

importance of correlating condition of shoot material from which metabolites are to be obtained and of seed to be assayed with the states in which they occur in the field at the normal time of seed germination cannot be overemphasized.

Species differed from each other in susceptibility to the extracts tested, indicating the probability of many complexities among interactions in the natural community.

Soil microorganisms were not generally implicated by these experiments, but presence of soil, *per se*, afforded protection against *Sedum* extract to *Leavenworthia stylosa*, one of its co-dominants in Zone I. Metabolites capable of inhibiting germination in associated species, in most cases, were heat-stable or were convertible during autoclaving to other inhibitory compounds. While autoclaved extracts for the most part remained inhibitory, the fact that species susceptibility, in some cases, was not the same to autoclaved and to non-autoclaved extracts suggests that the initial inhibitors had been altered by heat. Similar kinds of differences with respect to filtered sterile extracts suggest differing interactions of extracts and of species with microorganisms.

Investigation of allelochemic interactions in cedar glade communities is being continued, concentrating

upon interactions of a few species at a time and upon identification of inhibitory metabolites, so that studies on mechanisms of inhibition may be undertaken.

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ABSTRACTS OF PAPERS PRESENTED AT THE SPRING COLLEGIATE MEETINGS

EASTERN REGION CARSON-NEWMAN COLLEGE. JEFFERSON CITY

"A Preliminary Study of Factors Affecting Choice of Drinking Water." Patrick Stone, Bryan College. Six samples of drinking water were chosen from the following sources for analysis and taste preference: distilled water, spring water, well water, Chattanooga city water, Dayton City water, and a commercial, bottled water. Analyses showed the distilled water lowest in chemical content, the spring water next, the well water intermediate, the two city waters relatively high, and the bottled water the highest. A panel of 10 people tasted the water samples daily without knowledge of the source. It was found that most consistently chose the water they were accustomed to (Dayton water) and the Chattanooga city water most nearly like Dayton water. Well water was chosen very frequently also. The extremes in ion-content were generally avoided: i.e. spring water, distilled water, and the bottled water. When the people were told the source of the water, however, their preference changed dramatically and the spring water was chosen over the well water; but well water was a strong second preference. It was concluded that people generally, without knowledge, choose the water they normally drink; but that they reverse this choice, with knowledge, due to a strong identification of spring water with purity.

"A Comparison of the Physiological Effects of Lead Nitrate and Radioactive Lead Nitrate on the Male White Rat." Stephen Johansen and David Eldridge, Bryan College. Sixty-day old male rats were placed on a normal diet of pelleted food and fed 5 parts per million of lead nitrate and radioactive lead nitrate in their drinking water. (Two rats were placed on each type of lead, and two were tested as controls). Upon dissection and examination of subjects at 2 and 4 weeks intervals, the following results were obtained. The rats on ordinary lead nitrate showed basophilic stippling of the red blood cell,

previously reported by other investigators; those on radioactive lead showed less stippling, but an apparent destruction of the muscles in the stomach. The subjects on radioactive lead showed more shedding of hair than the other two groups; but there were no other gross differences observed. A count of the activity of the urine indicated that much of the radioactive lead was excreted, but due to difficulty in analyses of small samples, no check on the quantity of plain lead was possible. Other investigators have reported that possibly less than 1-10% of ingested lead is retained by humans.

"A Comparison of the Effects of Lead Nitrate and Radioactive Lead Nitrate on the Female White Rat." David Giesel and Phillip D. Swaffors, Bryan College. Female white rats were placed on a normal diet, with 5 parts per million of lead nitrate and radioactive lead (two of each) and two were tested as controls. After 2 weeks one from each group was dissected. The basophilic stippling and destruction of stomach muscles was observed, as with the male rats tested. The lead solutions seemed to affect the female adults more severely than the younger males, tested above. One of each of the subjects were exposed to males and the rat on radioactive lead produced a normal litter of 10 young. The subject on plain lead was dissected, when she failed to breed. A large growth was found on a lower lobe of the liver, penetrating the organ and appearing on the other side.

"A Preliminary Investigation of the Effects of Birth Control Pills on the Norway White Rat." Craig Kirkpatrick and Sandra Harris, Bryan College. Considerable research has been done on the effects of the androgens (male hormones) when administered to the female white rat. However, little information is available on the effects of female hormones when administered to mammals other than the primates. This study was not undertaken with the intent of determining the proper dosage or cycle of dosages necessary to render the female rat unable to breed. The purpose was to investigate the effects of these hormones on a mammal having an estrus cycle, and to see if