

Training of Perfumers in an International Fragrance Company

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The training of perfumers is a subject on which many experts have reflected, but the solutions to this question have always been made difficult by the very nature of this profession which is very secretive on its techniques and know-how.

Generally speaking, in the past, the perfumer was self-made (trained on the job) through continuous contacts or collaboration with qualified and well known perfumers. Nevertheless, this kind of training no longer answers the evolution of our industry because of its imprecise and incomplete character. Consequently, some companies in the industry have decided to put up their own training center. The Givaudan Group has had such a center for over ten years and it is on the basis of that experience that I will develop a number of ideas.

Why have a fragrance training center belonging to an international group? For four principal reasons:

- To give fast, precise and complete training
- To build up a team working on a similar base throughout the Group as this facilitates greatly

internal communications

- In order to be less dependent on outside recruitment with all the difficulties and requirements which this may entail
- There are no university or college courses where one can learn perfumery so industry, in one way or another, must take on the responsibility

Perfumery Training

The operation of such a training center means a considerable investment and only companies which have a large staff of perfumers can invest in such a training center.

The Givaudan training center is managed by a senior perfumer, a doctor in chemistry, who has over 25 years of experience in this specialty. He is assisted in his function by a perfumer, two laboratory assistants and a secretary. The premises occupy an area of about 3500 sq.ft. with laboratories, school rooms and offices.

Naturally, this training school is also responsible for a primary introduction to perfumery for other company staff such as salesmen, agents, and chemists, and for the staff of important customers. But this concerns only elementary courses of introduction to perfumery and not the training of perfumers as such. It is also in this center that every qualified perfumer recruited by Givaudan from outside spends some weeks to become familiar with the products of the company and our working methods.

What Do We Expect of a Perfumer?

Before going into detail of the ways and means to train a perfumer, we must agree what we expect of a perfumer after completing the years of training.

We all know that it will be more and more difficult to remain creative in view of the various constraints which a perfumer has to face, such as ever shorter deadlines, technical requirements ever more demanding, a continuous trend towards lower prices, and increasingly restricted and controlled use of raw materials.

All companies of a certain importance have more or less similar technical and marketing services to second the efforts of their perfumers and in today's competitive scene the winning perfumer will be the one who can best understand and utilize these supports.

It will also be the perfumer who will be capable of utilizing faster a new research product, who will be capable of finding a new accord even with existing raw materials for a new application. The perfumer will not solely have to use all available means, but will have to require new ones whether they are of a technical, data processing, or commercial origin. In short, a perfumer must no longer be as one says too often, just a "nose," but must also become the most complete expert of a fragrance company.

On the other hand, a perfumer must also be member of a team and has to take part in the following tasks:

—Choice of raw materials and testing these in

various applications

- Creation of bases, reconstitutions of essential oils
- Choice of research products: selection, trials in compounds
- Free imitations and creations in line with given briefs
- Modifications of formulas: for olfactory, price, or technical reasons
- Sales Support: customer visits, technical presentations

The perfumer must realize that the success of compound creations will always be the result of team work.

The Training Course

This course extends over three years and is subject to an examination at the end of each year to control the knowledge acquired or eliminate the candidate in the case of failure. If successful, the candidate has then to undergo a final examination at the end of the three year period of study. The candidate who has passed with success the final examination is placed as assistant perfumer for two to three years in the creation laboratories. It is only after this period of first practical trials that it will be possible to judge the candidate's value, aptitude, and potential and for the company to decide on a final appointment in the various group services related with creation.

Candidates must pass an entrance examination, during which they must give proof that they possess a well developed sense of olfaction and a pronounced artistic taste. The other selection criteria are general instruction, initiative, character, technical knowledge and ease of adaptation to the future environment.

The entrance examination is designed to find out the olfactory aptitudes of the candidates and is made up of three tests:

1. *Identification test*—Identification of 10 known odours from everyday life (fruits, flowers, tobacco, spices)
 2. *Test of similarities*—Separate among 15 samples, 5 groups of 3 products each, and then differentiate inside each group 2 identical samples and 1 very close to the other two (ex: 2 x mint, 1 x menthol)
 3. *Test of olfactory perception*—The same product is given pure and in solutions ranging from 50% to 1%. The candidate has to give, in the right order, the increasing scale of strength.
- In order to be admitted in the Perfumery School,

the candidate must obtain an average of 85% of correct answers. Statistically, this result can only be obtained by a very small percentage of the candidates tested and therefore indicates an olfactory sense well above average.

Through a training and work contract the candidate agrees to remain with the company a minimum of six years, three years of study and three years of apprenticeship and also contracts to be available for any transfer abroad according to company needs. In case of failure in one of the examinations, the candidates accept reassignment to other departments to positions more in line with their abilities.

Scope of the Studies

First Year

1. General outlook on perfumery
 - Origin and history
 - Evolution of perfumery and its new applications
 - Present and future perspectives
2. Olfaction
 - Description of the physiological process of olfaction
 - Odour perception and olfaction techniques
 - Relationship with the sense of taste
3. Botanical study
 - Study of botanical families containing species related to perfumery
4. Natural raw materials
 - Cultivation of aromatic plants
 - Geographical spread
 - Large production and treatment centers
 - Main varieties
 - Vegetal and animal raw materials
 - Manufacturing process and equipment
 - Main constituents of natural (odouriferous) raw materials, their chemical function
5. General chemistry and organic chemistry
 - General introduction to aroma chemicals, raw materials and their manufacturing process
6. Synthetic raw materials
 - Process of chemical synthesis (main reactions utilized in our profession):
 - starting from simple chemical materials
 - starting from molecules produced by nature

7. Knowledge of methods of analysis
 - Gas chromatography (demonstration)
 - Other methods

8. Practical work
 - Systematic and comparative olfactory study of natural and synthetic raw materials
 - Identification of these raw materials and their possible alterations
 - Handling of weighing equipment
 - Preparation of solutions (percentages, solvents)
 - Incorporation of the perfume in soaps, detergents or cosmetics
 - Keeping up to date the collection of raw materials
 - Rational ways of weighing
 - Solutions: weight/volume and weight/weight

9. Miscellaneous
 - Innocuity of products
 - Rules of safety with regard to allergies, norms in use
 - Rules for handling raw materials
 - Vocabulary of the perfumer

The first year examination is based principally on the knowledge of raw materials.

1. Olfaction: Identification of 20 natural products and 20 chemicals
2. Theory: Technological description of 4 natural products and 4 synthetic products
3. Complementary oral examination

Second Year

1. Odour categories
 - floral notes
 - aldehydic notes
 - citrus notes
 - herbaceous notes
 - green notes
 - woody notes
 - mossy, agrestic notes
 - Elaboration of synthetic reconstitutions of essential oils
 - Study of well known bases and specialties in perfumery
 - Studies in view of creating basic notes of perfumery, systematic study:
 - Components
 - Proportions
 - Outline
 - Evaluation of personal work
 - Information on Givaudan specialties

Perfumery Training

2. The fragrance groups
 - The art of perfumery creation
 - Study of the worldwide fragrance market, evaluation, description:
 - single floral fragrances
 - floral compositions
 - oriental fragrances
 - chypre family
3. Fields of application
 - Fine fragrance and toiletries
 - Cosmetic industry
 - Soaps, detergents and allied
 - Industrial
 - Space perfumery
4. Practical training
 - Cosmetic department
 - Soaps and detergents department
 - Other application areas
5. Quality control training for raw materials
 - Quality Control Department: complementary training
 - Training in classifying the manufacturing of chemicals

The second year examination includes 2 tests:

1. Olfactory test
 - Identification of 10 bases or specialties of our collection and description of their olfactory notes and their characteristics.
 - Identification of 10 women's or men's fragrances with short olfactory description and determination of the family to which they belong.
2. Practical test

This is made up of three exercises in close relationship with the different aspects of the work of the perfumer:

 - Exercise of adaptation and modification of 2 simple notes.
 - Free creation of a floral note.
 - Creation inspired by a given visual theme.
3. Complementary oral examination

Third Year

1. Matching of a fragrance
 - To which family should it belong
 - Evaluation, at first, through olfactory study, then with the help of chromatography, of the top note and the basic accords of the body note
 - In relation to its end-uses: all matters related to solubility, irritation and coloration

2. The creation of a perfume
 - The theme: requested by the Sales Department or freely chosen by the perfumer
 - Definition of the fundamental accords in relation with the theme
 - Selection of perfumery raw materials
 - The fine tuning of the proportions
3. The study of line extensions
 - From perfume to eau de toilette
 - Formulation for creams and emulsions
 - Soaps adaptations
 - Detergents formulation
 - Cost price reduction
4. Miscellaneous
 - The ways to write down a working formula and to calculate cost price
 - The objective evaluation of creation studies
 - Submission of a creation to the Evaluation Board (FRC)
 - Writing down the formulas for registration by the Perfumery Control & Administration Department
5. Training sessions
 - Marketing
 - Promotional Services

The final examination includes:

1. Creation of fragrances according to a brief or a profile
 - For fine fragrances: either feminine or masculine
 - For soaps: mass market or luxury soaps
 - For detergents or fabric softeners
2. Complementary oral examination: All oral examinations are given by a panel of perfumers

Conclusion

As you can see, we try to provide a training program which is complete and adapted to the needs of an international group in our industry. It is obvious that each candidate who has successfully passed the final examination will develop talents, inclinations and abilities in a special group of products or area. As I have already mentioned, the possibilities, even those inside the Creation Division, are numerous. In other words, our perfumery training courses can be compared to a school of music. We teach the theory and technique and it is then up to the perfumer to develop a career and reach virtuosity.

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