urticaefolium, Reichard) or by the rayless goldenrod (*Aplopappus heterophyllus*, (A. Gray) Blake, formerly known as *Isocoma wrightii*, Rydb.), it was observed that excretion of acetone by the lungs and kidneys is a constant symptom of poisoning. Some twenty-four hours after the first symptoms of trembling appear, sick animals begin to excrete large quantities of acetone. The urine becomes strongly acid and reeks of this ketone. It seldom contains albumen, and sugar was observed in two cases only. β-oxybutyric acid and acetoacetic acid have not been found in the urines examined.

EXPERIMENTAL RESULTS

Fifteen cases were studied. Of these, five were sheep poisoned by richweed, seven were sheep poisoned by rayless goldenrod, and three were cattle, one cow and two calves, also poisoned by rayless goldenrod.

All the richweed cases excreted acetone by lungs and kidneys. A quantitative determination of the urinary acetone in one case showed the presence of 24.32 mg of acetone per 100 cc. In two cases samples of blood were also obtained, and these were positive to tests for acetone.

Of the animals poisoned by the rayless goldenrod, acetone was demonstrated in the urine of six sheep that also carried the odor of this ketone on the expired air. In one case a quantitative determination of urinary acetone showed the presence of 34.35 mg per 100 cc. The seventh case showed no symptoms of trembles and probably was not poisoned. At no time did this sheep excrete acetone nor was the urine ever acid. The urine of the three cattle was collected at autopsy and in one case we were fortunate enough to obtain a good sample of blood. All the samples contained acetone.

Blood sugar determinations were made in several cases and showed a large increase in the concentration of glucose. One animal poisoned by rayless goldenrod had a blood sugar concentration of 0.1472 gram per 100 cc; another, poisoned by richweed, had 0.1680 gram per 100 cc. The normal figures for these animals were 0.090 to 0.100 gram per 100 cc.

SUMMARY OF FINDINGS

The findings indicate that animals poisoned by these two plants suffer from an acidosis. The fact that excretion of acetone does not begin until after the onset of the characteristic trembling—whence the common name "trembles" for the disease—suggests that the ketogenesis may be a secondary effect of the intoxication. This is supported by the fact that common remedies for acidosis do not appear to alter the course of the disease.

It is probable that the toxic principles of these two plants are excreted in the milk of lactating animals. The suckling young of animals feeding on these plants may be poisoned and exhibit the characteristic symptoms, such as trembles and acidosis. Consequently, human beings who drink milk or eat butter obtained from cows that have grazed on either of these plants are in danger of being poisoned. Cases of this sort are not rare in districts where the plants are abundant. "Milksickness," as the human disease is termed, occurs especially in the late summer and autumn at a time when trembles in cattle and sheep is also prevalent. In human cases the odor of acetone has been constantly remarked and is considered a diagnostic symptom. Dr. W. E. Walsh, of Morris, Illinois,[1] diagnosed the human disease as an acidosis and recommended the use of sodium bicarbonate as a remedy. The present study supplements this diagnosis with a demonstration that acidosis is present in the cattle disease also.

JAMES FITTON COUCH
BUREAU OF ANIMAL INDUSTRY,
WASHINGTON, D. C.

THE WORLD'S FORESTRY CONGRESS

OTHER international forestry congresses have been held, but that of 1926 was attended by more delegates from more different nations than any other. Fifty-eight different countries were represented at the World's Forestry Congress held at Rome, Italy, from April 29 to May 5, 1926, with some six hundred to eight hundred delegates attending. The leading foresters of Europe were there, with many other well-known experts, economists and scientists—also a few politicians. Naturally, Italy led in number of delegates, most of whom were certified as official. His Majesty, the King of Italy, and Signor Benito Mussolini were present at the opening session at the Teatro Quirinale.

The congress was held under the auspices of the International Institute of Agriculture, in the very beautiful building in the spacious park known as Villa Umberto. The origins of this congress date back to 1922 and to the sixth annual general assembly of the International Institute held that year in Rome. At that meeting it was decided to invite all nations to a conference in Rome in 1926 to consider world problems of forestry, with especial reference to supply and consumption. Prior forestry congresses have been held in Paris in 1900 and in 1913 and others of more limited scope in recent years.

[1] *Illinois Med. J.*, n. s., 15, 422–5, 1909.

NATIONS REPRESENTED

The United States was represented by eighteen delegates, and in addition one from the Philippines. Great Britain had some twenty delegates, foresters from England, Scotland, Ireland, India, Australia, Canada, New Zealand, Cyprus and Africa, eleven of whom were official delegates. And here it may be remarked that the United States suffered from the fact that we had only one official government delegate, while practically every other nation followed a much more liberal policy and sent many official delegates, whether the representatives were officers of their governments or not. Delegates were strictly classified as A, government (or official); B, universities, schools, institutes; C, associations, companies, press; D, private or individuals. Under this system only Class A delegates were accorded high privileges and prerogatives, while Class B received scant recognition, and Class C and D hardly any at all.

Germany, in spite of recent slightly strained relations with Italy, was represented by a noteworthy delegation, headed by Dr. Endres, professor of forestry at Munich. Austria was there. Argentine was represented by its chief inspector of forests, M. Fablet. Belgium, Brazil and Bulgaria were present. Cuba, Chile and Costa Rica had representatives, as well as Denmark. Esthonia and Finland were there, the latter in the person of its director of forests, Dr. Cajander. France had some of its leading foresters, its chief inspector of woods and forests, M. Mougin, while Messieurs Guinier, Pardé, Perrin, Oudin, Buffault, Jagerschmidt, were some of its notable names. France's provinces were also represented. Great Britain had Lord Lovat, R. S. Pearson, director of research, Professors Stebbing and Forbes, and the chief forester of the British Columbia Forest Service, P. Z. Caverhill.

Greece and Hungary, Peru, Persia, Japan, Luxemburg, Lithuania, Mexico, Panama, Holland, Poland, Czecho-Slovakia, Portugal, Rumania, Jugo-Slovakia, Turkey, Uruguay and the Soviet Republic all had representatives. Switzerland took an active part. The Scandinavian peninsula was well represented by Mr. Anders Fjelstad, of Norway, and Professor A. V. Hesselman, of Sweden, who were of "the big five" of the congress.

Italy as host naturally took a leading part. Italy, France, Norway, Sweden and Switzerland were the dominant factors throughout the conference. French, English and German were the official languages. Official interpreters were available at all times.

The English-speaking delegates were unquestionably greatly handicapped by their unfamiliarity with tongues other than their own; this was most strikingly the case with us Americans. Several of the sections conferences were conducted entirely in French and Italian. Not only was the great barrier of language an obstacle in the official sessions, but it served as even a greater wall against social contacts by the Americans with all other nationalities except the British.

There were several forest excursions, the most notable to the Forest of Vallombrosa, made famous by Milton's famous lines. There were several very formal receptions and dinners, and for us Americans a tea at the American ambassador's and a lunch given by the American delegation to the British representatives, which was a real international get-together.

The Italian government played the part of host in a most impressive and pleasant manner, always courteous and affable.

The United States is most fortunate in having as its permanent representative at the International Institute of Agriculture Professor Asher Hobson, who was of invaluable assistance before the congress and throughout its sessions in a thousand different ways to the American delegation. His position at Rome is not an easy one.

Perhaps the outstanding accomplishment of the congress was the decision on world forestry statistics, recognized as the basis of all international forestry progress. The lead in this movement for placing statistics on a firm basis was taken by the British and American delegations, acting in close cooperation, the special sub-committee being headed by Lord Lovat.

Other important resolutions were passed dealing with grazing and forestry, forest damage, popular education in forestry, forest research, legislation, taxation, etc. Broadly, the work of the congress was divided into four sections. There were, naturally, a multiplicity of questions brought up before each of these sections and it was an extremely difficult matter at times to harmonize the widely differing views of different countries; this in part accounts for the extremely general character of some of the final resolutions as passed on the last day.

There were eighteen in the American delegation with one official government delegate, S. T. Dana, president of the Society of American Foresters. There were six professors of forestry, one state forester, five members of the U. S. Department of Agriculture (four from the U. S. Forest Service), four representatives from lumber, pulp or other associations or companies, and two others. Of the Americans, eight were official state representatives, of New York, Mississippi, Michigan, New Hampshire, Wisconsin, Pennsylvania, Oregon and California.

JNO. D. GUTHRIE

PORTLAND, OREGON