

Figueroa, Enrique E.

Working Paper

An Analysis of the Effects of the Immigration Reform and Control Act of 1986 (IRCA) on Seasonal Agricultural Service (SAS) Crops in New York State

Staff Paper, No. SP 93-05

Provided in Cooperation with:

Charles H. Dyson School of Applied Economics and Management, Cornell University

Suggested Citation: Figueroa, Enrique E. (1993) : An Analysis of the Effects of the Immigration Reform and Control Act of 1986 (IRCA) on Seasonal Agricultural Service (SAS) Crops in New York State, Staff Paper, No. SP 93-05, Cornell University, Charles H. Dyson School of Applied Economics and Management, Ithaca, NY, <https://doi.org/10.22004/ag.econ.121329>

This Version is available at:

<https://hdl.handle.net/10419/276881>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

CORNELL
AGRICULTURAL ECONOMICS
STAFF PAPER

**An Analysis of the Effects of the Immigration
Reform and Control Act of 1986 (IRCA) On
Seasonal Agricultural Service (SAS) Crops In
New York State**

**by
Enrique E. Figueroa**

April 1993

A.E. Staff Paper 93-05

Department of Agricultural Economics
Cornell University Agricultural Experiment Station
New York State College of Agriculture and Life Sciences
A Statutory College of the State University
Cornell University, Ithaca, New York, 14853

It is the policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, age or handicap. The University is committed to the maintenance of affirmative action programs which will assure the continuation of such equality of opportunity.

AN ANALYSIS OF THE EFFECTS OF THE IMMIGRATION REFORM AND CONTROL ACT OF 1986 (IRCA) ON SEASONAL AGRICULTURAL SERVICE (SAS) CROPS IN NEW YORK STATE¹

Enrique E. Figueroa²

INTRODUCTION

New York is a major producer of SAS crops and ranks among the top five producing states for eleven SAS crops.³ The State is the number two producer of apples; ranks third in grapes, sweet corn, and tart cherries; is fourth in cauliflower, green bean (processed), pear, and strawberry production; and ranks fifth in celery, green peas (processed), and sweet cherries. In 1991, the farm gate value of New York fruit and vegetable production was \$442 million.⁴ While some crops have declined since 1986, the production and value of many crops has increased and the author expects the increases to continue.

Farm workers in SAS crops in New York have historically migrated from the South, come from Puerto Rico, or have been brought under the H-2/H-2A program. The apple industry has been the only sector to utilize H-2/H-2A workers in substantial numbers. The fresh market vegetable industry has relied more on the same returning migrants year after year. Conversely, Puerto Rican (off-shore) workers have been hired by processed vegetable producers and by the processed apple industry. However, since 1987 the influx of Mexican, Mexican-American, and Central American farm workers has increased significantly, particularly in central and western New York. Though farm labor contractors (FLCs) have also increased their presence in the farm labor market in New York, they are not as prevalent as in the rest of the country. Most of the labor hired through FLCs works in the apple industry and/or in the larger vegetable producing farms.

¹-- Paper presented at the WRCC-76 Conference on Immigration Reform and U.S. Agriculture, Economic Research Service, United States Department of Agriculture, Washington, DC., March 29-30, 1993.

²--Associate Professor, Department of Agricultural Economics, Cornell University, Ithaca, NY, March 1993.

³--Because of a lack of data, the paper excludes environmental horticulture crops.

⁴--Excluding potatoes.

As like most other states, information and/or data on farm labor in New York is lacking. The State Department of Labor has very little data on the number of migrant workers and no data specific to workers on SAS crops. To ameliorate the data shortcoming, this paper will present data collected by the author directly from NYS vegetable producers. The survey is the first attempt to collect data on how vegetable producers have adjusted to IRCA. Also, the experience the author has collecting data from NYS apple producers leads him to conclude that it is very difficult to survey this industry, particularly on matters concerning farm labor. It would be safe to say that current data should be viewed with skepticism and certainly should be scrutinized.

The policy arena surrounding farm labor in NYS has changed somewhat since IRCA. Two reports commissioned by the Governor's office have evaluated and issued recommendations concerning farm labor policy. The crux of the issue, as in other parts of the country, is implementation of statutes covering farm workers. The right for collective bargaining by farm workers as yet does not exist in New York, but a Governor's Task Force Report recommended that farm workers be given such a right. Conversely, many producers of SAS crops complain about entities such as Legal Services, Rural Opportunities Inc., and the federal Department of Labor, to name a few. The complaints fall under various categories, but many are a result of mis-understanding or a lack of awareness of what the laws allows.

This paper will first present information on New York SAS crop production. The second section will briefly look at technology and trade developments since IRCA. Next, is information on the profile on NYS farm workers followed by an analysis of the farm labor market structure. The paper concludes with an analytical section on the future of SAS crop farm labor in NYS.

I.) STRUCTURE OF SAS CROP PRODUCTION IN NEW YORK

The production of SAS crops in New York has not declined since IRCA. In fact, production has increased in both volume and value for a number of SAS crops. Factors such as the Canadian Free Trade Agreement, exchange rates, the North American Free

Trade Agreement (NAFTA), opening export markets, and other issues have and continue to be more important to SAS crop producers than farm labor. This is not to say that farm labor is not an important issue, but when the SAS industry considers its future, the above issues surface more often than farm labor. Also, the structure and size of the apple industry is considerably different than other commodity industries. The same can be said of the processed vegetable industry. The apple industry commands both political and economic power, whereas the processed vegetable industry is closely associated with processing cooperatives who are experiencing declining demand for their products.

I.a.) The Apple Industry

Table 1 presents both the volume and value of NYS apple production since 1977. Between 1977 and 1986, the average annual production of apples was 760,420 tons while between 1987 and 1991 (last year available) production averaged 677,580 tons. However, 1992 was a high production year and therefore when incorporated into the post-IRCA figure the average will increase. More importantly is the distribution of the apple crop between the fresh and processed market. The average share going to the processed market pre-IRCA was 38.9% while the post-IRCA share is 45.4%. Therefore, since fresh market production requires more labor per ton of production, the total demand for harvest labor in the apple industry has most likely increased. No one really knows. In addition, new planting of orchards are primarily semi-dwarf, dwarf, and/or trellis systems which have more tree per acre. In turn, these systems require more harvest labor per acre.

The industry has relied on H-2/H-2A workers for many years with the eastern NYS more dependent than western NYS. A farm labor coop exists in the Hudson Valley and it recruits many of the H-2A workers for the industry. In western NY, a few FLCs (one large one) have emerged since IRCA and they primarily, if not entirely, serve the apple industry. In addition, an organization named Agricultural Affiliates Inc. has emerged to provide educational seminars or other services to the SAS crop industry--primarily apple producers. The NYS Department of Labor through its field offices works closely with SAS crop producers to keep them informed of new regulations and/or requirements.

The influx of Mexicans, Mexican-Americans, and Central Americans into the apple harvest labor population has been significant post-IRCA. No shortages of labor have been documented and the piece-rate for harvesting apples has declined in real terms. Many of the new entrants into the harvest labor pool have entered through an FLC, a crew leader system, or by word of mouth. Most come just for the apple harvest and then return to Florida, South Texas, or Arizona. Though many in the industry will not say it publicly, in private it is clear that many apple harvest workers are illegal or 'illegally' legal--i.e. possess fraudulent documents. However, the penetration of FLCs into the apple industry is not at the level found in other parts of the country. Lower FLC penetration is because of the relatively small size of many producers and because of the use of H-2A workers.

The apple industry has grown and the forecast is that it will continue to grow--the number of young and non-bearing trees is large. It is clear that the industry is shifting more production to the fresh market and that the eastern and western producing areas of the state are increasingly more integrated. The state market order for apples was barely passed in the last referendum vote and the industry is aware that if the two regions of the state do not work more closely together, the market order will most likely not pass on the next referendum vote--1997. The industry is relatively well organized and the political clout of the industry is significant. However, there are signs indicating the industry is amenable to developing programs to encourage more work related benefits for apple pickers. No doubt, the role of FLCs will continue to increase.

I.b.) The Vegetable Industry

Table 2 presents harvested acreage and the value of production for both fresh and processed market vegetables. On average, 3,000 and 6,000 fewer acres were harvested of fresh and processed market vegetables since IRCA. However, yields for many of the vegetables have increased since IRCA and therefore production has not declined as much as one might suspect. The production value of onions, cabbage, fresh and processed sweet corn, fresh and processed green beans, tomatoes, strawberries, cauliflower, cucumbers, carrots, and processed green peas show a statistically significant value of production growth

trend over the past 16 years. In fact, there is evidence to suggest that the crop mix within the vegetables category has changed to more labor intensive rather than less labor intensive crops.

Table 3 is from a survey the author conducted of NYS vegetable producers during the winter of 1992/'93. Approximately 50% of the sample indicated that the level of mechanization in their farms changed since 1986. As might be expected, the change was greater for fresh market vegetable and multi-market (both fresh and processed) producers. More important is how the producers changed their level of mechanization. Table 4 indicates that the change has, in fact, been towards more mechanization, but the multi-market⁵ producers were evenly split--nearly half increased their level of mechanization while the other half increased their use of labor. For the entire sample, one-in-five producers changed their level of mechanization towards a **greater use of labor**.

Table 5 presents information of how crop mix has changed for NYS vegetable producers since 1986. First, nearly 60%--87 of the 150 respondents--of the sample indicated that they changed their crop mix. The largest shift was to higher value crops, 35%, followed by more labor intensive crops, 27%, and less labor intensive crops, 21%. The reader may think that there are inconsistencies between table 4 and 5, but what appears to have occurred is that respondents increased production, thereby increasing the level of mechanization. However, many also shifted their crop mix towards more higher value and more labor intensive crops, but this rate of growth was likely not as large as the rate of growth towards mechanization. Last year, the value of production of fresh market carrots, celery, cucumbers, strawberries, and tomatoes was the highest of any prior year.

The vegetable industry in New York continued to grow after the passage of IRCA. There was some crop mix shifting within the vegetable category, but it was not entirely to less labor intensive crops. The level of mechanization did increase, but the larger farms had a lower propensity to mechanize after IRCA. Though the largest shift was to higher value crops, wage rates of farm workers did not commensurably increase with the

⁵--It is evident from the survey that the largest producers in the sample are the multi-market producers.

increase to higher value crops. Many of the state producers of vegetables are relatively small producers, hiring less than 10 workers at peak season.

I.c.) Environmental Horticulture Crops

Very little industry-wide data exists specific to New York. Some information regarding the floriculture sector exists, but this sector is not a large employer of workers within the state. The industry has grown since IRCA, but the recession in the Northeast over the past three years has played a much more important role in the industry as compared to labor cost and/or availability. Some of the larger nurseries in the western part of the state have progressively relied more on Mexican and Mexican-American workers since IRCA.

I.d.) Market Channels

The market channels for the products mentioned above follow traditional channels of marketing. However, "the nearness to market" syndrome has caused many producers to not develop and/or join marketing organizations to the extent found in places like California. Also, the direct marketing share of total sales is relatively larger in New York (Northeast in general) as compared to other parts of the country. One positive outcome for farm workers is that many growers grow a diversified set of crops that extend the harvest season and thereby increases the value of a farm worker to an individual grower. Also, a farm worker need not move as much because a diversified grower has more weeks of work for the farm worker.

II.) TECHNOLOGY AND TRADE DEVELOPMENTS

The level of mechanization has already been discussed in section "I.b.)." Therefore, this section will only address trade of SAS crops.

Intra-U.S. trade of SAS products after IRCA is very much a function of the specific crop. For example, lettuce acreage is half of what it was in the early 80s, but strawberry acreage is nearly twice of what it was in the early 80s. A major crop, potatoes, is down

more than 50%, with most of the decline in Long Island. Onion acreage, another major crop, has been stable as has been cabbage acreage. Fresh market sweet corn represents the largest acreage and has increased to nearly 30,000 acres from 25,000 in 1982.

Imports from longer growing season production areas have increased, but the increase has been driven more by supermarket purchasing policies rather than by farm labor related issues. Supermarkets have been more inclined to purchase from sources that can provide year round accounts and therefore New York producers (other than storage commodities like apples, potatoes, and onions) have not been able to compete effectively in this environment. On the other hand, New York has increased its intra-U.S. exports of sweet corn, cabbage, apples, and cucumbers.

Within the last 6 months, the author has led an effort for gaining entrance to the Mexican market with New York apples. New York will most likely ship apples to Mexico during the 1993/'94 shipping season. During the 1991/'92 shipping season, New York shipped significant volumes of apples to Europe because the European crop was very small. However, the shipments during the current season are back to historical norms--i.e. mostly to the U.K. and to the Scandinavian countries. The industry realizes that the volume of future production will require developing new markets. It is hoped that the experience gained by entering the Mexican market will serve to facilitate entrance to other markets.

III.) PROFILE OF FARM WORKERS

As most researchers involved with farm labor know, data on the subject is, at best, very spotty and at worse, misleading. New York State is no exception. No one entity can confidently state the number of migrant farm workers in the state. The figures for "hired farm workers" include such a large number of dairy industry workers that it is difficult to use the figure to discern the number of SAS crop workers. The State Department of Labor either does not have or has chosen to not provide the author with data specific to SAS crop workers (most likely does not have). Social service agencies like Rural Opportunities Inc. and NYS Legal Services have no real handle of their service population (one publication funded by Legal Services estimates that New York had nearly 100,000 migrant workers!).

If absolute figures are not available, then the ethnic composition of SAS crop workers is certainly not available. Therefore, the following information needs to be viewed within the parameters of the situation.

III.a.) Ethnic Composition

The ethnic composition of New York SAS crop workers has changed, but the extent of the change has not been quantified. It is clear, however, that the change has been similar to what has happened in other parts of the country--i.e. to more Mexicans, Mexican-Americans, and/or Central Americans. Over 41,000 (3.4% of total) SAW applicants were submitted by 'residents' of New York, but a large number were considered fraudulent. In addition, SAS crop producers indicate, in private, that many of their current employees are illegal or 'illegally' legal. The author's survey of the NYS vegetable industry found that 25% of the workers were Mexicans, Mexican-Americans, and/or Central Americans. If one excludes H-2A workers, then the majority of the remaining apple pickers are Mexicans, Mexican-Americans, and/or Central Americans. It is clear that by the turn of the century, the harvest labor in NYS will be made up almost entirely of Mexicans, Mexican-Americans, and/or Central Americans. In fact, enclaves of these groups can be found in Rochester, Buffalo, and other cities. Year round living is significantly curtailed by the cold weather during winter months and therefore the establishment of families will not be as rapid as in other parts of the country.

III.b.) Migratory Patterns

The typical migratory pattern before IRCA was for individuals to begin the winter season in Florida and travel up the Southeast and Mid-Atlantic states during spring and early summer and arrive in New York for vegetable work during August and September. Apple pickers generally arrived during late September and stayed until mid-November, but most just came for apple harvest and did not work in vegetable harvesting in New York. Many SAS crop producers have been hiring the same migrant workers for over

twenty years. Direct hiring was and is the most prevalent and dominant form of hiring SAS crop workers.

Now, the pattern is somewhat similar, but the use of crew leaders and FLCs has emerged. Though direct hiring is still the dominant form of hiring--68% in the author's vegetable industry survey-- the use of FLCs and crew leaders has increased sharply in the apple industry. Also, more individuals migrate from Texas and/or Arizona than in the past. In addition, many of the 'new' apple pickers come directly from working in the nursery industry in Tennessee, Kentucky, or The Carolina's. Table 6 provides the distribution of the various hiring categories by NYS vegetable producers during the 1992 season. Though it is still a relatively small share--16.9%-- , multi-market producers are the only vegetable producers utilizing FLCs. Since multi-market producers are relatively larger producers than fresh or processed market producers, it is safe to conclude that economies of scale play a role in encouraging producers to hire FLCs.

Table 7 provides the ethnic distribution of workers hired by NYS vegetable producers during the 1992 season. Combining the information in tables 6 and 7 indicates that multi-market producers hire relatively more Mexicans and Mexican-Americans and therefore many of the workers contracted by FLCs are Mexicans and Mexican-Americans. The majority of the Puerto Ricans were hired by vegetable producers in Long Island. One very large processed market producer skewed the sample because he alone hired 144 "other" workers. For the entire sample, Mexicans, Mexican-Americans, and/or Central Americans represent 1 in 4 workers hired by NYS vegetable producers during the 1992 season. Of the nearly 2,900 different workers represented in the sample (table 8), many are year round employees while others are "local seasonal" workers. Most of these year round and local seasonal workers are most likely Caucasian. Therefore, the "migrant seasonal" workers represented in the sample are mostly Mexicans, Mexican-Americans, and/or Central Americans.

The NYS vegetable producers survey sample represents 59,000 total farm acres, of which nearly 38,000 were planted to vegetables in 1992. Of the 38,000 planted acres, 35,700 were actually harvested. Multi-market producers harvested 12,500 of the

acreage in the sample and the fresh market component of the multi-market category was 17%--2,160 acres. The author will assume that the 808 total workers listed on table 7 under the multi-market category were distributed consistent with the distribution of the acreage. Therefore, 17% of the 808--137 workers--worked in producing fresh market vegetables while 671 worked producing processed market vegetables.⁶ Continuing the process one step further reveals that of the 2,900 total workers in the sample, 2,030 worked producing fresh market vegetables--70%--while 780 worked producing processed market vegetables.

Approximately 18,455 harvested acres--nearly 52%--in the sample were fresh market vegetables. For 1992, the sample represents 27.2% of the total fresh market vegetables acres harvested in NYS and 24.3% of the processed market harvested acreage. Therefore, based on both the worker and harvested acreage sampling rates, the author estimates that during 1992 the NYS vegetable fresh market industry hired 7,463 workers while the processed market producers hired 3,210, for a total of 10,673. This is a conservative estimate because:

- it is strictly based on harvested acreage not planted acreage and therefore planting labor is indirectly left out.
- the sample includes a disproportionate acreage share of less labor intensive SAS crops such as potatoes.

Another section of the survey asked questions concerning the bi-weekly distribution of both hours paid and workers on the payroll. Based on these set of data, approximately 37.5% of the workers were seasonal migrant workers and therefore the author estimates that during 1992, the NYS vegetable industry hired 4,000 seasonal migrant workers. Again, this is a very conservative figure.

Table 9 presents a different approach for computing the relationship between harvested acres and workers. The figures in the table were computed using the average

⁶--Most likely, the assumed distribution is skewed toward the processed market--i.e. a higher proportion of the multi-market workers probably worked producing fresh market vegetables than the derived 137.

number of workers per bi-weekly pay period and represent the 'macro' computations for harvested acres per worker or workers per harvested acre. The figure in the last row, 28.71 acres harvested per all three category workers, when divided into the total harvested acreage in NYS--139,000--yields a figure of 4,842 workers represented by the sample. Assuming the sample represents approximately 25% of all harvested acreage, then this method of computation yields a figure of 19,366 workers in the NYS vegetable industry in 1992. Using the figure in the third row--78.46 acres harvested per migrant workers-- **yields an estimate of 3,170 migrant hired workers in the NYS vegetable industry in 1992.** A more reliable figure is the 4,000 migrant workers hired by the NYS vegetable industry during 1992.

The NYS Department of Labor estimates (ES-223 reports) that at peak season--September 1 to 15--in 1991, the total number of agricultural seasonal hired workers was 13,195. The NYS Department of Education estimated that 10,504 "true migrants" were in New York during 1991 and about half were working in the dairy industry. The Migrant Health Program of New York estimated a total population of "Migrant and Seasonal Farm Workers" (including all dependents) of 30,811 for 1989. Farmworker Legal Services estimates that there are approximately 60,000 migrant farm workers in NYS. The methodologies of the above estimates, with the exception of the ES-223 reports, have not been reviewed by the author.

III.c.) H2-A Workers

Over the past twenty years, the number of H-2/H-2A workers in New York has ranged between 2,000 to 2,500 workers per year and 90% of them pick apples in the Lake Champlain or Hudson Valley. Prior to IRCA, nearly 100% of the H-2 workers picked apples in the two Valleys. Many in the apple industry, including the author, predicted that the number of H-2A workers would balloon after IRCA, but that has not happened. There is some evidence to suggest that some western New York apple producers have switched to H-2A workers, but the numbers are still relatively small.

The important question is whether an H-2A worker program is needed. At this point, the effect of the H-2A program on the farm labor market in New York has been detrimental to farm workers. Since IRCA, the farm labor market in New York had more often than not an over supply of apple pickers. Consequently, wage rates have declined in real terms and the H-2A program looms as a ready source of labor if domestic apple pickers 'cause problems.' For example, last year an apple producer wanted H-2A workers, but the NYS Department of Labor could not certify his application because domestic workers were available to do the picking. The domestic workers were sent to the producer's farm, but after a day the producer 'fired' (or workers resigned, depending on who you ask) the workers because their 'efficiency of picking' did not meet the standards of the producer. After the producer's 'evaluation' of the domestic workers apple picking efficiency, the NYS Department of Labor certified the H-2A application of the producer. This example is perhaps one of the more odious, but it illustrates how the 'spirit' of the H-2A program can be circumvented.

It is clear that one of the intents of IRCA--i.e. improve the working conditions of farm workers--is compromised by the use and abuse of the H-2A program. Producers claim that domestic workers just cannot pick fruit, but at the same time producers are very reluctant to increase piece rates to attract 'better' pickers. The H-2A program affords apple producers a ready and easy to control harvest labor force. The net effect is to signal to domestic workers that the standard by which they will be evaluated is based on foreign workers. Foreign workers that have no real stake in this country nor do they compare their wage rates to U.S. standards.

III.d.) Social Services Available to Farm Workers

This paper will not discuss the social services available to NYS farm workers. The issue warrants much more detail and careful elaboration than the author can provide. However, it is worth noting that Cornell University has the Cornell Migrant Program which is based in the College of Human Ecology. Though the program has a small staff, they are very dedicated to the well being of farm workers and their families. In

addition, Rural Opportunities Inc. has a number of field offices to serve--provide for job training--farm workers. Also, NYS Legal Services has and continues to provide legal services to farm workers. A number of church affiliated programs also provide various forms of social services to NYS farm workers. One growing concern is the lack of bilingual (Spanish-English) staff to communicate with the growing monolingual (Spanish) farm worker population.

IV. LABOR MARKET STRUCTURE AND PERFORMANCE

Since IRCA, the farm labor market in New York is more linked to the national labor market, though it is not yet an efficient market. Clearly, more information and sources of information are available to both the demand and supply sides of the market, but the influx of new monolingual workers contributes to market inefficiencies. The increased role of FLCs and crew leaders has benefited the demand side more than the supply side because of the relative 'unawareness' of the new entrants into the labor pool. However, the majority of SAS crop producers in NYS hire their labor through direct hiring and many producers have a long working relationship with many of their workers.

As stated above, direct hires is still the dominant form of how SAS producers hire their labor force in NYS. However, there are commodity, geographic, market channel, and farm size differences. The apple industry has moved more to crew leader and FLC hiring. To a lesser extent, producers who grow both fresh and processed market vegetables have also used relatively more crew leaders and FLCs as compared the vegetable producers that only grow fresh market or processed market vegetables. Eastern NYS apple producers rely very much on H-2A workers while western NYS apple producers do not. Most, if not all, producers that also have direct market operations hire almost exclusively through direct hires. The larger the farm, the higher the probability the producer will use crew leaders and/or FLCs.

One rationale for the apple industry shifting more to crew leaders and/or FLCs is because the crop value has increased. The shift towards more fresh market apple production coupled with hi-density plantings translates to a higher value per acre. To

minimize the risk of not being able to pick the fruit when it is ready, producers have chosen to increase the probability of having adequate labor--crew leaders and/or FLCs can provide that increased probability. In addition, the ability of both crew leaders and FLCs to have illegals or 'illegally documented' legals increases the supply of labor. Finally, the influx of Mexican, Mexican-Americans, and Central Americans who have limited English speaking skills makes it more difficult for growers to communicate with them. The above rationale can also be applied to the larger multi-market vegetable producers.

Table 10 from the NYS vegetable producers survey ranks the farm labor issues of most concern to NYS vegetable producers. Labor availability is at the top of the list, followed by regulations. The next tier of concerns are paperwork, worker productivity, and cost. Language, transportation, and legal status are the issues of least concern. Availability is interpreted to mean both willing and able workers, be they local or migrants. The fact that availability is the number one concern bespeaks to the real need for good communication between potential workers and potential employers. The NYS Department of Labor may well be served by reflecting on their channels of communication between workers and employers. Nonetheless, the issue may be a real and/or perceived problem by NYS vegetable growers and needs to be addressed.

V. ANALYSIS OF IRCA'S AFFECT ON NEW YORK STATE

The Immigration Reform and Control Act of 1986 clearly did not meet its objectives in New York. There are probably more illegals and/or 'illegally' legal farm workers in New York than before IRCA. Wage rates have not improved nor have living conditions for many farm workers. No real noticeable changes in crop mix--i.e. lower production of labor intensive crops--has taken place and there is some evidence that more higher value and/or labor intensive crops are now grown. The producer community feels overburdened by the paperwork requirements of IRCA as well as other regulations. Though not at the rate as in other parts of the country, the use of FLCs in SAS crop production has increased. A higher percentage of the migrant labor force is made up of single monolingual males. A higher percentage of migrant families are comprised of legal and illegal members of the same

family. The number of H-2A workers has changed little after IRCA even though labor shortages have not been documented and in some years labor over supply has been the case. And, producers and/or producer groups and farm labor advocacy groups have become more combative rather than less.

What went wrong? First, both the pull and push factors leading to illegal immigration did not effectively change after IRCA. Though the Mexican economy has improved, it has not grown faster than the rate of labor force growth. Also, the economies and the political turmoil in Guatemala, El Salvador, and Nicaragua have propelled more of their citizens to seek a better living in the U.S. The increase in consumer demand for SAS crops during the latter part of the 80s maintained favorable economic conditions for SAS growers in the U.S. (foreign growers as well). Employer sanctions and INS enforcement have not been effective and therefore the pull factor(s) have not been abated. The black-market for fraudulent documents proved effective and profitable and FLCs became not only contractors of labor, but also brokers of 'legalization.'

What can be done now? First, some mechanism(s) of how to administer a SAS crop worker benefits package across state borders and across multi-employers needs to be investigated. New York SAS crop producers would consider an employee benefits plan that would allow for a number of employers--i.e. a citrus grower in Florida, a nurseryman in Tennessee, and an apple grower in New York--to contribute to, say, Pedro Gonzalez's health insurance program. Apple producers in New York recognize the need for stabilizing their supply of workers and they also recognize the stabilizing effects of, say, health insurance. The bottleneck is how to administer a program across states and across employers.

Secondly, the H2-A program needs to be phased out. It deters producers from investing in a stable domestic labor force and in the long run the political climate will be such that urban legislators will not support a 'guest worker program' when unemployment exists in the cities. In addition, the H-2A program has exerted downward pressure on wage rates. There has been no evidence of labor shortages--the Replenishment Agricultural Workers was never used.

The NYS Department of Labor needs to embark on a SAS worker data gathering program that is effective and efficient. Currently, policy is based on 'rough guesses' of what the total SAS labor force is in NYS. The producer community is becoming more aware of the need for accurate data and therefore will be more cooperative with state statisticians.

Public, quasi-public, and private farm worker social service agencies need to attract and retain more bilingual--Spanish/English-- staff. The "latinization" of rural America has not taken place in New York as it has in other parts of the country, but the process has begun. The sooner the above agencies get geared up to communicate with their clientele, the better the social service delivery system.

Lastly, all interested parties in NYS need to arrive at the understanding and appreciation that SAS farm labor is different than dairy farm labor. Working conditions, length of employment, manner of compensation, number of different employers, existence (non-existence) of a benefits package, language/cultural difference, and other factors point to very different worker profiles and employee/employer relationships. Programs addressing hired farm worker will fail if they are not designed within the unique parameters of SAS crop employment.

17
SELECTED AND RELATED READINGS

- Barr, D. J., Demarco, A., Feuer, C. H., and Whittlesey, R. L. "Liberalism to the Test: African-American Migrant Farmworkers and the State of New York," Cornell University, Department of Human Services, February 1988.
- Chi, P. S., "Employment and Economic Profiles of Black Migrant Farmworkers in New York and Implications for Future Immigration Policy," Presented at the annual meeting of Rural Sociological Society, Salt Lake City, UT, Department of Consumer Economics and Housing, College of Human Ecology, August 26-30, 1986.
- Chi, P. S. K., White-Means, S., and McClain, J. "Research on Migrant Farmworkers in New York State," Cornell Migrant Program, College of Human Ecology, Cornell University, September 1991.
- Cornell Migrant Program. "Wayne County Migrant Camps by Town," Mapping-J. Revised, Alton, NY, May 1990.
- Daniel, C. E., Barr, D. S., Briggs, V. M. Jr., Engman, H. J., Figueroa, E. E., Gross, J. A., Seeber, R. L., White, G. B., and Edid, M. S. "Final Report: Agricultural Labor Markets in New York State and Implications for Labor Policy," Governor's Task Force on Collective Bargaining for Farm Workers, Industrial and Labor Relations School, Cornell University, Ithaca, NY. May 1991.
- Duffield, J. A. "Estimating Farm Labor Elasticities to Analyze the Effects of Immigration Reform," United States Department of Agriculture, Agriculture and Rural Economy Division, Staff Report No. AGES 9013, February 1990.
- Duffield, J. A., Morehart, M. J. and Coltrane, R. "Labor Expenditures Help Determine Farms Affected by Immigration Reform," United States Department of Agriculture/EERS, Agricultural Information Bulletin, Number 557, April 1989.
- Dullea, H. N. (Chair) and Committee. Report of the Governor's Task Force on Agricultural Employment, Education and Labor Mario A. Cuomo-Governor, New York State, Albany, January 1, 1990.
- Griffith, D., Kissam, E., Runstan, D., Camposeco, J., and Garcia, A. "Assessing the Availability and Productivity of the U.S. Farm Labor Force Under Enhanced Recruitment, Wage and Working Conditions," Second Interim Report to the Office of Policy, U.S. Department of Labor, April 14, 1990.
- Gunter, L. F., Jarrett, J., and Duffield, J. "The Effect of Immigration Reform on the U.S. Production of Labor-Intensive Agricultural Commodities," American Journal of Agricultural Economics Vol. 74, No. 4:897-906, November 1992.
- Heppel, M. L. and S. L. Amendola, eds., Volume I - Immigration Reform and Perishable Crop Agriculture: Case Studies. Center for Immigration Studies, Washington, D.C. 1991.
- Volume II - Immigration Reform and Perishable Crop Agriculture: Case Studies. Center for Immigration Studies, Washington, D.C. 1991.
- Lehmann, J. W., "Migrant Farmworkers of Wayne County, New York: A Collection of Oral Histories from the Back Roads," Wayne County Historical Society. Bicentennial Project. 1990.
- Mamer, J. W., and Wilkie, A. "Seasonable Labor in California Agriculture: Labor Inputs for California Crops," Employment Development Department, California Agricultural Studies 90-6, December 1990.
- Martin, P., and Abele, J. "Unions: Their Effect on California Farm Wages," California Agriculture. Vol. 44, No. 6:28-30, November-December 1990.

- Martin, P., and Miller, G. "Farm Employment and Wage Patterns in the Mid-1980s," California Agriculture Vol. 44, No. 6:16-18, November-December 1990.
- Martin, P. L., and Taylor, J. E. "Immigration Reform and Farm Labor Contracting in California," in The Paper Curtain Urban Institute, pp. 239-261, 1990.
- Mason, R. "Farm Labor Demand for Six Oregon Crops," Agricultural Experimental Station, Oregon State University, Special Report No. 850, December 1989.
- "Productivity Estimates for Alien and Domestic Strawberry Workers and the Number of Farm Workers Required to Harvest the 1988 Strawberry Crop," Agricultural Experiment Station. Oregon State University. Special Report 828, April 1988.
- Mines, R., Gabbard, S. and Boccalandro, B. "Findings from the National Agricultural Workers Survey (NAWS) 1990: A Demographic and Employment Profile of Perishable Crop Farm Workers," Office of Program Economics Research Report No. 1, U.S. Department of Labor, Washington, D.C. July 1991.
- New York, State of. "1990 Directory of Selected Agency Services to Farmworkers," Interagency Coordinating Committee on Farmworkers, Albany, NY, 1990.
- North, D. and Holt, J. "The Apple Industry in New York and Pennsylvania," in Appendix I. Case Studies and Research Reports Prepared on Agricultural Workers 1989-1993 To Accompany the Report of the Commission, pp. 369-443, 1993.
- Oliveria, V. J., "A Profile of Hired Farmworkers, 1990 Annual Averages," United States Department of Agriculture, Economic Research Service, Agricultural Economic Report No. 658, February 1992.
- Rochin, R., Santiago, A. M., and Dickey, K. Migrant and Seasonal Workers in Michigan's Agriculture: A Study of Their Contributions, Characteristics, Needs and Services Julian Samora Research Institute, Michigan State University, Institute Research Report #1, November 1989.
- Runstan, David. "Some Potential Impacts of a U.S.-Mexico Free Trade Agreement on Agricultural Labor." Rural California Report. Vol. 3 No. 1, April 1991.
- Smith, R. "Labor Relations and IRCA in the Pennsylvania & California Mushroom Industries." Rural California Report Vol. 3 No. 1, April 1991.
- "The Social Structure of Accumulation, Immigration Pathways and IRCA: The Construction of Labor Markets in the Pennsylvania Mushroom Industry, 1969-1989," Department of Political Science, Columbia University, January 1990.
- Thompson, G.D. and P. Martin, "The Potential Effects of Labor-Intensive Agriculture in Mexico on United States-Mexico Migration." Commission for the Study of International Migration & Cooperative Development Economic Development. No. 11, December 1989.
- United States Department of Agriculture, "Farm Labor: Number of Hired Workers Down," National Agricultural Statistics Service, SpSy 8 (3-92), March 13, 1992.
- "Farm Employment and Wage Rates: 1910-1990," National Agricultural Statistics Service, Statistical Bulletin No. 822, March 1991
- United States General Accounting Office. "Immigration Reform: Potential Impact on West Coast Farm Labor," Report to Agency Officials, General Accounting Office/HRD-89-89, August 1989.

- "Illegal Aliens: Influence of Illegal Workers on Wages and Working Conditions of Legal Workers," General Accounting Office/PEMD-88-13BR March 1988.
 - "The H-2A Program: Protections for United States Farmworkers," General Accounting Office /PEMD-89-3, October 1988.
- Vernez G. and D. Ronfeldt, "The Current Situation in Mexican Immigration." Science Vol. 251, March 8, 1991.

Table 1: Utilized Production and Value of Production of Fruits In New York, 1977 to 1991

Year	Utilized Production -- Tons	Value of Production
1977	581,200	\$111,217,000
1978	767,450	154,434,000
1979	721,250	160,581,000
1980	771,300	158,175,000
1981	576,050	150,111,000
1982	761,950	150,083,000
1983	783,000	165,327,000
1984	738,850	163,978,000
1985	717,750	114,510,000
1986	646,550	137,796,000
1987	652,850	131,058,000
1988	648,170	151,925,000
1989	666,880	153,669,000
1990	667,800	179,735,000
1991	752,200	200,599,000

Source: New York Agricultural Statistics, New York Agricultural Statistics Service, 1
Winners Circle, Albany, NY 12235. Various issues.

Table 2: Harvested Acreage and Value of Production of Vegetables in New York, 1977 to 1991

YEAR	VEGETABLES			
	FRESH MARKET		PROCESSING MARKET	
	ACREAGE	VALUE	ACREAGE	VALUE
1977	65,300	\$90,000,000	72,900	\$25,000,000
1978	64,900	108,500,000	85,700	28,000,000
1979	67,900	107,300,000	80,700	30,300,000
1980	69,800	156,500,000	76,600	31,600,000
1981	72,200	155,900,000	74,500	33,700,000
1982	71,900	131,600,000	75,700	36,100,000
1983	71,600	179,900,000	73,800	31,700,000
1984	73,700	139,800,000	75,600	33,800,000
1985	72,900	135,600,000	80,500	37,600,000
1986	67,500	167,400,000	65,600	26,500,000
1987	67,700	166,800,000	71,000	30,900,000
1988	64,800	165,700,000	69,400	24,100,000
1989	65,400	176,300,000	70,200	32,300,000
1990	67,700	172,800,000	68,700	36,400,000
1991	67,900	208,400,000	71,100	33,000,000

Source: New York Agricultural Statistics, New York Agricultural Statistics Service, 1
Winners Circle, Albany, NY 12235. Various issues.

Table 3: Vegetable Producers Indicating Their Level of Mechanization Has Changed Since 1986:

Producers	Number of Affirmative Responses	% of Category Response
Fresh Market Producers	56	48.3%
Processing Market Producers	3	25%
Multi-Market Producers	11	55.0%
Total	70	47.3%

Source: Figueroa, E.E., and Curry, P. Department of Agricultural Economics, Cornell University, March 1993.

Table 4: New York State Vegetable Producers Indicating A Change in Their Level of Mechanization, A Change Has Been To:

Producers	More Labor	More Mechanization
Fresh Market Producers	14.3%	85.7%
Processing Market Producers	—	100%
Multi-Market Producers	45.5%	54.5%
Total	19%	81%

* -- Of producers changing to more labor, the average increase was 30%.

** -- Of producers changing to more mechanization, the average increase was 123%

Source: Figueroa, E.E., and Curry, P. Department of Agricultural Economics, Cornell University, March 1993.

Table 5: How New York State Vegetable Producers Have Changed Crop Mix Since 1986:

<i>-- 58.0%, or 87 of 150 respondents, indicated a change --</i>	
To Higher Value Crops	35.1%
To More Labor Intensive Crops	27.0%
To Less Labor Intensive Crops	20.9%
To Less Perishable Crops	13.5%
Other	3.4%
Total	100%

Source: Figueroa, E.E., and Curry, P. Department of Agricultural Economics, Cornell University, March 1993.

Table 6: How New York State Vegetable Producers Hired Their Labor Force in 1992:*

Hiring Arrangement	Fresh Market Producers	Processing Market Producers	Multi-Market Producers	All Producers
Direct Hires	58.6%	85.5%	59.5%	67.9%
Crew Leader Arrangements	7.2%	7.2%	15.5%	9.9%
Farm Labor Contractors	0.7%	--	16.9%	5.9%
Off-Shore Puerto-Ricans	5.0%	--	--	1.7%
H2-A	0.8%	--	--	0.3%
Family Members	19.0%	--	--	6.3%
Other	8.7%	7.3%	8.1%	8.0%
Sum	100.0%	100.0%	100.0%	100.0%

* -- Total Sample: 148 of which 116 were Fresh Market Producers, 12 were Processing Market Producers, and 20 were Multi-Market Producers.

Source: Figueroa, E.E., and Curry, P. Department of Agricultural Economics, Cornell University, March 1993.

Table 7: Ethnic Distribution of Workers Hired By New York State Vegetable Producers in 1992:

Ethnicity	Fresh Market Producers	Processing Market Producers	Multi-Market Producers	Totals
Caucasian	46.3% (877)*	18.4% (35)	29.7% (240)	39.8% (1,152)
African-American	18.1% (342)	0%	5.2% (42)	13.3% (384)
Mexican-American	8.0% (151)	2.6% (5)	12.9% (104)	9.0 (260)
Mexicans	6.1% (116)	3.2% (6)	32.2% (260)	13.2% (382)
Puerto Ricans	11.1% (211)	0%	7.9% (64)	9.5% (275)
Caribbean	3.4% (70)	0%	1.2% (10)	2.8% (80)
Central-Americans	4.0% (75)	0%	2.5% (20)	3.3% (95)
Other	3.0% (51)	75.8% (144)	8.4% (68)	9.1% (263)
Totals	100% (1,893)	100% (190)	100% (808)	100% (2,891)

* -- Numbers of Workers in parenthesis.

Source: Figueroa, E.E., and Curry, P. Department of Agricultural Economics, Cornell University, March 1993.

Table 8: Number of Different Workers Hired by New York State Vegetable Producers in 1992:

Producer Type	Number
Fresh Market Producers	1,893
Processing Market Producers	190
Multi-Market Producers	808
Total	2,891

Source: Figueroa, E.E., and Curry, P. Department of Agricultural Economics, Cornell University, March 1993.

Table 9: New York State Vegetable Producers' Labor Use on a Per Harvester Acreage Basis, 1992:

	Acres
Acres Harvested Per Year-Round Worker	104.033 (0.00958)*
Acres Harvested Per Seasonal Local Worker	86.07 (0.0116)
Acres Harvested Per Seasonal Migrant Worker	78.46 (0.0127)
Acres Harvested Per All Three Above Categories	28.71 (0.0348)

* -- Workers Per Acre Harvested.

Source: Figueroa, E.E., and Curry, P. Department of Agricultural Economics, Cornell University, March 1993.

Table 10: Labor Issues of Greatest Concern to New York State Vegetable Producers:

Issue	Concern Index*
Availability	3.73
Regulations	3.95
Paperwork	4.25
Productivity(Worker)	4.42
Cost	4.46
Housing	7.13
Legal Status	8.41
Transportation	8.56
Language	10.76

* -- 1 = Greatest Concern, 11 = Least Concern.

Source: Figueroa, E.E., and Curry, P. Department of Agricultural Economics, Cornell University, March 1993.

OTHER AGRICULTURAL ECONOMICS STAFF PAPERS

No. 92-15	Sustainable Development and Economic Growth in the Amazon Rainforest	Jorge Madeira Nogueira Steven C. Kyle
No. 92-16	Modifications in Intellectual Property Rights Law and Effects on Agricultural Research	William Lesser
No. 92-17	The Cost of Producing Milk as a Management Tool	Eddy L. LaDue
No. 92-18	The Inefficiency and Unfairness of Tradable CO 2 Permits	Jon D. Erickson
No. 92-19	Environmental Costs and NAFTA Potential Impact on the U.S. Economy and Selected Industries of the North American Free Trade Agreement	Duane Chapman
No. 92-20	Capital Asset Issues for the Farm Financial Standards Task Force	Eddy L. LaDue
No. 93-01	Managing Transboundary Water Conflict: The United States and its Boundary Commissions	David J. Allee Leonard B. Dworsky Albert E. Utton
No. 93-02	Segmenting the Milk Market into bST-Produced and Non-bST-Produced Milk	Loren W. Tauer
No. 93-03	"Economic Correctness" and Agricultural Economics	Ralph D. Christy
No. 93-04	The Effectiveness of Concept Mapping as a Teaching Tool: Evidence from Courses in Applied Economics	Lois Schertz Willett Harry M. Kaiser Deborah H. Streeter Katherine L. Beissner