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## Plant Hemoglobin

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The development of perceptions through body movement is a right hemispheric phenomenon. Such activities might consist of asking students to pretend they are seeds growing into plants or pretend they are molecules diffusing from a perfume bottle or to pretend they are different sized particles settling in an alluvial basin of a stream. Teachers interested in the holistic mental development of students can obtain help by consulting a series of guides in *Strange and Familiar*, Synectics Educational Systems, 121 Brattle Street, Cambridge, Massachusetts 02138.

### Literature Cited

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### Plant Hemoglobin

Plants die so that man might eat. Now they're also bleeding so that scientists might understand how hemoglobin, the oxygen-carrying molecule in human blood, is made. About 40 years ago, hemoglobin was discovered in the roots of soybean plants, says Dr. Kenneth Nadler, Assistant Professor of Botany and Plant Pathology at Michigan State University.

Human and soybean hemoglobin are chemically different and there are no plans for trying to develop plants to grow blood. But, Dr. Nadler explains, we believe that the hemoglobins are produced by similar types of control mechanisms. If these pathways and controls were better understood, there might be a better chance of dealing with some of the more common types of human anemias and blood diseases.

Plant cells and bacterial cells cooperate, in the soybean plant, in manufacturing hemoglobin which is necessary for supplying the bacteria with low levels of oxygen. The bacteria manufacture the heme portion of the molecule and the plant provides the globin. Because hemoglobin production is split between two cells, it's easier to study the chemical process and control mechanisms involved.

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