

## **SUPPLY CHAIN MODELS FOR SMALL-SCALE AGRICULTURAL BUSINESS**

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### **ABSTRACT**

Small-scale agricultural production enterprises have been under immense economic pressures for many years. It is our belief that, a convenient impact can be made on small farm business, through the development and application of models that address their basic needs and open new markets and production initiatives. In this paper, we develop models for supply chain issues facing small farmers, solve them, and suggest their uses and future examination. We evaluate key strategic decisions such as whether to farm cooperative agreements with other farmers and if so, how large to develop the cooperative and the production quantities at which farmers would like to sell directly to customers, with or without using the cooperative.

**KEYWORDS:** OR in agriculture, Supply chains, Cooperatives & Optimization