

## **HISTORY OF IMPERIAL VALLEY FORAGE EXPORTS**

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**Abstract:** Exporting hay products from the Imperial Valley has been a common practice beginning in the 1960's and has been of ever increasing importance to the local economy. During the last four decades, alfalfa hay cubes and baled hay products such as sudan grass hay, bermuda hay, and bermuda straw have been major exports from the Imperial Valley to the Pacific Rim countries of Japan, Taiwan, and Korea. Quality demands have driven the farmers to constantly improve their products. Today, increased global competition is creating new marketing challenges for Imperial Valley's forage industry.

**Keywords:** export market, roughage, double compressed, quality demands, storage, beef industry, transportation

### **THE 1960'S**

The history of hay and forage exports from the Imperial Valley to the Asian Rim countries began with the initial shipments of hay cubes in the 1960's. Hay cubes were quickly accepted into Japan due to their feeding flexibility and ease of distribution. As quickly as this important commodity developed into a viable export market, it was destined for demise. This was primarily due to Asia's ability to source this product cheaper from areas such as the Pacific Northwest and Canada. These areas did not have the competing marketing opportunities for their hay that Imperial Valley had with the Chino dairy shed east of Los Angeles. This Southern California market, milking in excess of 250,000 cows, has been an important source of demand for Imperial Valley hay.

### **THE 1970'S**

Looking for a roughage complement to an already flourishing compound feed business, the Japanese beef and dairy industry tried many different types of baled hay in the late 1970's. At that time these industries were almost completely dependent on local supplies of rice straw. During the initial stages of the search for a better roughage, importers met severe resistance from the local dairy and beef farmers, who for many years had established close relationships with the local rice farmers. More innovative areas, such as Nagoya, that were anxious for improved dairy and beef production began to experiment with sudan grass. Given its dry climate and proximity to one of the largest container ports in the nation, the Imperial Valley was the most likely production area to meet these roughage needs.

### **THE EARLY 1980'S**

After five years of intense experimentation and market development, a more stable and reliable demand emerged from Japan. Problems with mold damage inside the bale, known as "country

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damage," was the first hurdle to overcome. Not accustomed to baling hay for shipment inside a container, most farmers had the tendency to bale with too much moisture. After several years of investment and education, it was evident that baling with moisture in excess of 14 to 15 percent would result in "country damage." This moisture content was of even greater concern because the field bales were being rebaled or double compressed. This doubling of bale density was a compounding factor to any field moisture problems.

The next challenge that Imperial Valley farmers faced was reduction of stem size to meet the buyers' request for a more palatable product. Prior to the export market, sudan grass was being grown strictly as a rotation crop before planting alfalfa. The general consensus was that this rotation helped prepare the ground perfectly for the fall alfalfa planting. Sudan was therefore grown for only one cutting. Seeding rates were around 30 pounds per acre with harvest heights of six feet and yields exceeding four tons. Not intending sudan grass to be a cash crop, farmers were satisfied to receive \$50 per ton for the crop from local feedlots.

#### THE MID 1980'S

In order to meet the requests of the Japanese buyer, Imperial Valley farmers began experimenting with different varieties and seeding rates. Higher seeding rates resulted in finer stem products, but unfortunately also caused a reduction in yield due to premature harvesting dates. Early planting dates, higher seeding rates, and earlier harvesting schedules then brought about the idea of multiple sudan cuttings.

In conjunction with more sudan came more double compressing machines in both Long Beach and Imperial Valley. During the mid 1980's a revolutionary idea changed the baled hay business from Imperial Valley: year-round shipments. Recognizing that cattle are consuming feed throughout the year, exporters began to organize storage to provide a 12-month supply for their buyers. This had significant and positive impacts on the growth of baled hay exports from Imperial Valley.

#### THE LATE 1980'S

In the late 1980's, demand for baled hay continued to increase at rapid rates (see graph). With this demand came more stringent requirements from the buyers. "Fresh green" first-cutting hay became the product of choice, so plantings of sudan quickly changed from May germination dates to dates as early as mid-February in an attempt to beat the competition to the market. The demand for a greener and consequently "fresher" looking product proved difficult to achieve because sudan required a minimum of seven days to dry. During this drying period, inevitably the sudan would become bleached by the sun. More sophisticated drying equipment was developed and new raking and baling schedules were implemented to produce "greener" product.

#### THE EARLY 1990'S

In the early 1990's, an interest in improving the beef industry in Japan also developed. In addition to the already thriving sudan market, bermuda hay and straw began to gain popularity in the south

island of Kyushu and the area of Honshu around Osaka referred to as the Kansai district. These areas, noted for their production of finest quality beef, were looking for alternate feeds to replace domestic and imported rice straw. The option of producing hay from bermuda grass acres that were typically grown for the commercial production of bermuda seed, was an added benefit to bermuda grass as a viable economic crop.

During this time, the Japan industry began importing more alfalfa baled hay to replace the alfalfa cubes. Though hay cubes had long disappeared as an Imperial Valley mainstay, there was again hope that alfalfa might be shipped overseas as baled hay. This never developed fully, due to the competing marketing opportunities for alfalfa in the Los Angeles dairy shed, as well as the dry conditions of the Imperial Valley which caused the alfalfa to seemingly shatter too much.

Also recognizing the feed value of this important forage, Taiwan began experimenting with bermuda grass for their dairy and beef industry. Coupled with their interest in other U.S. straws, Taiwan became a growing and most important competing market for Imperial Valley exports, including alfalfa. Shipments of carefully selected stacks that fit the strict demands of the Taiwanese market resulted in an important and otherwise non-existent Pacific Rim market for Imperial Valley alfalfa. Korea also began importing products from the United States at this time.

#### THE MID 1990'S

Greater sudan grass acreage in the mid-1990's again created a shift in quality demands, as the buyer could once again become more selective with a greater supply from which to choose. Grading of sudan became more common and soon to follow were different values placed on these different grades. Texture, stem size, and palatability became ever more important. Emerging from this mature market also came a demand for low-nitrate hay and light-color sudan. No longer was a value placed on "fresh green" hay but rather "low nitrate and low color" hay. Once again farmers began to study ways to manipulate their horticultural practices in an effort to meet these new demands. Terms such as "pink" sudan and "Nagoya" color sudan became common in the industry, referring to characteristics associated with nitrogen-deficient and low-color sudan respectively.

These demanding quality specifications also filtered into the bermuda hay and straw markets. Requests for bleached straw, thought to have a lower carotene content, and long-fiber bermuda, thought to have positive effects on rumen function, became popular.

Given this continued growth in baled hay exports, other agricultural areas began to gain interest and become more sophisticated in growing and shipping hay. Additional products such as Canadian timothy and Australian oat hay added to the already complex marketing environment. All targeting the same "roughage" channel in Japan, Taiwan, and Korea, exporters were soon challenged with an abundance of supply.

#### TODAY

In the late 1990's we are faced with a maturing market and an abundance of supply and

production capacity worldwide. Complicating the issue, today we are also faced with a soft Asian economy. Exporters are now looking to transportation as a means to cut costs by forming alliances with shipping companies or increasing container weights in order to cut product costs to the end-users.

## THE FUTURE

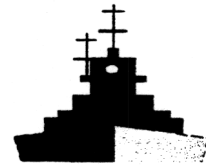
What new quality demands are in store for the industry in the future? Will the Asian cattle industry grow or decline in the face of continued pressure from the General Agreement on Tariffs and Trade? Will United States' proposed deregulation in the shipping industry help or hurt the feed industry in Asia? Will China be a threat to hay, dairy, or beef imports into the surrounding Asian countries? How long will the "Asian flu" impact these economies? Imperial Valley shippers and exporters worldwide are faced with these questions as they contemplate their next move.

## Imperial Valley Export Production Area

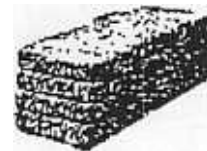
1) **Water Supply**



2) **Shipping**



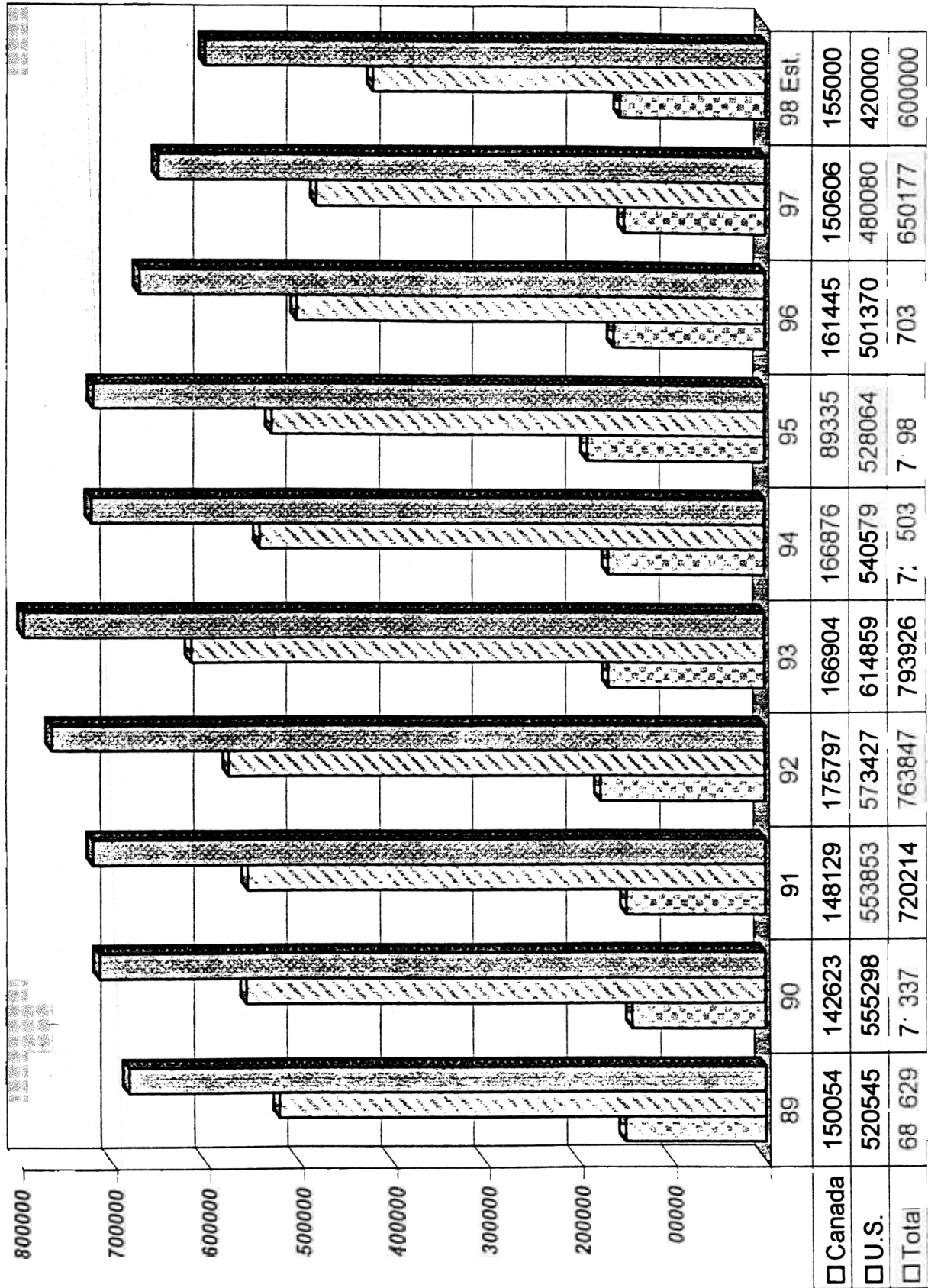
3) **Baled Hay Products**



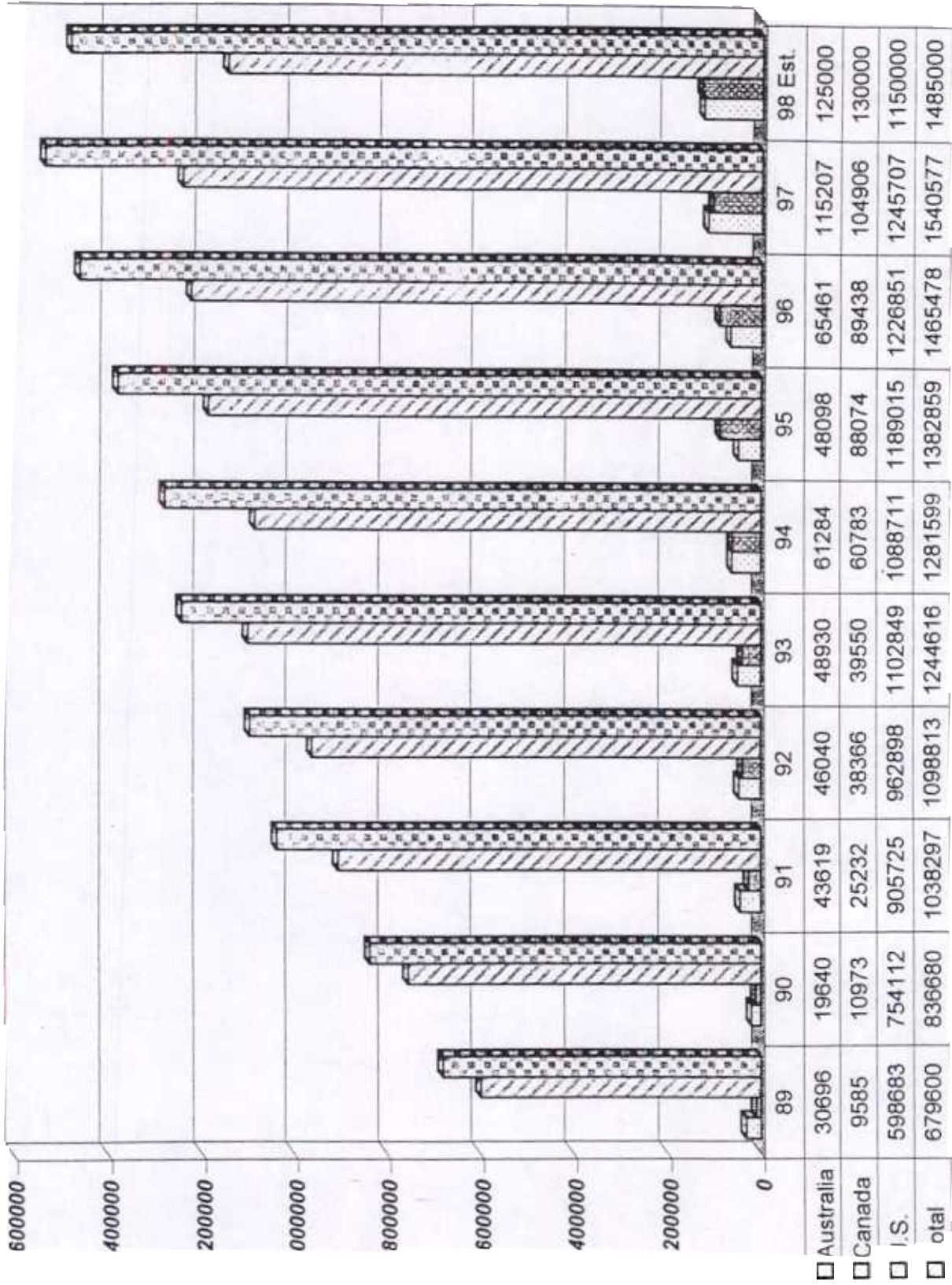
4) **Sunlight**



Japan Imported Alfalfa Hay Cube Statistics Metric Tons



Japan Imported Baled Hay Statistics (Metric Tons)



# Japan Dairy Cows Statistics 1985-1997

Quantity 1 000

