

## **Simple Rules: Mechanization for Higher Labor Efficiency**

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In the Northeast, a fruit business can grow as big or as profitable as anyone can imagine. This is a place in the world where almost perfect environmental conditions produce high quality fruit for a large population market so close by. The career path of being an apple grower (whether you are a next generation fruit grower, a new comer, or a talented and already well recognized fruit grower) is one of the greatest professions of hard outdoor work. It requires having the right horticultural skills to succeed in the fruit business, but in addition you have to choose, implement, and execute good business strategies and you have to attract and hire the right group of people.

In the last few years I have tried to urge you to focus on orchard efficiency. I have also mentioned how critical the employees you hire are for the success of your business. I describe this by explaining you what I have called the ‘Pyramid for Efficiency and Profitability’ which is supported by you and the people in your team.

Because my unusual background has allowed me to see, compare, and connect things in a different way, please let me give you some examples by comparing typical South American fruit operations from Chile, Argentina, or Brazil and typical Northeastern fruit operations from New York, Michigan, or Pennsylvania. In the first case, the South American fruit operations are generally larger and corporate in nature, while here most of the operations are smaller and family run business. A Brazilian, Argentinian, or Chilean owner is less involved in the day-to- day operations, while here you are more or fully involved. In general, South American fruit operations have more technical support (technicians, agronomists) and more consultants involved such as University professors or private consultants, while here you have less technical support and fewer consultants involved. Hand labor is more available and cheaper in South America, while here labor is less available and more expensive. For example an average Chilean or Brazilian orchard worker can pick 3 bins per day, while here your pickers whether from Jamaica or Mexico can pick 5-6 bins per day. Therefore, a typical South American fruit grower is currently “less ready” to improve orchard efficiency and also his or her employees! So what about you? Are you ready to improve your efficiency?

Progressive US apple growers have been changing from big apple trees on seedling rootstock planted at large distances to more intensive planting systems (mainly on M.9) motivated by the economic need to modernize their fruit growing operation. They look for earlier yields after renewing the orchards, for better fruit quality, and for lower production costs compared to the traditional systems. Many of them are now in a position to take advantage of labor saving ideas

and improve labor efficiency because they have the proper high-density orchard while other growers who have not been modernizing their orchards can't improve efficiency very much.

*What makes an orchard exceptionally good for improving efficiency?* It is one, which allows for implementation of partial mechanization for production of high quality fruit (a kind of assembly-line future for fruit production). The more complicated you make the tree in terms of making decisions, the harder the system becomes for you and your workers. With a very simple training system, workers have to make few decisions. A very simple training system also makes the fruitlets, branches, and fruit very accessible to workers for hand thinning, pruning, or harvest. Pruning is perhaps the best example I can use to explain this "simplicity" factor. Simple pruning rules make it easier for workers to be efficient in the orchard. Complex tree architectures create many possible courses of action for pruning, which can confound workers. When workers are faced with a superabundance of pruning cut alternatives, workers are afraid of making the wrong choice. As a result workers delay the pruning cut decision, default to the safest "obvious" cut, or avoid choosing altogether. Your pruning crew ended up being less efficient. They work harder not smarter.

Today our economy and the uncertainty of a skilled and reliable labor source force you to balance two conflicting but equally important demands for success at a critical moment in this country: (1) **efficiency**, which comes from exploiting standard opportunities and (2) **flexibility**, which allows a US fruit grower to seize unexpected opportunities. It is a challenge because being a NY fruit grower demands a lot of your own personal and family time. Moreover, it is something you do outdoors expecting to make a profit in one of the few US industries "without a roof". Simply, it is a huge challenge and a very risky thing if you commit horticultural or business management mistakes. So ask yourself some tough questions. What is your goal as a fruit grower? Do you want to be among the best Northeastern fruit grower producer? Do you want to grow, pack, and sell your own fruit? Do you want to be fully vertically integrated? Do you want to produce fruit cheaper than others? Do you want to increase per-box returns by producing high quality fruit? Once you define your business strategy, avoid wasting time shuffling through piles of papers or tools, and keep your desk, truck, shop, and ultimately, your orchard well organized, prioritize a list of the tasks to carry out through the day, the next week, the next month, the coming season, the next year. Envision where you and your family want to be the next 5, 10 years. Prioritize the national and international educational conferences and tours you attend. Be smart and strategic when shopping for "variety clubs", "new technologies", or the "next big idea". Try working in a team, allotting tasks to co-workers, family members, and other helpers if possible. Have effective communication "change the focus from a top-down distribution of information" to a "bottom-up exchange of ideas" with your key employees. Plan cautiously to make sure a job is done properly the first time around.

Hopefully I have infused you with the mindset that allows improved efficiency and greater profitability. As with most things worth having, a culture of efficiency doesn't just happen. It takes work. But the payoffs are priceless.

**Note:** Some apple growers consistently perform orchard tasks efficiently and on time while other seemingly similar apple growers struggle and are less efficient. The presentation will highlight practices of innovative NY fruit growers to work more efficiently in high-density orchards. Through the use of more than 20 mini-videos I will show how anyone equipped with the right orchard tools and/or platforms can work efficiently in a modern high-density apple orchard. The presentation will cover topics from apple tree nursery production to apple harvest to show how NY apple growers are working to reduce labor costs through the use of partial mechanization of orchard tasks.