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DOSE- AND TIME-DEPENDENT CHANGES IN SPIDER WEBS AFTER DIAZEPAM AND PHENOBARBITAL. Peter N. Witt and Charles F. Reed.* N. C. Department of Mental Health, Raleigh, N. C. and Temple University, Philadelphia, Pa.

When 10 mg/kg diazepam were given per os to spiders, webs were built 12, 24, 36 or 48 hours later with a significantly (0.01 level of confidence) smaller number of spiral turns than controls. 100 mg/kg produced additional significant decrease in the number of radii, total length of thread expended, and an increase in mesh size variation. Measurement of thread pulled from the ampullate glands after diazepam indicated that, though the full amount of silk was in the gland, the spider had expended only part of it during web construction. 200 and 400 mg/kg diazepam interfered with exact placement of some threads, causing a significant decrease in angle regularity. - 10 mg/kg phenobarbital per os already affected significantly all size measures and several regularity measures 12 hours after application; the spiral, however, was only after 1 g/kg less regularly spaced. It is concluded that phenobarbital is in spiders a more potent drug than diazepam. Dose- and time-dependent effects (consisting in decreased activity followed by diminished accuracy) can be quantitatively demonstrated for the two sedative drugs with the spider web test. (Supported by a grant from N.S.F.)