

Development of alfalfa as a biofactory for the commercial production of recombinant molecules.

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Medicago is a world leader in plant-made pharmaceuticals, specializing in the transformation of alfalfa into a living factory to produce high-value active molecules. Medicago is committed to provide a cheap, biosafe and renewable source of recombinant molecules for use in the biopharmaceutical, cosmaceutical and processing industries. The current forecast is that bioactive molecules will occupy 15-20% of the whole pharmaceutical market in 5 years from now, representing a market value of 50MM\$ with 15MM\$ for the manufacturing part only. Alfalfa (*Medicago sativa*) has been chosen for its perennial characteristics, its high protein content, and numerous environmental benefits. Since its incorporation in 1997, Medicago is conducting R&D activities to establish its technology platform. Medicago's efforts have focused on the development of proprietary expression cassettes, alfalfa transformation technologies, biomass production capacity, recovery, and quality control processes. These efforts have generated a strong IP portfolio, several scientific publications and the establishment of important strategic alliances and partnerships. In 2001, Medicago has entered its manufacturing phase following the signature of its first commercial prototype development contracts. Our goal is to increase to 15 the number of prototype development projects in 2002. Medicago plans to increase its R&D workforce from 20 to 30 employees with major goals of increasing productivity, reducing the time from gene to plant, reaching optimal product conformity, building capacity for larger scale, satisfying regulatory requirements and further strengthening FTO and IP position.