OF MORBIDITY AND MORTALITY FOR MAY, 1910.

Measles was reported as the most prevalent disease. In the corresponding month last year, rheumatism was so reported. The following is the order of area of prevalence: Measles, tonsillitis, rheumatism, bronchitis, pulmonary tuberculosis, influenza, whooping cough, scarlet fever, typhoid fever, diarrhoea, labor

menstruation, membranous croup, fever, malaria, fever, intermittent and remittent, chickenpox, other forms of tuberculosis, inflammation of bowels, erysipelas, cholera morbus, smallpox, dysentery, puerperal fever, cholera infantum, cerebrospinal meningitis.

SMALLPOX: 89 cases reported in 14 counties, with no deaths. In the same month last year, 88 cases reported in 13 counties, with 1 death. The following counties reported the disease present: Allen 6 cases, Clinton 1, Delaware 4, Elkhart 1, Gibson 1, Grant 5, Greene 9, Howard 18, Marion 5, Orange 18, Owen 20, St. Joseph 3, Tipton 1, Vigo 6.

TUBERCULOSIS: 384 deaths, of which 316 were of pulmonary form. In the same month last year, 348 deaths, of which 328 were pulmonary form. Of the total deaths 35 were males, and married and in the age period of 18-40, and left 70 orphans under 12 years of age; 69 were females in the same age period and left 138 orphans in the same age period. Total lives lost in this productive period, 104. Orphans made, 208. Homes invaded, 377.

PNEUMONIA: 183 deaths. In the corresponding month last year, 203 deaths. Of the total deaths, 112 were males and 71 females; 33 were under 1 year of age, 15 in the age period 1-5; 59 in the age period of 20-60; 34 were between 70-80, and 16 between 80-90.

TYPHOID FEVER: 92 cases reported from 33 counties, with 26 deaths. In the same period last year, 80 cases in 22 counties, with 35 deaths. The disease was reported in the following counties: Adams 2 cases, Benton 1, Clark 10, Dearborn 1, Decatur 7, Dekalb 2, Delaware 1, Elkhart 2, Gibson 1, Hendricks 1, Huntington 1, Jackson 1, Jefferson 8, Lake 4, Madison 4, Marion 13, Martin 1, Monroe 1, Montgomery 1, Morgan 1, Noble 1, Ohio 3, Park 1, Perry 1, Putnam 2, Rush 1, St. Joseph 9, Warrick 4, Washington 1, Wells 3, White 1, Whitley 1.

DIPHTHERIA: 102 cases in 29 counties, with 14 deaths. In the same month last year 56 cases in 21 counties, with 5 deaths.

VIOLENCE: Deaths numbered 160. Same month last year 172. Of the violence deaths, 6 were murders, 26 suicides, and the remainder accidental. Of the murders, 3 were by gunshots, 3 by cutting and stabbing. Of the suicides, 11 chose hanging, 3 gunshots, 7 carbolic acid, 4 poisons, 1 by throwing self

under train. Of the accidental deaths, steam railroads caused 35 deaths, street cars 5, automobiles 2, mining 5, machinery 2, 2 by crushing injuries, falls 6, horses and vehicles 2, drowning 12, lightning 3, and the remainder by various means.

REPORT OF BACTERIOLOGICAL LABORATORY

DR. J. P. SIMONDS, SUPERINTENDENT.

Sputum for tubercle bacilli, positive 113, negative 300; throat cultures for diphtheria bacilli, positive 20, negative 77; Widal reactions, positive 10, negative 82; blood for malaria, positive 1, negative 12; for rabies, dog's heads, positive 6, negative 3, horse's head, positive 1; hog's heads, positive 2 (guinea pig test); cow's heads, positive 1, negative 1; cats' heads, negative 1; pus for gonococci, males, positive 11, negative 10; females, positive 3, negative 5; blood for Wasserman, positive 30, negative 30; pathological tissues, carcinoma and epithelima 5, sarcoma 2, endothelioma 1; tissues showing tuberculosis 4, miscellaneous 12, unsatisfactory 2; urine 17, feces 15, water 28, pus 11, blood 4, pleural fluid 4; cerebrospinal fluid, for tubercle bacilli, positive 1, negative 2; pneumococci, positive 2; stomach contents, 1; smears for spirocheta bacilli, positive 1, negative 2; cultures for identification 2; sorghum molasses 1; pus for glanders, negative 2; milk 4; autopsies 3. Total, 845.

Outfits sent out: Sputum 671, diphtheria 170, Widal 170, malaria 60, special 150. Total, 1,221.

Of the five specimens of cerebrospinal fluid, one contained large numbers of tubercle bacilli. In two specimens in which no tubercle bacilli were found the cellular content of the fluid was rather suggestive of tuberculous meningitis. The two remaining specimens of fluid contained pneumococci. One of them was from a seven-year-old girl at Clinton, Ind.

Three specimens were examined for spirochetes. One was fresh serum from an ulcer on the tonsil of a young woman, and the specimen was examined with the dark illuminator. Numerous living actively motile spirochetes were easily demonstrated.

Of the specimens of sputum examined, 33 were picked up at random on the streets. Of these three, or 9 per cent., contained tubercle bacilli. All the positive specimens were found near the curbstone on the south side of Ohio street, just east of Illinois street. Two were found on the same day within a half block of each other. Both masses of sputum resembled each other very closely as they lay on the street and also as examined under the microscope. It is very likely that they both came from the same person. Had an attempt been made to do so, this careless disseminator of the germs of consumption

could probably have been trailed for several blocks by these disgusting masses of purulent sputum. In both of these specimens the number of tubercle bacilli was enormous. This experience is not new, but is a concrete example of the danger a careless consumptive may be to the public. It proves that there are such consumptives in Indianapolis.

REPORT OF THE DEPARTMENT OF FOOD AND DRUGS FOR MAY, 1910.

Four hundred and seventeen samples of food were analyzed during the month of May, of which 254 were reported as legal and 163 as illegal. The illegal list is largely due to the analysis of a line of such foods as catsup, pickles and summer drinks which in the past have been heavily adulterated and which for that reason the inspectors have been collecting in large numbers.

Of the 147 samples of catsup analyzed 110 were illegal, in most instances because of the presence of sodium benzoate. These samples were not only in violation of the law, in that they contain an unauthorized preservative, but in most instances they were also mislabelled, in that the amount of sodium benzoate declared on the label was much less than the actual quantity present. Of the 31 samples of Blue Label catsup manufactured by Curtis Brothers Company, Rochester, N. Y., 29 samples were misbranded, since the amount of sodium benzoate present, instead of being one-tenth of one per cent., varied from .0835 per cent. to .2275 per cent., and for the entire number analyzed averaged .1831 per cent. Forty-three samples of Waldorf catsup manufactured by Williams Brothers Company, Detroit, Michigan, were examined. Most of these samples were labeled one-twelfth of one per cent. benzoate of soda. As a matter of fact the benzoate content varied from .0979 to .3413 per cent. and averaged .2249 per cent.

Of the six samples of cider examined, 4 contained sodium benzoate and were classed as illegal.

Three of the nine apple butters, and 2 of the 8 jams analyzed, although put up in tin, contained the usual preservative.

All the milk, cream and ice cream samples examined were legal. Eleven of the 20 butter samples analyzed were adulterated, usually by reason of the substitution of oleomargarine for butter. Eight of these samples were short weight.

Nineteen samples of drugs were analyzed during the month, ten of which were classed as illegal, usually because of the low standard of quality.

REPORT OF ANALYSIS OF FOOD AND DRUGS.

The following summary presents the results of the examination of food and drugs during the month of May, 1910.

ARTICLE EXAMINED.	Number Legal.	Number Illegal.	Total.
FOOD.			
Beverages.....	25	8	33
Canned Goods—			
Apple Butter.....	6	3	9
Blueberries.....	2	0	2
Gage Plums.....	4	0	4
Jam.....	6	2	8
Jelly.....	10	0	10
Pineapple.....	1	0	1
Red Raspberries.....	2	0	2
Catsup.....	37	110	147
Cider.....	2	4	6
Cinnamon.....	1	0	1
Cranberries.....	19	0	19
Egg Plant.....	1	0	1
Flour.....	0	1	1
Mackerel, salt.....	1	0	1
Maple Products—			
Syrup.....	5	0	5
Sugar.....	2	0	2
Meat Products—			
Sausage.....	2	0	2
Milk Products—			
Milk.....	7	0	7
Butter.....	6	11	17
Cream.....	66	0	66
Ice Cream.....	3	0	3
Mustard.....	13	1	14
Onions, pickled.....	6	1	7
Pickles.....	16	10	26
Rhubarb.....	1	0	1
Lettuce.....	2	0	2
Spinach.....	3	0	3
Vinegar—			
Cider.....	2	0	2
Distilled.....	2	0	2
Whiskey.....	1	0	1
Total.....	254	163	417
DRUGS.			
Alcohol.....	1	0	1
Asthma Cure.....	0	1	1
Essence of Peppermint.....	0	1	1
Essence of Wintergreen.....	0	1	1
Extract-Strawberry.....	0	1	1
Pineapple.....	0	1	1
Drug (on bread).....	1	0	1
Lemon Oil.....	1	0	1
Olive Oil.....	2	1	3
Paracetol.....	2	3	5
Spirits of Turpentine.....	2	0	2
Syrup-Pineapple.....	0	1	1
Total.....	9	10	19

INSPECTORS' REPORTS FOR THE MONTH OF MAY, 1910.

During the month of May the food inspectors visited 93 cities and towns and reported 1,127 visits to food producing or distributing establishments. But 31 of these were classed as in excellent condition; 659 were good, 354 fair, 64 poor and 19 bad. Of the 25 dairies visited, 11 were classed as bad, 1 poor, 8 fair, and 5 good. This unsatisfactory showing is deplorable. During the month when the inspections were made the dairy cows were on grass, and sanitary conditions at the dairy should have been at their best. Sixteen of these dairies were condemned as unsuitable for the production of milk and extensive improvements were ordered. Six of the dairies were so unsatisfactory that they were closed until the completion of the repairs. In fifteen of the sixteen instances the dairies were improperly constructed, having insufficient light or ventilation or being used for other purposes than the stabling of milch cows.

Of the 458 grocery stores visited, 12 were in excellent condition, 299 good, 123 fair, 1 poor and 2 bad.

The meat markets inspected were for the most part in very satisfactory condition. The circular letter recently issued governing the protection of meat has been favorably received by meat dealers and very little meat is now displayed for sale except in suitable refrigerated cases.

The condition of the hotels and restaurants still remains far from satisfactory. Two of the 150 hotels visited were in excellent condition; 65 were graded as good, 69 fair, 13 poor and 1 bad. A similar unsatisfactory condition is recorded of the bakeshops. Of the 140 bakeries and confectioneries inspected, 3 were in excellent condition, 62 were graded as good, 67 as fair and 8 as poor. Seven of the bakeries were condemned as unsanitary and improperly constructed. Two of the bakeries were so unsanitary that they were closed until the repairs ordered were completed.

One hundred twenty-eight drug stores were visited, of which 3 were classified as excellent, 107 good, 12 fair, and 6 poor. This is a satisfactory showing and calls for commendation of the druggists.

Included in the list of inspections were flour mills, flour and feed stores, ice cream factories, bottling works, fruit houses, slaughter houses, fish markets, and creameries.

In order to secure necessary improvements in construction and the observation of sanitary requirements, condemnation notices are issued to the proprietors or owners, setting forth the unsanitary conditions and requiring necessary changes to be completed within a given time. During the month of May thirty-seven notices of this character were sent out. Twenty-two of the condemnations were issued because of improper construction and 15 because of unsanitary conditions. The reports are tabulated and appear in the table below.

SUMMARY OF REPORTS OF CONDEMNATION SENT OUT DURING MAY, 1910.

CLASSIFICATION.	Reasons for Condemnation.		Total Number Condemned.
	Unsanitary Conditions	Improper Construction.	
Bakeries.....	3	* 4	7
Canning Factory.....	0	1	1
Confectionery.....	0	1	1
Dairies.....	1	†15	16
Drug Store.....	1	0	1
Flour Mill.....	1	0	1
Fruit Store.....	1	0	1
Grocery.....	1	1	2
Milk Depot.....	1	0	1
Poultry House.....	1	1	2
Restaurant.....	2	0	2
Slaughter House.....	3	0	3
Total.....	15	22	37

*Two bakeries closed until repairs are completed.
 †15 dairies closed until repairs are completed.

PROSECUTIONS DURING MONTH OF MAY, 1910.

COUNTY.	Lab. No.	Name and Address of Defendant.	Why Prosecuted.	Date.	Disposition of Case.
Cass.....		Ray Arnold, Logansport.	Selling dirty cream.	5-29-10	Fined \$10 and costs.
Dearborn.....		Henry Bobink, Lawrenceburg.	Operating insanitary dairy.	5-18-10	Fined \$10 and costs.
Dearborn.....		William Baker, Lawrenceburg.	Operating insanitary dairy.	5-13-10	Fined \$10 and costs.
Huntington.....	17897	Schaefer & Schaefer, Huntington.	Selling ice cream below standard.	5-27-10	Fined \$10 and costs.
Jackson.....	17477	John Kissell, Seymour.	Lard containing beef fat.		Fined \$10 and costs.
*Kosciusko.....	17476	W. B. Doddridge, Mentone.	Tr. Iodine, below standard and improperly labeled.	5- 4-10	Fined \$10 and costs.
Lake.....		Hammond Packing Co., Indiana Harbor.	Transporting uncovered meat.	5-25-10	Fined \$10 and costs.
Lake.....	17606	Ralph Kahn, Gary.	Paragoric—alcohol and opium content not stated on label.	5-27-10	Fined \$10 and costs.
Lake.....	17674	H. J. Millstone, Gary.	Spirits camphor—below standard.	5-27-10	Fined \$10 and costs.
Lake.....	17957	George Tiegler, Indiana Harbor.	Selling oleomargarine for butter.	5-24-10	Fined \$10 and costs.
Lake.....	17955	Paulsen Tea Company, Indiana Harbor.	Selling oleomargarine for butter.	5-24-10	Fined \$10 and costs.
Lake.....	17962	J. H. McAuley, Indiana Harbor.	Selling oleomargarine for butter.	5-24-10	Fined \$10 and costs.
Lake.....	17965	Steenberger Bros., Indiana Harbor.	Selling oleomargarine for butter.	5-24-10	Fined \$10 and costs.
Lake.....	17966	F. A. Pekownik, Indiana Harbor.	Selling oleomargarine for butter.	5-24-10	Fined \$10 and costs.
Marion.....	16539	Swan Meyer, Indianapolis.	Tr. Iodine, below standard.	5-11-10	Fined \$10 and costs.
Marion.....	16967	Swan Meyer, Indianapolis.	Tr. Iodine, deodorized, below standard.	5-11-10	Fined \$10 and costs.
Miami.....	17857	Moder and Kreutzler, Peru.	Selling sweet cider containing benzoin.	5-28-10	Fined \$10 and costs.
Monroe.....		James H. Smith, Bloomington.	Operating insanitary dairy.	6- 3-10	Fined \$10 and costs.
Monroe.....		Henry Russell, Bloomington.	Operating insanitary dairy.	5- 2-10	Fined \$10 and costs.
Monroe.....		James A. Stevens, Bloomington.	Operating insanitary dairy.	5- 2-10	Fined \$10 and costs.
Monroe.....		Thomas N. Paris, Bloomington.	Operating insanitary dairy.	5- 2-10	Fined \$10 and costs.
Putnam.....		Zabaskas & Zissa, Greencastle.	Operating insanitary confectionery.	5-10-10	Fined \$10 and costs.
Vanderburgh.....	17538	George Hitch, Evansville.	Selling milk below standard.	5-13-10	Acquitted.
Vanderburgh.....	17540	George Helmuth, Evansville.	Selling dirty milk.	5-13-10	Acquitted.
Vanderburgh.....	17541	George H. Stockwell, Jr., Evansville.	Selling dirty milk.	5-13-10	Acquitted.
Vanderburgh.....	17546	J. M. Kilhon, Evansville.	Selling dirty milk.	5-13-10	Acquitted.
Vanderburgh.....	17549	J. C. Wallenmeyer, Evansville.	Selling milk below standard.	5-13-10	Fined \$10 and costs.
Vanderburgh.....	17550	John Shafer, Evansville.	Selling dirty milk.	5-13-10	Acquitted.
Vanderburgh.....	17551	William Brandenburg, Evansville.	Selling dirty milk.	5-13-10	Acquitted.
Vanderburgh.....	17818	George Hitch, Evansville.	Selling dirty milk.	5-13-10	Acquitted.
Vanderburgh.....	17821	A. D. Miller, Evansville.	Selling milk below standard.	5-13-10	Fined \$10 and costs.
Vanderburgh.....	17822	Aickle Bros, Evansville.	Selling dirty milk.	5-13-10	Fined \$10 and costs.
Vanderburgh.....	17825	J. M. Kilhon, Evansville.	Selling dirty milk.	5-13-10	Acquitted.
Vanderburgh.....	17828	L. A. Guenther, Evansville.	Selling dirty milk.	5-13-10	Acquitted.
Vanderburgh.....	17829	J. C. Wallenmeyer, Evansville.	Selling dirty milk.	5-13-10	Acquitted.
Vanderburgh.....	17832	T. E. Laut & Son, Evansville.	Selling milk below standard.	5-13-10	Acquitted.
Vanderburgh.....	17835	George H. Stockwell, Jr., Evansville.	Selling milk below standard.	5-13-10	Acquitted.
Vanderburgh.....	17839	J. H. Baker & Son, Evansville.	Selling milk below standard.	5-13-10	Acquitted.
Vanderburgh.....	17841	Hugo Bros., Evansville.	Selling milk below standard.	5-13-10	Fined \$10 and costs.
Vanderburgh.....	17843	John Schaefer, Evansville.	Selling dirty milk.	5-13-10	Acquitted.
Vanderburgh.....	17844	William Brandenburg, Evansville.	Selling dirty milk.	5-13-10	Acquitted.
Vigo.....	17906	J. L. Graham, Riley.	Spirits camphor—below standard.	6- 3-10	Fined \$10 and costs.

*Improperly labeled—alcohol content not stated on label.

SUMMARY OF INSPECTIONS DURING THE MONTH OF MAY, 1910.

INSPECTIONS.	No. Inspected.	No. Excellent.	No. Good.	No. Fair.	No. Poor.	No. Bad.
Dairies.....	25	0	5	8	1	11
Grocery Stores.....	458	12	299	123	22	2
Meat Markets.....	146	9	87	43	7	0
Drug Stores.....	128	3	107	12	6	0
Bakeries and Confectioneries.....	140	3	82	67	8	0
Hotels and Restaurants.....	150	2	65	69	13	1
Creameries.....	8	0	6	2	0	0
Slaughter Houses.....	15	0	2	7	3	3
Fish Markets.....	4	0	2	2	0	0
Poultry Houses.....	11	0	2	5	2	2
Flour Mills.....	17	1	14	2	0	0
Flour and Feed Stores.....	4	0	1	2	0	0
Ice Cream Factories.....	6	0	1	4	1	0
Bottling Works.....	6	0	1	5	0	0
Fruit Houses.....	3	1	0	1	1	0
Wholesale Groceries.....	2	0	2	0	0	0
Canning Factories.....	2	0	1	1	0	0
Egg and Poultry Company.....	1	0	0	1	0	0
Tea and Butter Store.....	1	0	1	0	0	0
Total inspections made.....	1127	31	659	354	64	19

During the month 42 cases were brought for violation of the food and drug law. Forty-two convictions were obtained. Costs and fines to the amount of \$584.05 were imposed.

For the first time since the Pure Food Law was enacted a large number of acquittals are reported. The defendants in six cases were milk dealers doing business in the city of Evansville. Samples of milk collected by inspector Bruner and sent to the laboratory for analysis showed the presence of dirt and extraneous matter and following the laboratory findings affidavits were filed alleging the sale of dirty milk. Six dairymen were convicted of operating unsanitary dairies. Five grocers who sold oleomargarine for butter in the city of Indiana Harbor were found guilty and fined. Six druggists were convicted for selling paregoric and spirits of camphor which either failed to declare the narcotic or alcoholic strength, or was deficient in U. S. P. strength. A packing house which transported uncovered meat through the streets of Indiana Harbor was convicted of violation of the sanitary law. Other convictions recorded were for the sale of ice cream below standard; lard which contained beef fat; cider which contained sodium benzoate, and dirty cream.

INVESTIGATION OF TYPHOID EPIDEMIC AT GREENFIELD, INDIANA.

J. P. SIMONDS, M. D., SUPERINTENDENT LABORATORY OF BACTERIOLOGY AND PATHOLOGY.

On October 11 Mr. Hughes, of Greenfield, brought a specimen of milk to the State Bacteriological Laboratory to be examined for evidence of infection with typhoid bacilli. He described the epidemic of typhoid fever that had existed in Greenfield for the past two months, and suggested that some one from the State Board of Health investigate the situation and, if pos-

sible, discover the source of the infection. Accordingly, on the request of Dr. J. N. Hurty, Secretary of the State Board of Health, I spent Tuesday and Wednesday, October 19 and 20, in Greenfield, studying the conditions there.

On arriving, I went at once to Dr. Milo Gibbs, the city health officer, and found him enthusiastic in the matter and willing to do anything possible to help in the undertaking. From him I obtained the names and street addresses of forty-nine persons who had had typhoid fever during the year.

The work was begun by an inspection of the City Water Works. The water is obtained from flowing wells, averaging over one hundred feet in depth. The water from each well is conducted to the pumping room through underground pipes and is forced directly into the city mains. Immediately to the east of the pumping house is a large cement reservoir which is below the surface of the ground and is covered with a good roof. The assistant engineer, who was the only employe then at the plant, declared that the sides and bottom of the reservoir were solid cement and that there was no iron pipe extending up through the center of the floor, as had been reported in the newspapers. The water in the reservoir was somewhat stained with iron rust from the inflow and outflow pipes. The reservoir is kept filled for use in case of fire. The water supply of the city appeared to me to be excellent.

Forty-two of the forty-nine patients were seen in person. Such inspection of the premises was made as circumstances would permit and information was obtained in regard to the following points:

Age and sex of the patient.

Date of onset, duration and termination of the disease.

Have other cases occurred in same family or in same house within a year?

Water and milk supply.

Has the house sewer connection?

If not, what kind of privy?

Is house screened?

Have flies been especially bad this summer?

Had patient been out of city within a month previous to onset of illness?

Such other information as was obtainable.

Of the 49 patients, 29 were males, and 20 females. Thirteen were under fifteen, and 28 under twenty years of age. Ten cases appeared between the 16th and 31st, and seven between the 1st and 15th of August. Six cases appeared in the first half of September and five in the last half. The remaining cases occurred as follows: 3 in October, 5 in July, 2 in June, 2 in May, 1 in January, and 1 in October, 1908. There was no time at which a considerable number of

these cases occurred within a few days of each other that could have been traced to a common source.

No facts could be elicited that cast any suspicion on the milk supply. Fourteen patients had used Wicker's milk, eleven had used Thompson's, and the remainder had gotten milk from different dairies or used condensed milk. Only one patient claimed to drink much milk; many others rarely touched it.

It is to be noticed that two of Mr. Wicker's children had typhoid fever in May. He was not at that time in the milk business and did not acquire his present business for some time after the children had recovered. Mr. Wicker gets his milk from Mr. Hogan, who has a dairy farm on Brandywine Creek, south of town. The milk is brought to town in large cans and is bottled in a building in which the sanitary conditions are fair. The children were said to have nothing to do with the bottling or handling of the milk, although they come into the building occasionally. The sample of milk brought by Mr. Hughes was from this dairy and showed nothing indicative of contamination.

The epidemic was not sudden in its onset, it followed no one milk route, but occurred about equally on all and it affected persons who claimed to drink little or no milk. Hence it had none of the characteristics of a milk-borne epidemic. It affected persons who used city water, as well as those who used well water. The majority of the patients used city water, but an inspection of the pumping plant and bacteriological examinations of the water itself gave no reason to suspect this as the source of infection.

The cases were rather generally distributed over the city. The majority of the cases occurred in parts of the city that are not sewered. A sewer had just been laid in South State Street, but the houses had not yet been connected with it.

Twenty-one (50 per cent.) of the forty-two patients seen, had been away from Greenfield within the month previous to the onset of the illness. Two were traveling men and were away from home a great deal. Six had spent at least one day in Indianapolis and four had been to other Indiana towns. Three had visited in Ohio and one in Michigan. Seven had been in the country around Greenfield—two of these had also visited Indianapolis.

Of the twenty-one who had not been out of the city, twenty (17 families) had no sewer connections in their houses and had privies. Of the twenty-one who had been out of the city, 11 had sewer connections and 10 had privies. In 3 instances there had been a case of typhoid fever in the same house within the year. From the above figures it is seen that 31 (74 per cent.) of the 42 cases investigated lived in parts of the city not supplied with sewers. Of the seven cases not seen personally, the street addresses of two could not be learned. One lived just outside of the city limits

and therefore had no sewers, and five lived in parts of the city not supplied with sewers. Hence, of 47 cases whose street addresses were known, 37, or practically 80 per cent. of the total number, lived in houses with no sewer connections and used privies, the majority of which were open and on the surface.

Thirty-one used city water and eleven had wells, all but two of which were driven wells. Twenty families, representing 27 patients, had no sewer connections in their houses. Eighteen of these families had open, surface privies in the back yard, and two had privy vaults. Seven homes with no sewer connections had wells and privies within from 30 to 80 feet of each other. One house with a dug well and a surface privy, was not screened, and the flies were said to have been very bad. The remarkable thing in this instance, was that the family had had only one case of typhoid this summer.

The feature which the greater number of cases (80 per cent.) had in common, was lack of sewer connections, the use of open, surface privies, and flies. It is true that all but one house was screened, but where there are several children in a family, screens do not mean complete absence of flies, but their presence in such diminished numbers as to be endurable. This was the case in a number of the houses I visited in which cases of typhoid fever had occurred.

Flies do not travel far from their place of birth and in thickly settled localities, their wanderings are frequently limited to a very small area. J. T. E. Nash, in a recent number of the *Journal of Hygiene* had the following to say concerning the migrations of flies: "From my own observations I find that from a large breeding place * * * they will travel in countless numbers to the nearest houses, which may be two or three hundred yards distant. * * * Each street and terrace of houses forms a place of arrestment, provided there is abundance of pabulum, whether in the nature of filth or ordinary articles of human diet." The short migration of flies may account for the fact that most of the cases (80 per cent.) of typhoid fever were limited to the non-sewered districts.

As already stated, the cases of typhoid occurred with increasing frequency up to the middle of August and then slowly decreased. The excreta from one typhoid patient, thrown upon the ground in the non-sewered district, could be easily carried by flies to persons living near by. The more cases of typhoid there were, the more germs of the disease there would be for flies to carry to healthy persons and the more rapidly the cases would increase in number. This was the state of affairs in Greenfield until the middle of August, when the number of cases began to decrease gradually. "Towards the end of August, though flies are often very numerous, they appear to pay less attention to food and more to reproduction." This observation of Nash will account for the gradual

decrease in the number of cases just before and after the first of September. During the so-called typhoid season, the temperature is such that the growth of bacteria deposited by flies in milk and other food products is especially favored, so that a relatively small "dose" of bacteria deposited by a fly may be increased many fold in a few hours.

Nothing was found that would connect the epidemic with either the milk or water supply of Greenfield. Absence of sewer connection and the presence of open surface privies and flies, seem to furnish the best explanation of the epidemic.

FEELS GRATEFUL: We have a letter dated June 14 from Athens, Tennessee, which says: "I feel very grateful to you for the advice and help you have given me. A few years ago I wrote to you about a young girl who had tuberculosis of the lungs. You told how the disease should be treated, and sent the name of a book which we should buy and which would give us specific directions. We tried it, and I am very happy to tell you she is now well and strong. The young woman has left here and I have forgotten the name of the book, so will you be kind enough to send it to me for another person. Thanking you many, many times for your good advice and help, I am," etc.

* * *

NO DRY GROUND: An architect of Evansville, being called upon to furnish plans for a schoolhouse in Union Township, Vanderburg County, says: "This township is on a point of the Ohio River, and every foot of it is at times overflowed. There is no ground in the entire township which does not suffer from floods when the river is at its highest stage. Of course it will be impracticable in a case of this kind to put a basement with any sort of a heating apparatus therein. It is our intention to place the floor five feet above the ground which will be above high water. The rules of the State Board of Health prohibit the use of stoves, and we are writing to ask what you would recommend in view of the impossibility to install a heating apparatus in the basement."

This is interesting, owing to the fact that there is not one foot of ground in Union Township that is not overflowed when the Ohio River is at the highest stage. The answer to the architect is very simple—use ventilating stoves, of which there are many upon the market which conform to the rules of the State Board of Health.

ANTI-LOCKJAW SERUM.

"Recent results go to show that the subcutaneous injection of an immunizing dose of tetanus antitoxin is a SURE METHOD OF PREVENTING LOCKJAW. In all cases where garden dirt, stable dust, manure, paper wads or

powder from cartridges have been ground or forced into the injured tissues, a preventive dose of tetanus antitoxin should be given subcutaneously at the time the wound is dressed, or as soon after as is possible. This is especially recommended after Fourth of July injuries."

THE SHORT WEIGHT EVIL.

The March bulletin contained a report of an investigation of the weights of sacks of flour which showed uniform underweight. A recent investigation of the weights of butter reveals even more serious conditions. It appears to be a practice among a certain class of grocers and butter merchants to include in the weight of butter the weight of the butter dish and thin wrapping paper. Since the butter dish and wrapping paper are frequently kept wet for the purpose, as the dealers explain, of preventing the dish from cracking, the net weight of butter obtained by the consumer is considerably less than what he pays for. But the customer not only pays from thirty to forty cents a pound for wood and paper, but he is frequently short weighted in addition, as is shown by the figures obtained in weighing up 20 samples of butter. Of this number 12 weighed the full amount gross, that is including one-half to three-fourths ounces of butter dish, and 15 were deficient in net weight from $\frac{1}{2}$ to $1\frac{1}{2}$ ounces. In other words, the purchaser who thought he was paying 36 cents a pound for this butter was actually paying from 37 to 40 cents per pound.

When the judge of the court of the city where the short weight sales were made was advised of the chemist's finding he declined to convict on the ground that, as a grocer of twenty-five years' standing, he could not conscientiously find the dealer guilty of selling short weight goods. The Pure Food Law provides a penalty for the sale of goods which do not weigh the amount stated on the label of the package, but no provision is made for the punishment of the dealer who short-weights bulk commodities such as butter, meats and similar goods which bear no labels.

It is evident that there are other reasons for the increased cost of living beside the increased price of foodstuffs.

INDIANA PAID \$3,341,454 TO MAINTAIN HER UNFORTUNATES.

The nineteenth annual, or seventy-fifth quarterly, comparative exhibit of the charitable, educational and correctional institutions of the state shows that the grand total ordinary cost of maintenance for these institutions for the fiscal year 1908 was \$3,747,429.04. The grand total net expenditures of the institutions, including the extraordinary expenditures, was \$3,747,429.04. The figures do not include the expendi-

tures for Purdue, Indiana University and the State Normal School.

Few people have an idea of the state's expense for the care of its unfortunate citizens. The total ordinary expenses of the institutions of the state for the year 1908 was \$1,800,469.96. The total ordinary expenses for the year 1907 was \$1,540,984.53. The net total expenditures after deducting the revenues of the institutions, and including the extraordinary expenses, for the year 1908 was \$2,169,883.32. The figures for 1907 are \$1,577,545.72.

This is a round sum to pay out in one year on account of the defectives, and this raises the question, why have so many defectives?

Forty-five per cent. of the insane are so because of alcohol and syphilis. Not a little insanity, and also not a little pauperism, and at least thirty per cent. of orphanage are due to tuberculosis. To be rid of alcohol, manage it as we do dynamite. To be rid of syphilis, manage it as we do dynamite. To be rid of consumption, let us all lead the temperate, simple outdoor life. We can rid ourselves of much trouble and high taxes if we will only be practical.

INFANT FEEDING.

There is no food half so satisfactory and healthy for the child as the milk of its own mother. This has been shown beyond question. Some mothers cannot nurse their children, although by proper diet and correct habits of life many a mother who now thinks it impossible could nurse her infant and thereby increase its chances of life.

The substitution of any other food than mother's milk for the child is a serious matter, requiring great care and precautions. It should never be undertaken except upon the advice of a physician. There are many substitutes for mother's milk, but of these the best and safest is modified cow's milk. No attempt will be made here to give formulæ for use in preparing modified milk for infants, as this must be done by the physician to meet the need in each individual case. Certain things, however, are necessary, no matter what formula is used.

Cow's milk used for infant feeding should be clean, fresh and pure. By clean milk is meant milk that is drawn from clean cows, into clean vessels, in clean stables, by milkers with clean hands. It is no less important that the milk be fresh and pure, that is, must not be kept many hours before delivery, must come from cows free from disease and must not have any preservatives or water added. No matter how clean, fresh or pure the milk may be when delivered to the mother, it will be dangerous to the child, unless it is properly cared for after it reaches the home.

The bottles and nipples used in nursing the child demand close attention, as they may become contami-

nated and endanger the life of the child. The bottles should be so shaped as to be easily cleaned and after using, before milk is again placed in them, they should be boiled, or at least should be thoroughly rinsed in boiling water and be allowed to cool. The nipples should be carefully washed after each nursing and should then be placed in a solution of boric acid, prepared by dissolving one teaspoonful of boric acid in a pint of water. When ready for use, the nipple should be taken from the acid, rinsed in water and attached directly to the neck of the bottle. Nursing-tubes should never be used.

JOSEPH H. TOWNSEND, M. D.,
Connecticut B. of H. Bulletin.

THE PUBLIC HEALTH.

It was that progressive, practical, productive philosopher, Benjamin Franklin, who said, Public Health is Public Wealth. The truth of the saying is generally acknowledged. And how strange it is, that a statesman, or indeed, several statesmen, with true economic ideas, are not continually with us advocating all reasonable methods for improving the public health. A careful reading of the messages of our governors to the General Assembly, succeeded in finding only two who had anything to say upon this greatest of all economic questions. *These were the first message of Governor Mount, the second was silent, and the first message of Governor Hanly, the second was silent, and the first message of Governor Marshall, the second message of Governor Marshall is certain to emphatically sustain the public health cause and to make valuable recommendations to the legislature and the people.*

Disraeli said: "The care of the public health is the first duty of the statesman." And Gladstone said: "In the health of the people lies the strength of the nation." Only a short time ago, the New York City Board of Trade passed unanimously, a resolution as follows:

"Resolved, That health and protection of life are more precious to the people and more necessary to their happiness than even the extension of our commerce, the fostering of our agricultural interests, the solving of our financial problems, the cheapness or efficiency of our postal service, the improvement of our rivers and harbors, or the enlargement of our navy."

It will be noticed that all of these utterances are from practical men who have accomplished much, and not from physicians or hygienists. Of course, it is very encouraging to the last named classes, that their teachings and long advocated principles have been finally grasped by certain strong men. But despite this fact, it probably will long remain a matter little understood or appreciated by those who are responsible for the welfare of states.

CHART SHOWING GEOGRAPHICAL DISTRIBUTION OF DEATHS FROM CERTAIN COMMUNICABLE DISEASES FOR MAY, 1910.

NORTHERN SANITARY SECTION.

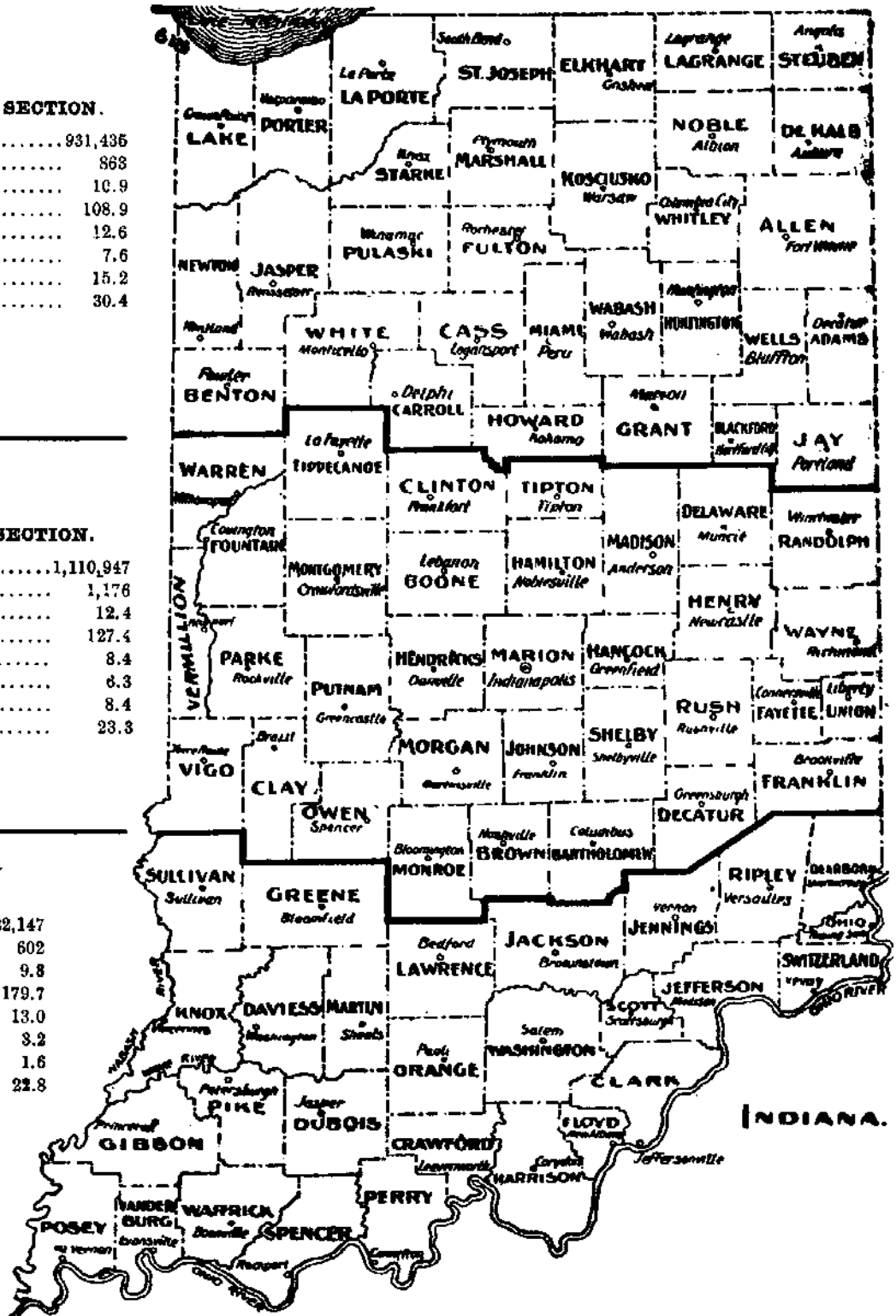
Total population	931,436
Total deaths	863
Death rate per 1,000	10.9
Consumption, rate per 100,000	108.9
Typhoid, rate per 100,000	12.6
Diphtheria, rate per 100,000	7.6
Scarlet fever, rate per 100,000	15.2
Diarrheal diseases, rate per 100,000	30.4

CENTRAL SANITARY SECTION.

Total population	1,110,947
Total deaths	1,176
Death rate per 1,000	12.4
Consumption, rate per 100,000	127.4
Typhoid, rate per 100,000	8.4
Diphtheria, rate per 100,000	6.3
Scarlet fever, rate per 100,000	8.4
Diarrheal diseases, rate per 100,000	23.3

SOUTHERN SANITARY SECTION.

Total population	722,147
Total deaths	602
Death rate per 1,000	9.8
Consumption, rate per 100,000	179.7
Typhoid, rate per 100,000	13.0
Diphtheria, rate per 100,000	3.2
Scarlet fever, rate per 100,000	1.6
Diarrheal diseases, rate per 100,000	22.8



Mortality of Indiana for May, 1910.

POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL.	Population Estimated According to 23 times School Census 1909.	Total Deaths Reported for May 1910. (Stillbirths excluded.)	Annual Death Rate per 1,000 Population.	Stillbirths.	Important Ages.												Deaths and Annual Death Rates per 100,000 Population from Important Causes.							
					Under 1.		1 to 5.		5 to 10.		10 to 15.		15 to 20.		65 and Over.		Pulmonary Tuberculosis.		Other Forms Tuberculosis.		Typhoid Fever.		Diphtheria.	
					Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.
State.....	2,784,529	2,641	11.2	152	336	12.7	157	5.8	67	2.5	40	1.6	78	5.8	864	32.7	316	134.8	89	29.0	29	11.0	14	5.9
Northern Counties.....	931,435	863	10.8	45	115	13.3	48	5.5	27	3.1	14	1.6	19	2.2	295	34.1	86	108.9	19	24.0	10	12.6	6	7.6
Central Counties.....	1,110,947	1,176	12.4	60	144	12.2	74	6.2	32	2.7	18	1.3	34	2.8	372	31.6	120	137.4	36	33.2	8	8.4	6	6.3
Southern Counties.....	722,147	602	9.8	27	77	12.7	35	5.8	8	1.3	10	1.6	23	3.8	179	29.7	110	179.7	13	21.2	8	13.0	2	3.2
All Cities.....	1,074,289	1,305	14.3	87	163	12.4	98	7.5	37	2.8	18	1.3	41	3.1	331	25.3	164	186.1	87	46.6	11	12.0	4	4.3
Over 50,000.....	411,839	517	14.8	35	68	13.1	37	7.1	11	2.1	9	1.7	17	3.2	109	21.0	64	183.3	11	31.5	3	8.5	1	2.8
25,000 to 50,000.....	43,599	50	13.5	6	11	23.0	3	6.0	4	8.0	2	4.0	1	2.0	8	18.0	8	216.5	1	27.0	0	0	0	0
10,000 to 25,000.....	300,545	350	13.7	26	45	12.8	27	7.7	12	3.7	5	1.4	13	3.7	99	28.2	36	149.1	6	23.5	7	27.4	2	7.6
5,000 to 10,000.....	179,628	229	15.0	13	22	9.6	23	10.0	5	3.4	3	3.4	3	3.0	60	23.8	20	197.0	8	52.7	1	6.5	1	7.8
Under 5,000.....	139,288	159	13.4	8	17	11.3	8	5.0	1	6.0	2	1.2	3	1.8	55	34.5	24	203.3	11	93.1	0	0	1	8.4
Country.....	1,990,240	1,336	9.3	65	173	12.9	59	4.4	30	2.2	22	1.6	35	2.6	533	39.8	152	106.1	31	21.6	15	10.4	10	6.9

Deaths and Annual Death Rates per 100,000 Population from Important Causes.

POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL.	Croup.		Scarlet Fever.		Measles.		Whooping-Cough.		Lobar and Broncho Pneumonia.		Diarrheal Diseases, Under Five.		Cerebro-Spinal Meningitis.		Influenza.		Puerperal Septicemia.		Cancer.		Violence.		Smallpox.	
	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.
State.....	1	4	21	8.8	82	35.0	41	17.5	183	78.1	60	25.8	3	1.2	31	13.2	13	5.5	147	62.7	160	66.2		
Northern Counties.....			12	15.2	16	20.2	6	7.6	57	73.2	24	30.4	2	2.5	5	10.1	5	6.3	52	65.8	73	92.4		
Central Counties.....	1	1.0	8	8.4	42	44.6	20	21.2	89	94.5	22	23.3	17	18.0	3	3.1	64	67.9	52	55.2				
Southern Counties.....			1	1.6	24	39.2	15	24.5	37	60.4	11	22.8	1	1.6	6	9.8	5	8.1	31	50.6	35	67.1		
All Cities.....	1	1.0	12	13.1	45	49.4	20	21.9	100	109.8	38	41.7	2	2.1	16	16.4	10	10.9	76	63.4	85	63.3		
Over 50,000.....			9	25.7	18	51.5	7	20.0	48	137.5	18	51.5			2	5.7	3	8.5	32	91.8	31	88.8		
25,000 to 50,000.....			1	27.0					1	27.0	2	54.1			1	27.0	1	27.0	2	54.1	9	243.5		
10,000 to 25,000.....			2	7.8	14	54.9	6	23.5	21	82.4	7	27.4	1	3.9	6	23.5	2	7.8	17	66.7	25	98.1		
5,000 to 10,000.....	1	6.3			12	79.0	6	39.5	19	125.2	7	46.1	1	6.5	6	39.5	1	6.5	16	105.4	15	98.6		
Under 5,000.....					5	42.3	1	8.4	11	93.1	4	33.8			1	8.4	3	25.4	9	76.2	5	42.3		
Country.....			9	6.2	37	25.8	21	14.6	83	57.9	22	15.3	1	6	16	11.1	3	2.0	71	49.5	75	52.3		

U. S. Department of Agriculture, Weather Bureau. Condensed Summary for Month of May, 1910.

A. V. RANDALL, ACTING SECTION DIRECTOR, INDIANAPOLIS, IND.

TEMPERATURE—IN DEGREES FAHRENHEIT.

Section average.	Departure from the normal.	Extremes.					
		Station.	Highest.	Date.	Station.	Lowest.	Date.
37.4	-4.7	Mt. Vernon.....	90°	29	Auburn.....	27°	6 and 14

PRECIPITATION—IN INCHES AND HUNDRETHS.

Section average.	Departure from the normal.	Extremes.			
		Station.	Greatest monthly amount.	Station.	Least monthly amount.
4.04	-0.01	Marengo.....	6.80	Kokomo.....	2.31