

It is generally thought that the thermo death point of cotton seed is about 80°C., but the writer finds that the temperature which cotton seed can endure without affecting the vitality of the seed depends upon several factors. First, the amount of moisture present in the seed; second, whether heated in dry or moist atmosphere; third and perhaps the most important, whether there is oxygen present during the process of heating. If cotton seed containing a normal amount of moisture are placed in water at 70° to 80° C. the life of the seed will be destroyed. On the other hand if the cotton seed are thoroughly dried at low temperature, they can then be heated for ten to fifteen minutes at 100° C. in a dry atmosphere without affecting the vitality. But this treatment destroyed only a small percentage of the fungus. We have found that by thoroughly drying and heating cotton seed in a vacuum or any inert atmosphere, such as nitrogen, to prevent oxidation of the fats and proteins in the seed they will endure the temperature of boiling water for hours without affecting their vitality.

In fact we have heated the seed of Weber 49 variety of cotton for 26 hours without impairing their vitality and by this treatment have completely destroyed the fungous anthracnose. The seed so treated have a much higher percentage of germination than the untreated seed. Very highly infected seed of the Weber 49 variety were used in all our experiments. We are applying our method of treatment to other varieties of cotton seed and diseases carried by seed of other crops.

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MISUSE OF THE WORD "CREATION" BY NATURALISTS

THE word *creation* is sometimes used by naturalists in a sense that is not only inaccurate but which, even from the standpoint of the author's own belief, is actually misleading. I refer to its application to the *mode of origin* of animals or plants in a state of nature.

Such use of the word is objectionable for two reasons: (1) It implies a sudden coming into existence, ignoring ancestry; (2) it implies the

act of a superior power, for how can there be a *creation* without a *creator*?

The proper meaning of the word as defined by leading lexicographers would seem to be free from ambiguity. Webster's definition is, "To bring into being; to cause to exist, said especially of the divine fiat by which the world is regarded as brought into being out of nothing." Similarly, the Century Dictionary definition is, "To bring into being; cause to exist; specifically to produce without the prior existence of the material used, or of other things like the thing produced; produce out of nothing." Both authorities take their first example from the Bible:

In the beginning God created the heaven and the earth.

In reference to the origin of living organisms, does it not go without saying that the words *creation* and *development* (or *evolution*) convey diametrically opposite meanings—the one implying a sudden origin independent of ancestry; the other a gradual development from an antecedent form? Then why should one use *creation* when he means *development* or *evolution*?

In connection with the phantom of creation it may not be amiss to mention that the Mosaic conception of the origin of man as a definite act of a creator finds a close parallel in the beliefs of certain of our North American Indians. Thus, a California tribe holds that man was created by three deities—the Coyote, the Bear and the Lizard. Coyote wanted man to be fashioned after himself; Lizard objected, insisting that man should have five fingers like himself, so that he could take hold of things; while Bear maintained that man should have large flat hind feet in order that he might stand erect. So they compromised, Bear giving man his hind feet, Lizard his five fingers, Coyote his mental alertness.

This, like the Mosaic conception, pictures man as the result of a definite and deliberate act of creation. The circumstance that the Mosaic belief is monotheistic, the Indian belief polytheistic, is of no consequence from the standpoint of man's origin, both agreeing that he was created out of raw materials by a pre-existing deity or deities.

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