Staniforth and Weber (10) evaluated several herbicides used as pre-emergence treatments in row-planted soybeans over a seven-year period in Iowa. Although they obtained good responses with their treatments, yield comparisons from the majority of their tests showed that the herbicides did not greatly enhance the effectiveness of cultivation, particularly when early cultivations were done at shallow depths. They point out that under different weather conditions, with more serious weed infestations, or with poorer cultivation procedures, benefits from the use of herbicides are greater.

In Florida, during July and early August, while the soybean plants are small, conditions are favorable for extremely rapid weed growth. Many of the common weed species on these organic soils respond to high temperatures and rainfall with growth in height in excess of 1 inch per day. Under these conditions, row planting followed by the best mechanical means of cultivation available has failed to give practical weed control. For example, a planting of nearly 1,100 acres of soybeans in the Zellwood area in 1955 was weeded repeatedly, using modern row-crop cultivators. A good yield of beans was produced in the field, but due to the high weed population in the rows, it was impossible to recover more than a small proportion of the beans at harvest time.

A review of the available literature has failed to reveal any information on the control of weeds in soybean specifically in relation to organic soils. Work has been done, however, with soybeans grown on several mineral soil types, using nearly all the presently available chemical herbicides. Working on light sandy soils in Virginia during 1955, Chappell (5) screened 17 different chemicals for their herbicidal efficiency and effects on soybeans. In these preliminary tests several treatments showed promise, including the following: tris-(2,4-dichlorophenoxyethyl)phosphite (2,4-DEP) at 2 pounds per acre; 2-chloro-*N,N*-diallylacetamide (CDAA) at 5 pounds; 2-chloroallyl diethyldithiocarbamate (CDEC) at 5 pounds; sodium 2,4-dichlorophenoxyethyl sulfate (sesone) at 3 pounds; sodium salt of *N*-1-naphthylphthalamic acid (NPA, sodium salt) at 4 to 6 pounds; 2-methyl-4-chlorophenoxypropionic acid (MCPP) at 1½ to 2 pounds; alkanolamine salts of 4,6-dinitro-*o*-*sec*-butylphenol (DNBP, alkanolamine salts) at 6 pounds; sodium pentachlorophenate (PCP, sodium salt) at 16 pounds; and 2-chloro-4,6-bis(diethylamino)-*s*-triazine (chlorazine) at 6 pounds.