IMPACTS OF NAFTA ON THE VALENCIA ORANGE INDUSTRIES OF ARIZONA AND SONORA, MEXICO

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The United States Congress approved the controversial North American Free Trade Agreement (NAFTA) on December 17, 1993. With the implementation of NAFTA, there is concern within the California-Arizona citrus industry that the elimination of U.S. import tariffs on citrus will lead to the expansion of fresh orange imports from Mexico, primarily from the state of Sonora.

As perennial fruits, oranges rank only behind grapes in terms of total area planted, volume and value of production in Sonora (SARH). Prior to NAFTA only a small portion of Sonora's orange crop was exported to the U.S., and the remainder was consumed in the fresh domestic market (Donnadieu). Profits per carton sold in Mexico were greater than those earned by Sonoran exports to the United States. However, NAFTA's elimination of U.S. duties on orange imports could increase profits for Sonora's exports to the U.S. and, consequently, could redirect Sonora's oranges from the domestic market to the U.S. market.

While much attention has been devoted to the elimination of tariffs on fresh oranges, there exist equally important issues for orange producers and packers as NAFTA also eliminates duties on production inputs such as cartons and chemicals that Sonoran producers and packers can purchase from the U.S. These changes could decrease production and packing costs for Sonora and potentially further increase the competitiveness of Sonoran oranges in the U.S. market.

Orange growers in Sonora, however, express similar concerns about increased fresh orange imports from California and Arizona. The possibility of easier access to the Mexican market makes Sonora's growers extremely cautious of the impacts of NAFTA. Prior to NAFTA, Mexico ranked fifth in receiving fresh Valencia orange imports from California and Arizona (Valencia Orange Administrative Committee). The fact that Mexico imported so little from California and Arizona (less than two percent of C-A exports in most years) was influenced by the relatively high tariff imposed by the Mexican government on fresh orange imports from the U.S. The planned removal of the twenty percent ad valorem tax on fresh orange imports from the U.S. led representatives of Sonora's orange industry to foresee an expansion of orange imports from the U.S.

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The purpose of this study is to analyze the economic credibility of the concerns expressed by members of the fresh orange industries in both Arizona and Sonora. Of primary interest are the costs incurred and prices received by producers, packers and shippers in Arizona and Sonora. This information can be used to estimate the profitability of fresh Valencia oranges in both areas. These market costs and prices are inclusive of tariffs and other government policy interventions such as taxes and subsidies. The comparison of profits provides an estimate of the competitiveness of the fresh orange industry in each region prior to NAFTA.

In addition, the comparative advantages that Arizona and Sonora have relative to one another are analyzed. Comparative advantages are estimated by observing the level of government intervention in each area's fresh orange industry and verifying the industries' hypothetical profitability without government intervention in the production, picking, packing and shipping of Valencia oranges.

The relative impacts of government intervention in the form of import tariffs by both countries on fresh Valencia imports and on selected production inputs are investigated. The cost of exporting oranges for each region is increased due to tariffs, consequently the profitability of exporting fresh oranges is decreased. The issues of competitiveness and comparative advantage are important, and the arrival of NAFTA has modified the competitiveness in each region. Analysis of the fresh orange industries in Arizona and Sonora, both with and without NAFTA, helps identify potential winners and losers of the agreement.

Mexico's most recent economic crisis became apparent in December of 1994 when the peso was devalued and large amounts of capital left the country. The impacts of devaluation are potentially greater than the changes resulting from NAFTA. The impacts of devaluation on the competitiveness of the orange industries in Arizona and Sonora also are investigated in this study.

NAFTA and Fresh Oranges

Prior to the signing of the NAFTA, Mexico had a 20 percent ad valorem tariff on fresh orange imports. The U.S. had a tariff of 2.2 cents per kilogram, equivalent to approximately an 8 percent ad valorem tax (Ayer). Under NAFTA, Mexico adjusted its orange tariffs immediately to equal the U.S. tariff on oranges. Furthermore, the U.S. and Mexico eliminated tariffs on fresh oranges for the period June 1 to November 30. These months coincide with the major harvest period of California Valencia oranges. Tariffs for the period December 1 to May 31 will be gradually phased out over a five year period. This period includes the months of April and May when the Arizona Valencia harvest is at its peak.

Import license requirements, which still exist on some agricultural imports into Mexico, are not required on fresh orange imports. The predominant non-tariff barrier on fresh oranges is phytosanitary restrictions. Phytosanitary restrictions are meant to control the spread of insects

and pathogens harmful to oranges in both countries. Control of the pests is done through the mutual efforts of the USDA's Animal and Plant Health Inspection Service (APHIS) and Mexican authorities (Bedigian and Behr). NAFTA permits each country to maintain its own health and safety standards for imported foods, including the restriction of imports not meeting the importing country's pesticide and chemical-residue standards (Buxton).

The Policy Analysis Matrix

The model of analysis in this study is the Policy Analysis Matrix (PAM). PAM is the product of two accounting identities (Table 1). The first defines private profitability as the difference between revenues and costs. The other accounting procedure measures the effects of divergences, caused by economic policy and imperfect markets, as the difference between the observed revenues and costs and the revenues and costs that would exist if the divergences were eliminated, i.e., social profitability (Monke and Pearson; Fox and Dahlgran).

PAM is used in this study to focus on an agricultural system's competitiveness and efficiency. The agricultural system in the present study includes the following four activities: (1) production, (2) picking and hauling to the packinghouse, (3) packing, and (4) the transportation of oranges from the packinghouse to the market. With PAM, the magnitude of the transfers in the system resulting from economic policies can be observed in each of the system's activities.

Separate budgets are constructed for each of the four activities. Each budget includes the revenues, costs and profits occurring in that activity. The entire agricultural system is then represented by the aggregation of the four activity budgets.

Profits are defined as the difference between the total or per unit revenues from sales and the costs of production. The costs of production include both tradable inputs and domestic factors. Tradable inputs are inputs which can be traded internationally and may include equipment and machinery, as well as intermediate inputs such as seeds, nursery trees, fertilizers, pesticides, fuel, and cartons for packing. Domestic factors generally are not traded internationally. The most common types of domestic factors are labor, working capital, electricity, land and water.

Assumptions

Both Arizona and Sonora are relatively minor contributors to world production of fresh Valencia oranges. California supplies a large volume of fresh Valencia oranges compared to the two areas of study. Because of this, the present study is conducted assuming that orange producers in both Arizona and Sonora are price takers. That is, any change in either Arizona's or Sonora's total supply to the fresh Valencia market will not affect world prices. Valencia oranges produced in California are not treated in the present study.

For proper PAM analysis it is necessary that the final product in each producing area be of equal quality. There are no indications from industry representatives in both Arizona and Sonora that suggest Valencia oranges produced in Arizona are significantly different in quality from those produced in Sonora. For this reason no price adjustments are needed for quality differences.

To measure competitiveness and comparative advantage of the Arizona system, oranges are assumed to be shipped from Yuma, Arizona to Hermosillo, Sonora. Hermosillo is used as a point of reference from where oranges could be shipped to a further destination in Mexico. Costs incurred from Hermosillo to the final market for both Arizona and Hermosillo oranges will be the same. Because of this, analysis of costs and returns up to the Hermosillo market is sufficient. For the Sonora system, the same logic follows as the costs include transportation and handling costs from Hermosillo to Yuma, Arizona.

The base period for estimating the costs and returns for the representative systems was 1992. Where long-run prices were required, averages for the seasons from 1987 to 1992 were used.

The Valencia Orange System: Arizona

The PAM analysis of the orange system requires that a common unit of output be measured. In both Arizona and Sonora the primary output is one 37.5 pound packed carton. However, adjustments for outputs and corresponding prices are necessary in the case of Arizona since not all oranges produced go to the fresh market.

Over the past decade approximately 36 percent of Arizona Valencia oranges were processed (VOAC). Consequently, it takes 1.5625 cartons of harvested oranges at the farm level to produce one carton of fresh packed oranges at the FOB packinghouse level. The figure 1.5625 equals one carton of harvested oranges divided by 0.64, the ratio of Arizona Valencia oranges that are marketed fresh. Because of the extra amount of oranges needed to produce one fresh carton, all costs and revenues for Arizona at the farm and pick and haul levels are increased by the multiple 1.5625 (Table 2). At the packinghouse, only costs are increased by the multiple. The packinghouse costs reflect costs incurred for all types of oranges regardless of what they will be used for. However, it is at the packinghouse where oranges are separated into product and fresh fruit. The revenues, thus, represent the receipts for one carton of fresh oranges and .5625 cartons of product quality oranges. The fresh market FOB packed price is $7.15 per carton, the Arizona state average from 1987 to 1992. The remaining 0.5625 of product fruit is priced at $1.35 per carton, the Arizona state average during the same time period.

The final portion of the Arizona Valencia orange system is the shipment of the fresh oranges to the Hermosillo wholesale market. For the shipping activity, the sole concern is with the fresh packed oranges. The PAM presented in Table 2 for distribution from the packinghouse to the market (2.D) represents a zero profit wholesale market price for shippers. This was

done because, at the time of the study, there were no Arizona shipments of fresh Valencia oranges to Hermosillo. The zero profit price would cover costs from the packinghouse to the Hermosillo market. Choosing this price also allows for the study of the NAFTA elimination of duties on orange exports. PAM analysis without the tariff will demonstrate the "new" price necessary to make the export of Arizona oranges to Hermosillo economically profitable.

To arrive at a zero profit wholesale market price per carton, an FOB price, plus transportation, handling and border fees is calculated. The FOB price for fresh packed oranges is $7.15 per carton. Shipping costs in Arizona are $0.385 per carton and $0.53 per carton in Mexico. Border fees equal $0.20 per carton, plus the value added tariff of 20 percent, i.e., $1.43 per carton. These costs and fees total $2.545. The total private revenue of $9.70 represents the amount the Arizona system would need to receive in Hermosillo just so it could cover all the costs of shipping and handling the fruit. A price greater than $9.70 would be required to reflect returns to time and risk of shipping.

Hermosillo is used as a logical point of reference to measure the competitiveness of Arizona Valencia oranges. Hermosillo is treated as a base where Valencia oranges from both Arizona and Hermosillo could be shipped to a common further market destination. The supply of oranges in the Hermosillo area is large since it is a primary producing region. Consequently, the large supply and limited local demand result in low prices received for fresh Valencia oranges in Hermosillo (Donnadieu). Price estimates provided for fresh oranges in Hermosillo normally reach a maximum of $5.50 per carton (Durazo). This is well below the price that would be needed for Arizona shippers of oranges to competitively market fruit in Hermosillo.

Arizona System Results and Implications of NAFTA

The preliminary results for the Arizona system before NAFTA are based on an on-tree price of $2.42 per carton, yields of 425 cartons per acre, and a zero profit wholesale market price received in Hermosillo of $9.70. Both private and social net returns per carton are negative. Negative private returns indicate the non-competitiveness of the Arizona Valencia orange system if the fruit is shipped to Hermosillo. Negative social returns demonstrate the lack of comparative advantage of the system. Under these conditions of prices and yields, the Arizona system would not realize positive net private returns until the price paid in Hermosillo reached $11.24 per carton (Table 3). This price, plus the $0.75 for 0.5625 cartons of product oranges, would result in system private profits of zero. Such a high price appears highly unlikely.

The principal tariff involved in the Arizona system is the 20 percent duty on fresh packed oranges. The only input used in Arizona that might be affected by NAFTA and imported from Mexico is labor. The present study treats all labor wages in Arizona as being federally regulated by a minimum wage. Because of the assumption that all labor is paid the minimum wage, and that it will not change with NAFTA, the costs of labor inputs remain unaffected in Arizona. Plans under the trade agreement will eliminate the duty on orange exports to Mexico. Removal of the duty will decrease the necessary zero profit private price to equal the

social price, under the assumption that the tariff is the only policy distorting the output price. Removal of the tariff will decrease private domestic costs by $1.43 per carton for the packinghouse to the market activity. The necessary break-even price to cover costs falls to $9.81 (Table 3). At this price, system private and social profits are still negative. Table 3 presents pre- and post-NAFTA break-even private prices for two on-tree price scenarios: $2.42 and $2.60.

Even in light of a possible reduction in the cost of exporting fresh oranges to Mexico, the elimination of the duty on oranges is not likely to increase the flow of Arizona oranges into Mexico given the pre-NAFTA prices paid in Mexico. Although the costs due to the tariff are relatively high at $1.43 per carton, the low prices paid in the Mexican market will not cover the costs incurred in the Arizona system to make orange exports economically profitable.

The Valencia Orange System: Sonora

The PAMs for the Sonoran orange system are similar to those for Arizona. The utilization of Sonora's oranges, however, is different from Arizona's oranges. Nearly all of Sonora's oranges are sold in the fresh market (Donnadieu). Because of this, no adjustment is made for oranges being processed. Orange prices for the Sonoran system are based on average seasonal estimates (Donnadieu). The on-tree price is $2.20 per carton. The FOB price is $5.50, and the zero profit wholesale market price for Sonora's oranges in Arizona is $8.07 per carton (Table 4).

Orange production practices in Sonora are more varied from orchard to orchard than in Arizona. Citrus orchards in Sonora differ in amount of trees planted per hectare, technology, and management practices. While the majority of orchards lack some of the more modern technology used in Arizona, others utilize such technology to obtain yields comparable to those in Arizona. Orchard operations also differ in the level of intensity in which they are maintained. The present study of Sonora production costs is based on the more intensely managed, privately owned orchards. Use of these production costs is justified since the majority of total output comes from private orchards (Donnadieu).

For Sonoran pick and haul, there is no reported packinghouse door price for the fruit arriving at the packinghouse. The packinghouse is a cooperative and is responsible for the picking and hauling of the oranges. The price per carton received at the packinghouse is assumed to be equal to the price paid for on-tree oranges at the farm level ($2.20) plus the costs of picking and hauling ($0.68).

Private profits in the pre-NAFTA Sonoran system are negative indicating a situation of non-competitiveness. To achieve competitiveness, the break-even price paid per carton in the Arizona market would need to increase to $8.51 (Table 5). The calculation of private profits includes the effects of Mexican economic policies. In the absence of such policies, the Sonoran system demonstrates a social profit $0.04 per carton. Government policies removed

in order to estimate social profit include all sales taxes on tradable inputs, elimination of labor taxes as well as the implicit subsidies on credit for orange operations.

The principal tariffs of interest affecting the Sonoran system are associated with imported cartons from the U.S. and the duty on fresh oranges. Under NAFTA, the duty on fresh oranges is to be eliminated in conjunction with the tariff on U.S. fresh orange exports into Mexico. The tariff on cartons is $.06 per carton. The value added tax and customs processing fee will remain intact even with NAFTA. Elimination of the tariff on cartons will be introduced in two different stages. As of January 1998, the tariff rate will be reduced from 10 percent to 5 percent. By January of 2001, full duties on cartons will be completely eliminated. For the purposes of the study, analysis of the Sonoran system is based on conditions when the tariff on cartons is completely eliminated.

Table 5 presents possible break-even prices for the Sonora system both with and without NAFTA. As was done in the case of Arizona, alternative scenarios are presented. Whereas Arizona's scenarios were based on two different on-tree prices, the Sonoran analysis presents the changes assuming costs at the farm level decrease by 10 and 20 percent. These scenarios are based on the observation that of all factors in the Sonoran system, those inputs having the greatest cost variability are at the production level. While there are possible changes in prices received, yields, costs at the packinghouse, among others, the results based on different production costs provide an idea of the situation in Sonora at the time of the study.

While production costs in Sonora play an important role in determining break-even prices of Valencia oranges delivered in Arizona, the primary factor influencing the competitiveness of Sonora's oranges is the FOB price of Valencia oranges produced in Arizona. Table 6 contains monthly average prices for five seasons between 1986/87 and 1991/92, and the averages for the five seasons. The 1990/91 season was omitted because it was a freeze year and prices nearly doubled those in more normal seasons The variability of these prices is large. Average prices tend to be higher early in the season (February and March) and decline towards the end of the season. A comparison of the average prices in Table 6 with the break-even prices in Table 5 shows that with the exception of February, the post-NAFTA break-even prices are all greater than the average FOB prices in Arizona. It also should be noted that Arizona's FOB prices are lower in the months of Sonora's main harvesting season of April through June. This further lessens the likelihood of receiving the break-even prices given the cost structures at the time of the study.

Impacts of the Recent Economic Crisis in Mexico

Since the completion of this study, the Mexican peso has been devalued by more than 100 percent vis a vis the dollar. The exchange rate used in the study was 3.1 pesos per dollar. Since the crisis of December 1994, the peso appears to have stabilized at about 7.0 per dollar. The short-term consequences of such a major devaluation for this study are obvious. Prices of imported citrus from Sonora fell in dollar terms. Given that post-NAFTA break-even

prices for Valencia oranges from Sonora under the old exchange rate were close to FOB prices for Arizona Valencia oranges, the potential for imports from Sonora is much greater than that indicated by this study. Some of the advantage created by the devaluation, however, was offset by the higher peso prices for inputs, such as nursery trees and cartons.

Some evidence of the impacts of the devaluation can be observed in the trade data for the 1995 and 1996 seasons. U.S. imports of fresh Valencia oranges from Mexico for the fiscal years 1994, 1995 and 1996, in metric tons, are 2,485, 8,437 and 6,645, respectively (Trujillo). To put these figures in context, it needs to be noted that in fiscal 1991, a freeze year in the California and Arizona, Mexico exported 23, 231 metric tons of Valencia oranges to the U.S.

Conversations with leaders of the citrus industry in Sonora indicate that the devaluation had a significant impact on the prices of imported nursery trees and cartons. New plantings are now using trees grown in Mexico. The unstable economic situation, however, has resulted in few new citrus groves despite the improved export potential. The continuation of the tariff on cartons and the devaluation have caused the citrus packing houses, with few exceptions, to rely on Mexican produced cartons.

Inflation in Mexico, which in April of 1995 was almost 100 percent annually, has eliminated most to the short-term gains from devaluation (Federal Reserve Bank of Dallas). According to information obtained in September 1996, the dollar FOB price of Valencia oranges in Hermosillo this season was the same as what was used in this study: $5.50 per carton (Donnadieu).

During the summer and fall of 1994, before the devaluation, Sunkist was able to enter the Mexican citrus market through a few large retailers. This foray into the Mexican market was short lived and stopped abruptly with the devaluation. Some private traders still sell small amounts of lower quality citrus in markets close to the border with California.

The most recent information, therefore, suggests that the current economic situation in Sonora and Arizona is such that competition between the orange industries of the two areas has returned to about the same level as before NAFTA: with the exception of special seasonal circumstances, fresh Valencia oranges are essentially a non-traded commodity.

Conclusions

Four conclusions relative to trade in Valencia oranges between the two producing areas, Arizona and Sonora, are supported by the evidence presented in this study. First, the relatively small amount of trade between the two areas prior to NAFTA is explained by the lack of competitiveness under pre-NAFTA economic conditions. Second, the elimination of tariffs on fresh Valencia oranges and the tradeable inputs used in their production and packing, did not, under pre-NAFTA conditions (technology, macro-policies, exchange rates, etc.), create enough incentives to increase trade between the two areas. Third, the economic

crisis of December 1994 and the large devaluation that followed appears to have provided adequate incentives for shippers in Sonora to increase exports to the U.S. in 1995 and 1996. Fourth, the most recent information on Valencia orange prices in Sonora suggests that inflation has eliminated nearly all of the short-term benefits of the devaluation, and Valencia oranges are again essentially a non-tradeable product.

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Table 1. Accounting Matrix for Efficiency and Policy Analysis

	Value of Output	Costs		Profits
		Tradable Inputs	Domestic Factors	
Private Prices	A	B	C	D(a)
Social Prices	E	F	G	H(b)
Effects of Policy and Imperfect Markets	I(c)	J(d)	K(e)	L(f)

(a) Private profit, D = (A - B - C)
(b) Social profit, H = (E - F - G)
(c) Output transfers, I = (A - E)
(d) Input transfers, J = (B - F)
(e) Factor transfers, K = (C - G)
(f) Net policy transfers, L = (D - H) = (I - J - K)

Table 2. Arizona Valencia Orange Activity and System PAMs

A. Production Activity *($/1.5625 cartons)*

		Costs		
	Revenues	**Tradable Inputs**	**Domestic Factors**	**Profits**
Private	3.78	1.60	2.48	-0.30
Social	3.78	1.53	2.47	-0.22
Policy Effects	0.00	+0.07	+0.01	-0.08

B. Pick and Haul Activity *($/1.5625 cartons)*

		Costs		
	Revenues	**Tradable Inputs**	**Domestic Factors**	**Profits**
Private	5.19[a] 3.78	0.12	1.55	-0.26
Social	5.19[a] 3.78	0.11	1.31	-0.01
Policy Effects	0.00	+0.01	+0.24	-0.25

C. Packinghouse Activity *($/1.5625 cartons)*

		Costs		
	Revenues	**Tradable Inputs**	**Domestic Factors**	**Profits**
Private	7.15[b] 0.75[c]	1.72[a] 5.19	1.97	-0.97
Social	7.15[b] 0.75[c]	1.70[a] 5.19	1.73	-0.71
Policy Effects	0.00	+0.02	+0.24	-0.26

D. Packinghouse to Market Activity *($/1.5625 cartons)*

		Costs		
	Revenues	**Tradable Inputs**	**Domestic Factors**	**Profits**
Private	9.70	0.22[a] 7.15	2.33	0.00
Social	8.27	0.20[a] 7.15	0.59	0.33
Policy Effects	+1.43	+0.02	+1.74	-0.33

E. Arizona System *($/1.5625 cartons)*

		Costs		
	Revenues	**Tradable Inputs**	**Domestic Factors**	**Profits**
Private	9.70[b] 0.75[c]	3.66	8.33	-1.54
Social	8.27[b] 0.75[c]	3.54	6.10	-0.62
Policy Effects	+1.43	+0.12	+2.23	-0.92

[a] Cost of oranges based on the price in the previous activity, e.g., $3.78 is a cost to the pick and haul activity and revenue to the production activity.
[b] Price of a packed carton of oranges.
[c] Price of 0.5625 cartons of product grade oranges.

Table 3. Arizona Valencia Orange System Breakeven Prices

($ per carton)

On-tree Price	**Breakeven Private Prices**	
	Pre-NAFTA	**Post-NAFTA**
2.42	11.24	9.81
2.60	11.20	9.77

Table 4. Sonoran Valencia Orange Activity and System PAMs

A. Production Activity *($ per carton)*

		Costs		
	Revenues	**Tradable Inputs**	**Domestic Factors**	**Profits**
Private	2.20	0.58	2.25	-0.63
Social	2.20	0.52	2.56	-0.88
Policy Effects	0.00	+0.06	-0.31	+0.25

B. Pick and Haul Activity *($ per carton)*

		Costs		
	Revenues	**Tradable Inputs**	**Domestic Factors**	**Profits**
Private	2.86	0.02 [a] 2.20	0.64	0.00
Social	2.86	0.02 [a] 2.20	0.48	+0.16
Policy Effects	0.00	0.00	+0.16	-0.16

C. Packinghouse Activity *($ per carton)*

		Costs		
	Revenues	**Tradable Inputs**	**Domestic Factors**	**Profits**
Private	5.50	1.30 [a] 2.86	1.15	+0.19
Social	5.50	1.07 [a] 2.86	0.96	+0.61
Policy Effects	0.00	+0.23	+0.19	-0.42

D. Packinghouse to Market Activity *($ per carton)*

		Costs		
	Revenues	**Tradable Inputs**	**Domestic Factors**	**Profits**
Private	8.07	0.44 [a] 5.50	2.13	0.00
Social	7.68	0.41 [a] 5.50	1.62	+0.15
Policy Effects	+0.39	+0.03	+0.51	-0.15

E. Sonora System *($ per carton)*

		Costs		
	Revenues	**Tradable Inputs**	**Domestic Factors**	**Profits**
Private	8.07	2.34	6.17	-0.44
Social	7.68	2.02	5.62	+0.04
Policy Effects	+0.39	+0.32	+0.55	-0.48

a Cost of oranges based on the price in the previous activity, e.g., $2.20 is a cost to the pick and haul activity and a revenue to the production activity.

Table 5. Sonora Valencia Orange System Breakdown Prices

($ per carton)

On-tree Price	**Breakeven Private Prices**	
	Pre-NAFTA	**Post-NAFTA**
Base Model	8.51	8.06
10% Decrease	8.26	7.81
20% Decrease	8.04	7.59

Table 6. Arizona F.O.B. Prices

($ per carton)

Month	**1986/87**	**1987/88**	**1988/89**	**1989/90**	**1991/92**	**Average**[a]
February	7.60	7.20	8.60	8.95	—	8.09
March	6.15	7.15	8.30	7.95	6.25	7.16
April	6.00	7.50	6.80	7.35	6.30	6.79
May	6.60	7.20	6.75	7.60	5.85	6.80
June	5.95	4.47	8.40	6.95	5.55	6.26
July	6.10	8.00	8.55	4.74	5.25	6.53

[a] 1990/91, a major freeze year, omitted
Source: 1993 Arizona Agricultural Statistics.