Health Service of Ecuador has described (*9*) the isolation of Venezuelan equine encephalomyelitis from *Culicoides*. The outbreak in Ecuador involved both men and horses.

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Effect of Gravity on Flowering of Soybeans

The antagonistic effects of synthetic auxin on the flowering of short-day plants have been demonstrated by numerous workers. High levels of natural auxin within plants have also been shown to delay flowering. Fisher and Loomis (*1*) and Fisher (*2*) suggested that high concentrations of naturally produced auxin at the lower nodes of soybean are antagonistic to floral induction. They found that, with plants on long photoperiods, flowering could be induced earlier by removing young, auxin-producing leaves after 3 to 5 trifoliate leaves had fully expanded. The complete loss of auxin-producing tissue through detopping, however, allowed active vegetative growth of the axillary buds. Such growth gave rise to high auxin levels at the lower nodes, thereby markedly delaying flowering.

Van Overbeek and Cruzada (*3*) showed that pineapple plants that were tipped on their sides flowered earlier than those that were grown upright. Pineapples do not behave like most short-day plants, since in them auxin has been shown to induce, rather than to inhibit, flowering (*4*). Apparently, then, the high auxin content in the apex of the horizontally grown plants induced earlier flowering, the auxin being concentrated in the apical regions by gravitational force. It was therefore thought that in soybeans, plants that begin to flower at the lower nodes, a similar method of growth might also cause an accumulation of auxin at the tip and subsequent lower auxin levels at the basal nodes, which would allow earlier floral induction.

Flambeau soybeans, on 18-hour photoperiods, were treated as follows: (i) in a control series, plants were allowed to grow normally; (ii) to make the plants grow downward, lead weights were placed around the stems near the tips of plants that had two mature trifoliate leaves; and (iii) lead weights were placed around the stems, near the tips, as in treatment ii, but vegetative suckers were removed as soon as they were 1 cm long. As the tips grew, the lead weights used in treatments ii and iii were moved toward the apex on the inverted stems. By the time seven or eight trifoliate leaves had fully expanded, 25 g of lead was required to keep the tips of the plants from turning upward. As the plants became older, the tips of the stems showed symptoms typical of the injury induced by an excess of externally applied auxin. Cellular enlargement and proliferation in the cortex were marked. The leaves continued to position themselves normally, resulting in a twisting of the petiole close to the stem. Enlargement of the petiole was pronounced in leaves that appeared after the sixth leaf was mature. Suckers usually grew from nodes 2 and 3.

Inverted plants flowered earlier and at lower nodes (Table 1) than the controls. Removing the suckers from the inverted plants stimulated the earliest flowering.

Table 1. Flowering of Flambeau soybeans on 18-hour photoperiods.

Treatment	Percentage flowering (days)					Lowest flowering node
	45	50	55	60	65	
Control	0	0	0	58	100	6.9
Inverted	0	44	55	78	100	4.7
Inverted, suckers removed	22	67	78	100	100	4.0

These data show that flowering in soybeans can be geotropically influenced, and they provide further support for a theory of auxin control in flowering. Apparently the accumulation of auxin in the tip region, through gravitational force, caused a reduced level of auxin at the basal nodes, and thereby induced earlier flowering (*5*).

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Triplet States of Biologically Active Molecules

In a recent communication concerning the probable importance of excited-state mechanisms in biological systems, and in particular the role of triplet-state energy transfer in oriented or partly oriented aqueous media, A. Szent-Györgyi (*1*) suggests that the mode of action of many drugs may involve interference with energy-transfer processes. As evidence for this possibility, Szent-Györgyi cites the fact that 2-4-dinitrophenol is physiologically active at similar concentrations to those at which it will quench the phosphorescence of riboflavin; he also cites other very suggestive but not conclusive *in vitro* experiments on the fluorescence of aqueous dyestuffs.

In this connection, I wish to report some observations made in 1953 but not yet published, on phosphorescence from narcotized tissue. We had been investigating (*2*) sensitive methods of detecting carcinogens by low-temperature fluorescence spectroscopy and the *in vivo* conditions of formation of carcinogen-protein complexes. We decided to look briefly at the low-temperature emission spectra obtainable from spontaneous tumor tissue. Aqueous tissue homogenates and ether extracts crystallized in an excess of naphthalene (which provided ordered host material) were prepared, and the emission spectra were observed at 90°K under irradiation from a mercury arc. The samples used were human tumor tissue from 15 to 20 patients. All