Production

Key Issues in the 2003–2005 Medium-term Management Plan

- **Raise productivity through the introduction of a new eye drop container and other measures**
- **Optimize production and manufacturing processes**

Inspection on the *Dimple Bottle* production line. The form of each container is checked by a computer.

Continuous Cost Reduction

Santen has three plants in Japan (Noto, Shiga and Osaka), as well as a production base in Finland. This production network serves Japan, the United States, Europe and other parts of Asia.

In 1977, we became the first company in the world to apply the Blow-Fill-Seal (BFS) system[1] to the production of ophthalmic solutions. The BFS system allows for higher productivity due to its reduced raw material requirements for bottles. In addition, they can be manufactured much faster than bottles with the common three-piece structure of container, nozzle assembly and cap.

Over the 25 years since the introduction of the BFS system, we have continuously pursued more efficient production through unique advancements and modifications of the system. Combined with the efforts of all our production staff members, we have successfully reduced our cost of sales ratio for the fourth consecutive year during the year ended March 31, 2003, to 35.7 percent from the 41.0 percent posted in the year ended March 31, 1999. We aim to reduce this ratio even further during the 2003–2005 Medium-term Management Plan.

Dimple Bottle Improves Efficiency

In the prescription pharmaceuticals industry, intensifying global competition in research and development has made it critical for companies to establish a production system that is competitive in terms of both cost and quality. Our production division has established the goal of becoming the best supplier in the world, and is developing a production system that can compete with any company in Japan or abroad, including China.

Continuous improvement and innovation are two key factors that will be essential in achieving this goal. In addition to our continued cost-cutting efforts, centered on reducing raw material costs and improving our yield and operating ratio, we have set specific benchmarks for further raising productivity. These focus on "process optimization," "drive and activity"

Note

1. Blow-Fill-Seal (BFS) system: A production system in which an operating cycle forms, fills and hermetically seals containers under aseptic conditions.

(determining whether our "drive" creates customer value and re-examining our capabilities) and "one person, two roles" (creating a multi-skilled workforce). Furthermore, we will investigate the possibility of making manufacturing even more efficient in consideration of revisions to Japan's Pharmaceutical Affairs Law[2].

In 2002, we developed the *Dimple Bottle*, an ophthalmic solution container that builds on the advantages of the BFS system for greater ease of use by patients. The introduction of this new container allows us to increase production capacity per line and reduce costs on packaging materials. In two years, we will change over to the *Dimple Bottle* from the three current types of containers used for our prescription ophthalmics in Japan. We expect the *Dimple Bottle* to have a substantial impact in improving manufacturing efficiency.

Establishing a World-class Quality Assurance System

We have established a world-class quality assurance system based on a policy of supplying reliable, high-quality pharmaceuticals that win the trust of patients. We ensure the highest level of quality control by adopting the latest technology and implementing an in-house qualification system. The qualification system mandates that only qualified staff are assigned to operations that require a high level of skill, such as sterile operations and visual inspections.

Note

2. Revisions to the Pharmaceutical Affairs Law: In July 2002, the Japanese Pharmaceutical Affairs Law was revised to permit pharmaceutical companies to divest their manufacturing divisions after 2005. Currently they are required to have at least one manufacturing process in-house for each of their products.

The *Dimple Bottle*

The shape of the *Dimple Bottle* makes it easier to hold, particularly for older patients. It also allows for easy squeezability, and a slit window lets users check the remaining volume in the bottle. A large, color-coded cap and the clear display of the product name allows easy differentiation between the various Santen products.

Previous bottle

Dimple Bottle