tonseed oil (melting point, 40° C.), produced the most satisfactory prolongation of the absorption of intramuscularly injected penicillin.

Increasing the dosage of the individual injection not only heightened the penicillin blood levels at any given hour after the injection but also increased the duration of the retention of penicillin in the blood.

It seems probable that a dosage of 1,500,000 units of a very finely ground calcium penicillin of high potency suspended in hydrogenated cottonseed oil (melting point, 40° C.), which can be made fluid under a hot-water tap and dispersed in a disposable syringe, would maintain a penicillin blood level of 0.1 unit/ml. for 24 hours or longer in nearly all cases.

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The Chloride Content of Conifers

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According to two widely used textbooks (*1, 6*), the element, chlorine, is absent in coniferous plants. This erroneous statement apparently is based on a mistaken interpretation of the results of an extensive microchemical survey by Jung (*5*), who used the following reagents for the detection of chlorides in plant sections: (a) 0.5 gram of thallous acetate and 2 grams of glycerol in 7.5 grams of water; (b) 0.1 gram of silver nitrate in 9.9 grams of 10 per cent ammonia solution. The first reagent gave more characteristic crystals than the latter, but was much less sensitive to small amounts of chlorides. He examined qualitatively 604 species of plants from 389 genera, representing 137 families. In 5 of 18 species of conifers tested, chlorides were present in traces. Other species were consistently negative in their reaction, so that the conifers were included in a class of plants designated as "salt-shunning."

Thus, Jung's data on the chlorides of conifers contradict the textbook generalizations. In addition, the following quantitative chemical analyses show that many conifers contain chlorides:

Wolff's tabulations (*9*) show chloride analyses for *Pinus Laricio austriaca* (=*P. nigra austriaca*) and for *P. Abies* (*Abies excelsa*) (=*Picea Abies*). Robinson, Steinkoenig, and Miller (*7*) found the following percentages of chlorides (dry-weight basis): shortleaf pine (*P. echinata*) needles, 0.11; stems, 0.05; longleaf pine (*P. palustris*) needles, 0.13; stem, 0.09. Harris and collaborators (*2*) measured the chloride content, reported as grams per liter, of the expressed saps of the following conifers: *P. flexilis*, 0.4; *Pseudotsuga mucronata* (=*P. taxifolia*), 0.7; *Juniperus utahensis*, 0.2–1.5. Wherry (*8*) has reported analyses for chlorides in the pitch pine (*P. rigida*). According to a personal communication, the greater part of the samples consisted of needles, with the inclusion of not more than 3–4 cm. of stem. A sample of pitch pine from a Coastal Plain woods in New Jersey contained 0.67 per cent chlorides in the ash, equivalent to 0.02 per cent fresh weight. The corresponding figures for a sample from a serpentine-barren soil in Pennsylvania were 1.44 and 0.03 per cent. Jessen (*4*) fertilized larch (*Larix europaea*), spruce (*Picea Abies*), and pine (*P. sylvestris*) plants with increasing amounts of KCl in one series and of K_2SO_4 in another series. In sand cultures marked injury resulted as the chloride content of the fertilizer was increased; chloride injury was much less evident in the forest-soil series. No injury was noted in the K_2SO_4 series except to one-year spruce transplants. To illustrate some of the figures for the chloride content (based on the dry weight of the whole plant) one-year-old unfertilized spruce trees (sand culture) contained 0.37 per cent Cl; fertilized with the maximum addition of KCl, the percentage increased to 2.09, as compared with a figure of 0.34 per cent Cl for the maximum addition of K_2SO_4. In limed forest-soil cultures, the chloride content of unfertilized spruce seedlings varied from 0.12 to 0.17 per cent; when the maximum amount of KCl was added, the chloride content increased to 0.36–0.38 per cent.

TABLE 1

Chloride Content of Healthy Shortleaf Pine Needles and of Needles in Different Stages of "Little-Leaf" Disease

Needles	Per cent chlorides (dry weight)	Average chloride content per needle (μg.)	Average dry weight of needles (mg.)
Healthy	0.069 (40)*	16.4 (25)	22.5 (25)
Diseased	.119 (28)	11.3 (15)	11.6 (13)
Difference	.05	5.1	10.9
Standard error of difference	.0106	1.885	1.441
P	<0.001	~ 0.01	< 0.001

* The numbers in parentheses represent the number of samples measured.

In connection with the problems of "little-leaf" disease in *P. echinata* (*3*), the present authors have analyzed 68 samples of needles for chlorides. These samples were collected from 15 different localities in six southern states. The needles were taken in 1942 from the middle of the crown of the trees from growth

made in 1941. The method of chloride determination was the second official volumetric method described on pages 135–136 in the "Official Methods" (*10*). Two-gram samples of previously dried needles were analyzed in duplicate. The average weight of needles was obtained by weighing samples of 100 needles to permit the calculation of the average absolute amount of chloride per needle.

The data, summarized in Table 1, show that the average percentage of chloride was higher in the samples of diseased needles, but that the corresponding absolute amount of chloride per needle was less in the diseased needles because of their smaller average weight. There appears to be no obvious connection between the "little-leaf" disease in shortleaf pines and the chloride content of the needles.

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News and Notes

AAAS Meeting Notes

The American Microscopical Society will meet with the AAAS in Boston on 26–27 December 1946. The Executive Committee Luncheon will be held at 1:30 P.M. on 26 December at the Statler Hotel, in a room to be announced. The annual meeting of the Society will be called to order in the Hancock Room of the Statler at 4:00 P.M. on Friday, 27 December. Officers of the Society hope for a large attendance of members at this meeting, since certain amendments to the Constitution are to be voted upon at that time.

The Biometrics Section of the American Statistical Association will participate in the meetings of the AAAS, to be held in Boston, 26–31 December 1946. A symposium, sponsored by the Biometrics Section and the Atlantic Fishery Biologists, will be held on Friday morning, 27 December, to discuss the biometric aspects of fish populations. The Friday afternoon session, which will be held jointly with the Ecological Society of America, will deal with the use of mortality table techniques in studying biological populations. Two joint sessions with the Institute of Mathematical Statistics, scheduled for Saturday, will be devoted to a discussion of analysis of variance in biological problems. The Sunday program will consist of two sessions of contributed papers in which both members and nonmembers are invited to take part. Anyone wishing to contribute papers at these sessions should notify Dr. D. B. DeLury, Box 551, Blacksburg, Virginia.

Members wishing to be certain of hotel reservations for the Boston Meeting should make them early. A blank for this purpose will be found on page 9 of the Advertising Section in this issue.

About People

Howard A. Meyerhoff, executive secretary of the AAAS, resigned on 30 October to become a member of a survey party interested in the minerals of the Argentinian Andes. Dr. Meyerhoff, who is on leave of absence as professor of geology from Smith College, expects to be in Argentina for the next six months. He is well known to *Science* readers through his analyses of the legislative situation surrounding the proposal for a National Science Foundation. Shortly before he left he was officially cited by the Board of Directors of the American Psychological Association for his good work in attaining a "realistic compromise."

Theodore Freiser, formerly with the Mellon Institute, was appointed instructor in analytical chemistry at the University of Pittsburgh beginning with the fall semester.

George A. Kelly, formerly of the University of Maryland, has been made professor of psychology at The Ohio State University.

Wayne G. Norton, Eastman Kodak Company, Rochester, received the Adolph Lomb medal from the Optical Society of America on 4 October at the Society's 31st annual meeting at the Pennsylvania Hotel, New York City. The award, made possible by a fund left by Adolph Lomb, treasurer of the Society from its founding until his death in 1932, is made annually "to a person under 30 years of age who shall have made a noteworthy contribution to optics." Mr. Norton, who is 27, was graduated from the University of Rochester in 1941 and has been employed by the Eastman Kodak Company since that time. During