

存档②

The Association of Chinese Food Scientists & Technologists in America

旅美中國食品科技學會

會誌



NEWSLETTER

Vol. 4, No. 3

March, 1982

Letter to Mr. Shiu Lee from Sherman Lin . . . . . 1

Introduction of the Department of Cereal Chemistry  
and Technology, North Dakota State University,  
Y.Q. Chang . . . . . 5

Creativity Can Be Fostered . . . . . 6

How to Ask For The Job and Get It  
with sample resume . . . . . 9

Sample Resume . . . . . 11

Graduate Study - A Personal Experience - Y. S. Lee . . . . . 12

How to be Successful in Food Science - Daniel Y.C. Fung . . . . . 14

The Newest "Sugar" - High Fructose Corn Syrup (HFCS) -  
George C. Chu . . . . . 17

Introduction to Fermentation - W.T.H. Chang . . . . . 19

Professional News . . . . . 25

Membership Dues and New Members . . . . . 26

Nomination of Officers for 1982-1983 . . . . . 27

Membership Dues . . . . . 27

NEWSLETTER



VOL. 4, NO. 3 MARCH 1982

✓

1981-1982 OFFICERS

President: Sherman S. Lin 林信南  
President-Elect: Anthony H. Chen 陳慶筠  
Secretary & Treasurer: Peter J. Wan 萬建心  
Committee Chairman: Fund Raising Committee: Sherman S. Lin  
Consultory Committee: Anthony H. Chen  
Education Committee: William T. H. Chang 張天鴻  
Employment Committee: Robert T. I. Ma 馬子義  
Annual Meeting Committee: Santa H. Lin 林輝正  
Publication Committee: Peter J. Wan  
Mailing Address: Anderson Clayton Foods  
3333 N. Central Expressway  
Richardson, Texas 75080  
Telephone: (214) 231-6121

For membership application and other information, please contact one of the above members.



- 編者的話: (1) 首先向各位在百忙中為 NEWSLETTER 撰稿的會友們致謝。希望其他的會友們也能主動地為這屬於大家的小刊物貢獻工作的學習心得。
- (2) 會長林信南代表大家給李秀先生回了一封長信, 希望今後能加強聯繫, 並有效地展開互助合作的諸項計劃。
- (3) 又是開始找工作的季節, 這期又轉載了一篇相關的文字, 並附帶一份自備標本。
- (4) 自修上進本是每個人內心的意願及職責, 本期刊載了一篇有關 Creativity 的文章, 希望會友中在此一方面有心得者能提供資料与大家分享。
- (5) 介紹會友們的工作單位, 本期只收到一篇, 是介紹 North Dakota 大學的食品研究所, 從中可以看出每個機構都有其特色。
- (6) 身為研究生, 特別是初來美國就學的會友, 將會受益於馮先生及李同學的忠告, 馮先生以他多年教學的經驗家出他的指引, 李同學則以他即將學成的過來人, 來看同一問題。
- (7) 有關食品科技方面的知識, 特選朱正中及張天鴻兩博士就他們的專長簡介 High Fructose Corn Syrup (HFCS) 及 Fermentation, 讀之獲益匪淺。
- (8) 有關下屆主席、幹事之提名, 會費 (81~82) 及其他徵求意見之調查, 請大家馬上回覆。
- (9) 又有新會友四人參加 ACFSTA, 在此表示歡迎。
- (10) 新的會友通訊錄正在整理中, 有任何更正, 請立刻通知 ACFSTA 的秘書。

李組長喬見大鑒：

吾兄前後諸函皆又奉悉。所提諸問題。有些已由本會駁爭直接作答。有些尚待處理。弟今將尚待處理之問題。簡答如下：

一. 人才資料電腦處理之程序。

本會沒有現成的電腦程序 (Computer program) 可提供者兄應用。陳沈路兄曾利用其所服務公司之大型 IBM 電腦之現有程序試着處理。效果良好。因此這項程序是跟電腦一起的。無法搬運。經濟部若有 IBM 電腦。該公司當可供獲此類程序。

二. 對國內食品界提供技術援助。

本會經過六行多月來的重新組織。目前已健全到可以開始作實事情的時候。但是經過多次來回通信的結果。發現本會司國內方面似乎存在着嚴重的 communication problem。本會訂提講習班之方案。竟無藉。若兄所提十四支案以及給來的十大支案。又這所件有着束手無策之感。弟願借此機會。試着澄清一下所件級此所困難的困難。

本會此項活動之最高指導原則是在符合本社向國內提供技術援助時。以不損害的服務機構



之利益為難則。因此支援範圍只應以英美指導為主。整廣技術之轉移。除非有看張大帥與論者見信上所說之安排。果能無法作到。

因此，國內食品科技之推進尚需國內各食品機構負全責推動。本會只能在國內由於推行某研究計劃之過程中或某類食品之生產上遇到難解之問題是即時提供技術支援。好比練武術。練的人還是靠自己練，別人無法替他練。但是在他人勤練武術時，碰到一個難解之難，若有行家從旁一突，他的武術之進階就可加倍了。此事與武術稱鬆平常，任用之得宜功效却是其大無比。

若國內類依此原則申請本會援助，則國內機構向本會提出問題者，尚需提供本會詳細之背景資料，以求達到援助之最高效力。

今日舉例說明上述二矣。弟於民國六十九年八月在回國時，曾拜訪食研所所長，在該所時曾品嚐了該所贈與之白香果汁。並蒙贈送數包盛於'Retor pouch'內之果汁為禮。顯然地國內對白香果汁已有相當程度之研究成果。例查國內目前研究之進展情形如何？已到了什麼程度？是否面臨了什麼困難？是否已計劃大規模加工生產？是否於生產計劃中產生困難？又是什麼樣的困難？此類資料皆是本會着手處理此案之前之本備條件。吾兄七十一一年一月八日大函所提十大項目

第二項果汁產品研究發展與品質改善內第一條白香  
果汁原料加工包裝貯藏之研究。國內已有相當  
的研究心得與成果。甚至於對白香果汁之認識遠超  
過本會所有會員之綜合認識。今後以此類問題相  
詢就有可解問題於焉了。但是，國內若以此項  
研究計劃中所面臨到的某些特殊問題相詢，也  
許本會可由會員之相關經驗中提出一些有價值  
的建議以供國內參考也說不定。如此一來事情就  
有成功的希望。

又者兄最近二函所提之十四項提案以及十項提案  
皆屬同一文類。專舉計劃之範圍如許之廣闊，各計  
劃中之問題如許之龐大，本會各幹部以及許多  
會員們皆感到無從着手幫助，實是心有餘而力  
不足。

如上的提，本會目前已經感到起來。許多會員皆極  
願意隨同眾作此事。但是，如何來利用這行寶貴  
的人才資源以幫助國內食品業之發展，似乎尚需加  
以深入之探討，而且此問題若不解決，事情就難順  
利推展開來。弟斗胆建議以下二行方法：(1) 國內  
派專人來美與本會幹事們商談，(2) 國內邀請本會  
一二幹事回國，與各食品機構負責人一齊討論。

依目前之情況，若僅用此人才資源之方法不形  
自當的建立，嚴重者，事情推展不開，其次者將  
是事倍功半。因此請天眾回國，將幾位國眾不少

金錢以及本會會員不少之時間及精力，若不能產生  
效果不如歸缺勿監。藉國家有英錢也替大家物英  
事。相信吾兄當能同意上列諸矣。

### 三. 講習班

張天鴻兄已花了不少的精神及時間，招募了  
二十~位專家，提出二十一專題之啟案。此類專題  
皆是本會幹事們認為對國內唯動信品業之工作  
上頗有相當大之幫助。此項又是員已送回國內給  
吾兄以及他的表，請他們在國內作一調查以決  
定是否付此需要，若有需要又是那一專是實景為  
優先。據張兄報告，此舉雖經數度來回通訊，  
目前似已成懸案，尚無着落。例從目前情況如何，  
尚請吾兄不吝賜教。

崇此奉達 惟頌

春祺

by who?

副本印送：

啟保之博士

張天鴻，陳英鎔，高建心，林輝正，廖子為博士等。

北達科他州立大學穀類化學與技術系簡介  
(Dept. of Cereal Chemistry and Technology, North Dakota State University)

北達科他州是美國重要穀物生產區之一，其中 Durum wheat, Hard Red Spring Wheat 與 Malting barley 之產量均佔全美第一位，因此極為重視有關穀物方面的研究；本系於 1905 年設立，迄今已有 77 年歷史。

北美目前有三大大穀物研究機構，其一為 Kansas State U. 的穀物加工工業系，其二為加拿大 Winnipeg 的 Grain Research Laboratory (研究機關，不授學位)，其三為本系；而有研究人員與設備能同時作 milling, baking, malting, pasta processing 研究之學府則僅有本系。

本系設備自 1962 年 USDA 的 Hard Red Spring & Durum Wheat Quality Laboratory 遷入本系之後大為充實，除應有之生化儀器（如 GC, HPLC, 電泳, 胺基酸分析儀……）皆具備外，尚有各類型之 flour mills (至 pilot plant scale), Continuous bread-making equipment, rheological instruments for dough testing, macaroni-processing units, malting equipment 與 microbrewery。

本系目前有 20 個博碩士班研究生 (無 BS program), 專任教授 7 人, 兼任教授 2 人, 研究興趣包括穀物之生化研究 (但不包括育種) 與穀物之加工技術 (如 milling, baking, pasta processing, malting 與 brewing 等), 學生可依興趣選擇 chemistry 或 technology 方面的研究題材。

本校家政學院亦設有食品營養系, 但偏重在營養與教育方面故未予介紹; 有關本系簡單介紹如上, 如有任何疑問, 歡迎來信詢問。 (張榮貴)

# *Creativity Can Be Fostered*

by

Douglas T. Jaeger

Miles Laboratories, Inc., Elkhart, Ind.

*Today* we know that creativity is not only an ability, but also both a pattern of behavior and a series of attitudes frequently springing from a specific environment. Two of these, the pattern of behavior and attitudes and the environment, can be learned and fostered. Because we tend to ignore attitude and environment, we will examine them more than learnable patterns of behavior. Both are equally important, however, and contribute to fostering and growth of creativity.

In this article we will consider what creativity is; what we as individuals can do to foster our own; what those of us who supervise others can do to release the creativity of subordinates; what we should expect from having creative people as peers or subordinates; and, briefly, what we can do to learn the behavior patterns of creativity.

Each of us has creativity to some degree. The creativity I am defining is the combining of old and/or new ideas to form a new combination which will better satisfy a need.

It is true that creativity is in part a matter of genes and chromosomes, but it is also true that we all have greater creative ability than we usually apply. We have learned to repress our creative instincts and abilities.

It is no accident that children show greater spontaneous flights of fancy on the average than do adults. There are many facts that point to the conclusion that we as mature individuals have inhibited our own creativity.

Responsibility for unleashing one's creative abilities lies first with the individual. We can be more creative. How? First by examining what causes us to suppress our creative attitudes and then overcoming these.

## **Individual blocks to creativity**

Let's ask what causes us to be less creative.

We can identify at least three types of blocks to creativity; those which are cultural; those which are perceptual; and those which are emotional. Let's briefly review the cultural first.

We as members of society have a desire to conform, to be one of the crowd, to have our ideas conform to those of others. This desire to conform causes us to avoid proposing or advocating ideas which are different from those of others, and creative ideas are frequently ridiculous, preposterous, and even radical. It is no accident that the popular notion of a creative person is associated with eccentricities of dress or behavior.

Even in the use of the word "eccentric" rather than "different" we can identify a cultural block. Society dislikes those who are different, and eccentric is a much stronger and more condemning word than different. What other types of cultural blocks are there?

We as members of society find it impolite to be inquisitive. We frequently discourage it in ourselves and others, and yet the creative person must always ask "why." Why can be an embarrassing and even irritating question, as any parent of a five to seven year old can readily testify.

As a society we do not encourage fantasy or daydreaming. And yet this, too, can be a factor in creativity.

We could add to this list of cultural blocks, but let's instead consider the second, the emotional block. Here we are dealing not with the forces generated by our culture which has helped to mold us, but with our own inner feelings and attitudes.

Fear of making a mistake or of looking foolish can be a powerful inhibitor of creative ideas.

A desire for security or rejection of ambiguity can be another powerful inhibitor of creativity. If we have a hypothesis which can sort out neatly all of the facts except perhaps one or two, let's sweep the seeming irrelevancies under the rug. Who wants to live with uncertainty?

We can become rigid in our own thought patterns. This, too, can inhibit and block creativity.

Lack of desire can be a very real block to creativity. It is no accident that the creative person is frequently associated in the popular mind with long hours, frequent failure, and overcoming of obstacles at personal cost. No one has ever said that the heights of creativity are climbed except by those truly inspired.

Not all of the blocks we experience in our efforts to be creative are emotional and cultural. Some of them lie in our own thought processes and these we should call perceptual. Among the perceptual blocks which frequently exist are difficulties in isolating a problem, in defining what it is. Accompanying this can be a tendency to narrow the problem too much. For example, two famous pathologists both observed the effect of papain injected into the ears of rabbits. One, because he felt that cartilage was a quiet, inactive tissue, overlooked the fact that the cartilage was affected. The other was willing to open his mind to the possibility.



Similarly, we can well have difficulties in not investigating the obvious. For example, one group of engineers was given the task of designing a radically new, improved hydraulic check valve. Impossible specifications were placed on this valve and the engineers were told that if they could get a solution half as good it would be quite an achievement. These engineers had never developed a hydraulic check valve before. They thumbed through trade journals and ordered a standard check valve from two different vendors. They tested them to find out how well they fitted the specifications in order to establish some sort of starting point for their effort. To their amazement, as well as that of the person who requested the project, they found that a standard valve's performance exceeded all of the fantastic specifications of the requester.

What can we do about emotional, perceptual and cultural blocks? There are a number of things that we as individuals can do. First, we need to analyze our own attitudes toward creativity in light of the types of blocks we have just reviewed. Secondly, we need to identify those blocks which we feel most impair our own creativity. Thirdly, we need to make a conscious effort to overcome one block at a time. Having done so, we need to move on to our next block.

I think we also need to recognize that there are drawbacks to being creative, that it is not a life of ease or one of happiness. Many of us want to enjoy the best of all possible worlds, to enjoy the rewards that come from creativity without incurring the drawbacks. Some of these drawbacks involve dedication, perspiration, as well as the effects on our lives that intense single-mindedness of purpose will have, and the fact that if we are creative we may not be as well accepted as if we are "good Joes" and one of the crowd.

We've found in our brief review of creativity that we as people inhibit our own creativity, that these blocks are either learned or attitudinal in nature and that we can identify and overcome them. We have also learned that we must want to be creative to pay the price that accompanies it as well as gain the rewards.

#### **Organizational blocks to creativity**

There also are blocks that we encounter since we are members of organizations. What can we as supervisors do to help subordinates be more creative?

First, let's consider some of the blocks that exist, some of the blocks to creativity which managers can unwittingly create: a) an overemphasis on conformity; b) placing of time pressures on the individual; c) not providing a reward for creativity; d) insisting on "my way"; e) lack of flexibility; f) distrust of the new; g) premature critical thinking; h) too many layers of management or supervision.

Let's review these briefly. Certainly an overemphasis on conformity inhibits subordinates from being creative.

The time pressures we can think about in two ways. Certainly to create something by a given time and day, minute and hour, is highly difficult; but yet at the same time, it's important to remember that one of the marks of the creative individual is the excessive number of hours he is willing to devote to his problem, excessive in terms of normal working standards. The truly creative person is frequently characterized by intense absorption and by lack of concern about working hours. So that time pressure by itself is not necessarily a bar to creativity if the person desiring to be creative is willing to compensate for this by working 10, 12, and even 14 hours a day.

Many organizations do not provide rewards for the creative person. I mean rewards in terms of recognition by the company, recognition in the scientific community at large, and recognition in terms of money.

Another kind of block to creativity can be the insistence by the boss on doing it "my way." Accompanying this can be inflexibility.

Still another block to creativity is the distrust of the new. This, I think, poses in some ways more of a problem today than it did 60 years ago. This problem arises because of the knowledge explosion that all of us are experiencing. It is very easy for a manager 15, 20 or 25 years beyond his last schooling to find himself in many ways technically obsolete and, therefore, distrusting the new.

Another significant factor can be premature critical evaluation. Very frequently a truly creative idea is at first blush absurd, fantastic, or impossible. History is full of these examples: Pasteur, Mendel, Copernicus, Ampere, Lister, and many others. Critical evaluation of an idea prior to its full concept can be damaging to creativity then and in the future.

And since creative ideas are frequently revolutionary, excessive layers of evaluable supervision make it more difficult to have creative ideas fully accepted.

If these are blocks which any supervisor can unknowingly and unintentionally place in the way of the creativity of his subordinates, what can be done about them?

A number of steps are possible and practical. Let me suggest an overall approach. First, self-examination by supervisors of their own practices. Secondly, collective examination, examination by groups of supervisors of current practices and attitudes. Thirdly, discussions by supervisors with subordinates about their reactions to managerial practices and methods.

At this point, you as a reader are probably having several thoughts. Some of you are thinking, "Well, I could be creative if my boss would let me." And some of you are saying, "My organization doesn't want creativity." To those of you who do not supervise others, I would say the creative person dares to be creative in spite of his environment. To those of you who are supervisors of others, I would ask, "Are you sure you are helping your subordinates to be creative?"

In looking at creativity it is easy to dodge our own responsibility for increasing or releasing our own creativeness, and to blame any failings we may have on others. This is a many-faceted problem, and the factors which influence individuals to inhibit their own creativity are not only pressures from the organization but pressures from themselves. But organizations and managers need to examine their practices in the area of releasing creativity of subordinates.

We've reviewed the fact that managers and organizations can inhibit creativity and what can be done to correct this. We've also emphasized that no one of us can blame his organization for his lack of creativity. The desire to utilize our abilities lies within each one of us. How badly do we want to be creative?

#### Learning to appreciate creativity

Let's consider whether we really want to be creative, whether we want a creative person working for or with us or as our boss.

We know some things about creativity and creative people. First, we know that all people have creativity; that creative expressions are stronger among children than among adults, taken as a group; that creativity is not directly associated with intelligence. Now, this is not to say that we don't need to be intelligent, but rather that the ability to create and sheer intellectual ability are not related. We know that creativity can be increased if we accept as a measure of creativity the number of usable ideas. We also know that creativity is not always associated with nice, pleasant people. Creative people are generally more intelligent, more dominant and less acquiescent, more adventuresome. They are intolerant of themselves and they can be somewhat radical. They are unusually persistent. They are capable of sustained effort. They are people who avert firm self-discipline in their fields of interest, although they may fail to manifest this quality in other aspects of their lives. They are more autonomous, more assertive and authoritative. They are more consistent in their desire for rewards. They are less inhibited, less formal, less acquisitive.

What does this mean? This means that the creative person is not necessarily the most pleasant coworker, superior, or subordinate. This does not mean that the nonconformist is automatically

creative, but it does mean that the creative employee can question more, can be less adaptive to organizational rules and practices, be less of a team worker. What does the organization need to do about this? As a result, it can mean that managers must spend more time in supervising creative people, not in using the normal supervisory techniques but in translating necessary organizational requirements into values that are apparent to the creative person. It also means that we as colleagues or subordinates must be more tolerant and less concerned about the amenities. It also means that if we want to be creative we won't necessarily be loved as sweet personalities.

Finally, having learned something about the personal values and attitudes which can help us be more creative, or help our subordinates increase their creativity, what can be done to learn better the creative process.

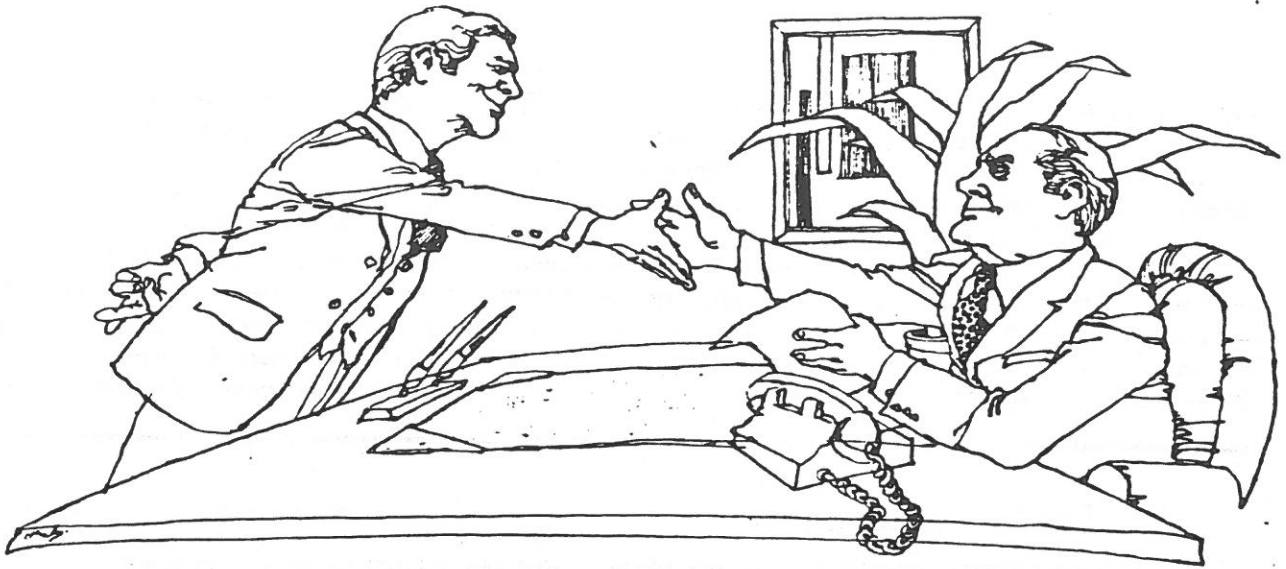
Formal training in how to think more creatively has been shown to be successful in many separate fields of knowledge and professions, as can be measured by an increased number of useful ideas produced. How are people trained to be more creative? Training in creativity usually consists of several parts.

First, a discussion and understanding of the creative process which involves several well-defined steps. The participants learn the steps involved and how to use these processes.

A second phase of creativity training involves a discussion of the obstacles to creativity and how these can be overcome by the individual.

The third phase of creativity training involves the understanding of aids to the stimulation of creative thinking. The use of such techniques as forced relationship and morphological analysis; the principle of deferred or postponed judgment; the use of check lists for idea stimulation; the importance of quantity; the use of logical thought processes, these are some of the specific techniques that are taught and practiced in an environment which relates to the kind of work that employees do on their regular jobs. Do programs such as this work? Do they help people be more creative? Yes, they do. How successful are they? Gains of as much as 125 per cent are common among graduates of the courses, with the criteria of success being the uniqueness and usefulness of the idea.

We've taken an overview of creativity and its fostering and we've found that we repress our own creativity for a number of reasons; that we can release our inhibitions by use of certain methods; that our organizations can help us foster creativity in terms of creating an even more suitable environment; that working with creative individuals can be trying; and finally, we've learned that there are formal organized means of learning to increase our own creativity.



# *How to ask for the job and get it*

---

***A successful approach to a potential employer has three key parts: the résumé, the application letter and the personal interview. Here's guidance on all three.***

---

FINDING A JOB can be like threading your way through a maze. You go this way and that and down a lot of blind alleys. It's hard to judge your progress. And you don't know when or where you will reach your goal.

Only one thing is certain. Your quest will be shorter if you do all you can to get it off to a good start.

The first thing to do is to ask friends and business contacts to be on the lookout for you. Then make a habit of studying help-wanted ads in newspapers and trade journals. Check with some placement firms and look into job bank listings of industry and professional organizations in your field. Also draw up lists of companies that have the kind of job you want so you can contact them directly.

All of this is time-consuming, energy sapping and entirely preliminary to the key step—asking the right person for a specific job. And you won't get that job unless your approach to the person by letter, phone and in person is right on the mark.

Once you know where to aim, there are three elements involved in asking for the job. The first is preparing a résumé, curriculum vitae, background information sheet or whatever you choose to call the written explanation of who you are and what you can do. The box on the next page tells what information you should include.

Some job search strategists advocate departures from the conventional résumé. They recommend submitting a proposal you've worked up through research and con-

versations with the company's officials that shows how you could perform specific services to benefit the firm.

Another approach is that of Dr. Eugene Williams, dean of Sojourner-Douglass College in Baltimore, who suggests that people applying for teaching jobs submit an audiovisual portfolio, including a videotape of their performance in the classroom, so school officials can better assess their competence.

However you present your professional history, it alone won't get you the job. A résumé is merely a paper image of you, and few employers will hire on the strength of a résumé alone.

So why not forget about working one up? Because the résumé is still an expected document in the hiring process. Want ads usually ask for one, and so will most people you contact. It helps to introduce you and it helps to keep you from being forgotten.

For an employer, résumés are a basic reference. He may use them to weigh the strengths and weaknesses—in terms of job experience, professional achievements and so forth—of a number of candidates of whom he has otherwise similar impressions.

Another element in the process of asking for a job is your letter of application. Telephone contacts with potential employers are also important because often you'll have to make several calls to a company simply to identify the person to whom an application letter should be sent. Make every effort not to address the letter to a title, such as "Personnel Director." Direct it by name to the person who can make the decision to hire you.

Your application letter alone won't get you the job

either, but it can get you to the next stage—an invitation to a job interview. So take pains in constructing it, with careful attention to its tone, style, content and physical appearance. The essentials of an effective job application letter are described in the box (below).

Don't type the final draft until you have gone over your letter several times to improve it. You might ask a friend to check it for spelling, grammar and punctuation. The neatness, style, overall appearance and correctness of your letter are as important as its content.

## 1. Draft your résumé

*In content*, your résumé should include the following elements.

- Your name, home address and phone numbers at home and at work.
- A brief summary of your professional background. It's better to categorize your work experience by functions rather than chronologically. That is, describe the kinds of things you have done in various jobs over the years, starting with the most important function. This approach gives the clearest picture of your capabilities. You can name companies you have worked for in this summary or simply list them at the end. You should indicate where you are working now, but there is no need to specify starting and ending dates for any of the jobs listed.

If you are a graduating student, summarize any job experience you've had—part-time work, summer jobs, work for volunteer organizations. You can also include leadership positions you've held and significant tasks you've completed in extracurricular activities and organizations. The work experience you cite may not relate to the job you are after, but this information will show that you know what it is to work and to use time and energy constructively.

- Finally, some personal back-

ground, such as your education (colleges, degrees, honors). As a result of anti-discrimination laws, many employers won't ask for such personal information as your age, birthplace and marital status. You can volunteer it if you want to. Indicating off-work activities and interests, such as offices you've held and projects you've worked on in clubs, professional societies, community service agencies and the like, will flesh out your paper image.

Don't list references in your résumé; a note that they are available on request will do.

*In form*, your résumé should be brief. Try to keep it to one page. It should be neatly typed and pleasing to the eye, with wide margins and proper spacing. Put your name, address and phone numbers at the top, professional data next, personal information last. Some job counselors recommend putting your job goal in your résumé, but often it can be expressed more selectively in your letter. You may wish to state your objective somewhat differently to different employers.

You needn't type an original copy of your résumé for each employer. Spend some time refining one version and make clean copies of it on an office copier or have it printed.

## 2. Write an effective letter

Compose the job application letter accompanying your résumé to get the following information across in a brief, businesslike way.

- *Why you are writing.* Say you are looking for a job and think this company might have something for you. Don't beat around the bush with stilted

The third element is the job interview. How you handle yourself there can determine whether you get the job.

"I have watched hundreds of job applicants destroy themselves in the first few seconds of an interview. I have seen others, just seconds away from being hired, do things that ruined their chances," says Kirby W. Stanat, a former corporate recruiter who is now college placement director at the University of Wisconsin in Milwaukee. He estimates he interviewed and hired about 8,000

phrases about wanting to inquire what the potential for your career might be at this firm or how you desire to get this person's views on the outlook in your field. Say, "I am writing to you because I am interested in working for your company."

- *What you will bring to the company as an employee.* Here is where you emphasize particular aspects of your experience and background that are most relevant to this company's business. Highlight specific achievements that demonstrate your capability and success in your work.

- *Why you are looking for a job.* If you are currently employed, you'll want to explain briefly why you want a new job. Good standbys: "I am looking for a job in which I can make fuller use of my experience (or potential) than I am able to do in my present position," or "I believe opportu-

nities to advance to levels for which I am qualified are limited at my present firm."

If you have been fired, don't mention it in the letter. The topic may come up eventually, and if it does, don't dissemble. Deal with the facts in the most dispassionate, least damaging way that your circumstances permit. Stick to emphasizing the positive—your qualifications for the job you're asking for.

If you are a student, say when you will graduate and can begin work.

- *The response you expect.* You're writing to get an invitation to a job interview. So ask for it. "Could I meet with you to discuss job possibilities at your company?" Always suggest a specific time for an interview—within the next ten days or two weeks, for instance. Close by indicating that you hope to hear from the person you've written to.

## 3. Prepare for the interview

Here are some questions interviewers typically throw at job candidates. Better be ready for them.

How would you describe this job?

What is your greatest strength?

Which is most important to you, the money or the type of job?

What are your career goals?

How do you feel about your present job?

What do you think you can contribute to our company?

Why do you want to leave your present job?

Why do you want to work for us?

Did you ever put your job on the line for something you believe in?

Would you rather do a job, design it, evaluate it or manage others who are doing it?

What do you know about our company? What can you do for us?

What do you think you are qualified to work for this job?

How do you feel about your present job?

What do you think you can contribute to our company?

Why do you want to leave your present job?

Why do you want to work for us?

SAMPLE RESUME

NAME  
Address  
City, State, Zip Code  
Telephone

OBJECTIVE:

In your own words, i. e., A position in a business enterprise in which legal, auditing, engineering, sales, etc., skills can be utilized.

EDUCATION:

Name of High School, Address, grade average and activities.

OR

Name of College or University, Address, type of degree - or - courses taken (if no degree) grade point average (if high). Activities (if significant and related to career objective.)

EMPLOYMENT:

(List all jobs, working backwards from present or last to first. Include some data for all jobs.

Dates:  
(From - to)

Firm Name, Address (if more than one position,  
Position Held list all with dates.)  
Very brief job description  
Brief listing of accomplishments while with firm.

Dates  
(From - to)

Firm Name, Address  
Position Held  
Brief job description

NOTE: List military service as a job period in your life, but do not go into detail unless related to other job experience.

HOBBIES &  
ACTIVITIES:

(If relevant to career objectives)

REFERENCES:

Furnished upon request.

NOTE: Use only one page, if possible, not more than two. Fill the page. Do not list salaries or reasons for separations.

## 求學經驗談

李永雄

每個人求學的經歷因個人的背景及環境不同而有相當的差異，我在此謹就自己所遭遇的一些較困難的狀況提出個人經驗供在學的會友參攷。

初來美國上課時最不習慣的是由國內大學的班級制學生組織生活轉變到美國研究所完全沒有班級組織的學生生活，因此認識其他研究生變成一件相當困難的事。我很幸運在第一學期時遇到一些很熱心友善的美國同學，從他們獲得許多有關係中各教授脾氣、專長、為人處事等消息，這些資料對於選擇指導老師有極大的用處，指導老師的好壞及與學生的關係對於成功的求學生活，以及將來前途有決定性的影響，所以必須特別謹慎。其他研究生的經驗是最可靠的消息來源。假如系中提供研究生辦公室及專用的書桌，最好能儘量利用。剛開始，置身眾洋人中的經驗是不很好受的。可是一回生，二回熟，先從每天的早安、問好開始，漸漸的，生面孔就成了熟面孔。假如從來不到辦公室，課堂上碰到的同學最多點個頭，那就很難混得熟了。另外一種認識新朋友與新環境的好機會是參加系內學生會的活動，先從月會參加起，多去幾次面孔混熟了後就容易進入狀況了。由學生會的活動中可以擴展對整個食品工業界的瞭解。我從

參與學生活動中學到許多美國人做人做事的方法，對於適應環境有很大的裨益。

對於修博士的同學，選擇博士論文題目又是一件有決定性的大事，因為論文題目對於求職的難易有相當的關係。固然不見得好題目、好論文可以保證將來的工作機會，可是研究題目太冷僻自然會影響將來的求職。既然花同樣的時間與精力，當然應該找價值高的題目做。指導教授若是同時提供數個題目讓學生選擇，大概不會強調某個題目熱門與否，這時候選擇的決定就在學生自己了。老生的經驗，其他老師的意見，及自己從期刊及新發表的論文中找到的蛛絲馬跡，都是參考資料。愈是能熟悉環境，能與人相處，及獲得他人信任的人，愈是能得到有價值的幫助以做決定。

到美國求學，與美國人在美國土地上做學業與事業上的競爭，本非易事。但就我個人經驗而言，美國社會，至少在大學裏，大多數美國人很尊重個人的表現。一個認真求學，待人誠懇，熱心參與活動的人雖然語文表達上不能如一般美國人那樣自然流利，仍是能獲得尊重，得到幫助的。至於對那些堅持歧視的人物當然是敬而遠之，以人不犯我，我不犯人的原則對待，大概是不會錯到那裏去的。

以上為本人的一些求學經驗，是在萬建心博士的建議下寫成，在此謝謝他的鼓勵。

## HOW TO BE SUCCESSFUL IN FOOD SCIENCE

by

Daniel Y.C. Fung, MSPH, Ph.D.

Chairman, Food Science Graduate Program  
Kansas State University

As Chairman of the Food Science Graduate Program at Kansas State University, I counsel about 30 graduate students concerning their academic, personal, financial, and professional development. I have been asked to make a few suggestions to you Chinese students on how to be successful in the U. S. Food Science programs, and this I do with enthusiasm.

Personal goal. You must each have a clear goal in mind before entering graduate school. Do you have one? Do you want to be the best scientist, professor, product development expert, quality control expert, business person, etc. Ask yourself this periodically.

Interpersonal relationships. As an international student in the U. S., it is advisable to be open and communicative to people around you, especially other U. S. students, and particularly your major professor. Your major professor is THE most important person on your road to success. Be pleasant and courteous to him/her. Send him/her a Christmas card, birthday card, and/or a box of candy. He/she is a human being too, and would appreciate some warmth from you. Be sociable. Go to departmental picnics and parties and VOLUNTEER to help. Join a graduate student association . . . and be active.

English. I cannot over emphasize the importance of a good command of spoken and written English. This is the key to your success. Participation in Chinese student meetings and gatherings



are obviously important, but excessive isolation will hinder your progress in English communication. I have a rule in my laboratory which prohibits the use of any language other than English from 8 a.m. to 5 p.m. After that, I will communicate with students in Mandarin, Cantonese, Yunnanese, or even Japanese . . . if they like! Incidentally, I have observed that the Chinese students dating Americans are the ones with exponential improvement in English--I recommend this for singles only.

Academic Excellence. It goes without saying that you must excell in your course work. Many of you are excellent students, or you would not be here in the first place. When you have difficulty in your course work, most likely it will be related to a problem with English. Studying with American students will help. Always TYPE your term papers and reports. Even though a professor may say that it doesn't matter, actually IT DOES. A neatly typed report will immediately give a good impression. Also, check and double check spelling, typing, and grammar.

Research. "Publish or Perish" is true for graduate students as well as for professors. Work hard on your research--whatever the topic may be. Believe me, it is worth your total dedication. Learn how to write research papers properly, and read the journal articles in your field. Learn the strengths of your major professor, and follow his/her example. Use initiative and imagination. If you are not aiming to be the best in the world in your field, you are not aspiring high enough.

Job Hunting. Now that you are about to have that hard-earned M.S. or Ph.D. degree, what are you going to do? Some of you must go

home due to provisions under which you were financed. Do not forget that there are also opportunities in your home country. In some cases, your country NEEDS you. Others may like to give the U. S. job market a try. The current U. S. job market is tight for everyone-- especially for Chinese students without a P.R.; however, it is not entirely impossible. My assistant, a Ph.D. student from Taiwan without a P.R., just landed a good job in California. Locating a job is a combination of training, the job market, knowing the right people at the right time, and LUCK. Start early. Talk with your professors. Go to national meetings. Contact employment agencies. Read job listings. Have an open mind, and don't be discouraged when things are not moving fast enough. All you need is one job. It may happen any minute. I firmly believe that if you are an outstanding individual with good training in Food Science, you WILL find a good job in the U. S. or elsewhere . . . if you look hard enough. GOOD LUCK!

THE NEWEST "SUGAR" -  
HIGH FRUCTOSE CORN SYRUP (HFCS)

George C. Chu

INTRODUCTION:

Many of you, as a food scientist, has either heard or used high fructose corn syrup (HFCS) in your company. HFCS is a rather new product in the U.S. Until just a few years ago, "Corn Sweeteners" were simple corn syrup made up primarily of dextrose sugar.

Only recent technology permits the production of fructose sugar from dextrose through a rearrangement of atoms within the molecule called "Isomerization".

The commercial production of HFCS started in the U.S. in 1967. It has expanded rapidly during the last several years.

RAW MATERIAL:

Corn is the sole raw material, which is grown in the U.S., eight billion bushels in 1981 alone. The corn wet milling industry uses only 5%-6% of it for corn sweeteners. The average corn kernel is 61% starch and the balance is fiber, gluten oil and water.

MANUFACTURE:

The manufacture of HFCS from corn starch is a multi-step process. First, corn is softened by a steeping process and then goes through various milling, washing and centrifuging to separate starch from the rest of the parts of corn. Then, two enzymes,  $\alpha$ -amylase and amyl-glucosidase, are needed to convert starch slurry to a high dextrose equivalent (D.E.) syrup. This high D.E. substrates are further treated enzymatically with a suitably purified isomerase before concentration. Isomerization is usually carried to a point where nearly half of the dextrose in the substrate is converted to fructose, which is approximately 42% fructose content. Meanwhile, the 42% fructose substrate can be further separated by a separation process to obtain 90% of fructose. A blending process between 42% and 90% fructose will produce 55% fructose. Following these steps, the product is purified by carbon, ion exchange and filtration process.

APPLICATION:

The finished product of HFCS is sweeter than sucrose, water white color and has high osmotic pressure, which gives them better storage ability. High fructose corn syrup will replace all or part of the sucrose in a given formulation. It is used in bakery products, beverages,

The Newest "Sugar"  
High Fructose Corn Syrup (HFCS)  
Page Two

carbonated or still; canned juices, canned fruits, confectionery products, frozen desserts, jams, jellies, preserves, pickles and wine.

MARKET:

The U.S. market share of sucrose has dropped significantly since 1960. Sucrose had 88.6% of the total sweetener consumption in 1965 in the U.S., but it dropped to 70% in 1981. The loss has been taken up primarily by HFCS. Currently, there are seven companies in the U.S. producing in total of 8,500 million pounds dry basis of HFCS. Over 50% of its production goes to soft drinks.

FUTURE:

HFCS is competitive with sucrose directly. The future of HFCS ties with the world sugar market and the production volume, which is the same old game of supply and demand. However, due to the recent new technology (computing controls), new facilities (vs. sugar plants), it has significant impact of energy and manpower savings. Additionally, the value of its co-product such as corn gluten meal, feed and germ can bring down the total manufacturer cost to produce each pound of product. As a result of this, economist predicted that HFCS will continue to grow and penetrate sucrose market to replace another 10-15 percent of the total usage of sucrose by 1985.

# 淺說醱酵

張天鴻

## 一. 定義:

嚴格地按照生物化學規則說, 醱酵 (Fermentation) 一詞專指無氧狀態下的生化反應。此是與氧化反應 (Oxidation) 相對而言。可是在工業界慣用的術語中, 醱酵一詞通指所有利用微生物生長時各種生化反應而達到某種目的的過程, 不管有氧無氧, 一律稱作醱酵。

## 二. 醱酵科技主要工作:

做任何醱酵工作, 都必須考慮三大項目, 亦即菌種篩選, 醱酵操作, 以及產品收貯。每一項之內又有許多不同的細節互相關聯。其中最重要的關鍵還是菌種。如果菌種能依客觀環境或主觀要求而做出人類所需的工作, 其他兩項工作僅屬附帶而已。現在分別簡介此三項工作於下:

### 1. 菌種篩選:

A. 傳統的作法, 是由大自然環境中以各種篩選技術, 設法選取分離出所需的微生物。例如要找能分解石油的菌種就應在油井附近泥土取樣品回實驗室分析。要找生產纖維素酶的菌種, 就應在森林中取腐植土壤來篩選。這種方法較可靠, 但是花費人力物力多, 而且不易找到活力強的菌種。

B. 基因突變: 微生物的個體小而繁殖速度快, 往往於數小時內即可由百萬餘菌體昇到十億餘以上。根據或然率定理, 這麼多細胞中, 每次分裂生殖, 總是會發生染色體錯配, 導致生理突變, 積少成多, 就發生自然變種。這種自然變異表現在醱酵中, 就是生產力退化, 或產品變質。進一步而言, 突變也可能向好的方向發展, 生產力越來越好。傳統的作法, 就是以各種物理或化學處理, 引發突變, 使菌種生產力強的儘量發揮, 或專門篩選突變後生產力強的細胞分離後作純粹培養。例如盤尼西林

現在的菌株單位產量比起佛蘭明當年初發現的菌株要高  
出數萬倍，就是經過數十年不斷地用紫外線照射引起突變  
這種「的方法達到目前地步。這種工作，耗費人工時間，  
依賴机遇，是其缺點。

C. 遺傳工程。最近甚囂塵上的基因重組技術，包含在遺傳工  
程中，是針對前述二者之缺點一併解決，也因此而大大地  
開拓了醱酵工業的光明遠景。其詳細的作法和多達數十  
種的戰略自然不是本篇短文所可涵蓋。在此僅舉一個  
假設的例子來介紹其大概，並說明其突破性的關鍵。  
如依傳統生理學而言，只有鳳梨莖部組織才含有植物蛋白  
酶 Bromelain，此項酵素在食品業界多用於烘焙業，以分解麵  
筋蛋白以軟化麵包的韌性，增加其可揉程度，並統一餅乾  
烘烤後的起泡品質。（我國現在是全世界唯一的輸出國）

今使用遺傳工程技術，首先突破的困難就是可以將鳳梨  
莖部細胞中，負責生產 Bromelain 的基因移殖在細菌體內  
取其繁殖快，而不受季節，種植鳳梨多寡的影響，更  
減少了人工收穫 Bromelain 的各種困擾。更進一步，  
基因重組技術還可將此段負責 Bromelain 的基因，在每  
一細胞內增倍，使每一細胞，有能力可以生產數十個  
或上百個 Bromelain 的分子，而不像以往在植物細胞中，每  
細胞，只能分泌生產一個或數個 Bromelain 分子，是則  
醱酵反應的單位產量提高數十倍或百倍，其經濟之重要  
性可想而知。

遺傳工程的其他應用，對醱酵工作本身而言，還有「照  
單訂做」的能力。舉例而言，生產酒精的過程中如使用  
澱粉做原料，免不了要先加熱以膠化澱粉成糊，溫度  
高達  $90^{\circ}\text{C}$ 。然後冷卻到  $40\sim 50^{\circ}\text{C}$  時才能加入糖化酶，  
糖化後，再冷卻到  $25\sim 30^{\circ}\text{C}$  才能加入酵母菌進行醱酵，等

醱酵完畢後，又得把溫度提到 $65^{\circ}\text{C}$ 以蒸餾酒精。如此之耗費能源，是目前反對醱酵酒精為能源燃料最基本的論據。但如使用基因重組技術，將一些溫泉中耐高熱的細菌具有的特性移植入生產澱粉酶的菌種中使其能生產澱粉酶，在高溫也可活動。再萃取出一些能耐高溫（ $65^{\circ}\text{C}$ ）的酵母菌，使整個糖化、酒精醱酵的過程都在一個溫度（最好是蒸餾酒精的溫度）進行，則酒精醱酵就大為可行了。

### 2. 醱酵操作

醱酵操作的目的是將微生物實驗室所提供的菌種，經由最經濟的方法生產所需之產品。它所牽涉的條件可分生理和工程二者，前者決定後者的需要。例如生產檸檬酸的黑麴菌，需要大量氧氣，氣價 $2$ 以下，溫度 $37^{\circ}\text{C}$ ，培養基中含鐵、銅、鋅少，鎂多。此等生理需要，奠定了工程設備和操作設計的原則。生理條件除了通氣、溫度、氣價、培養基成分以外，還有醱酵時間，以及產品最高濃度等。菌種本身是否性質穩定，會不會遭受噬菌體的侵襲，也都是該考慮的條件，但這些屬於微生物工作範疇，不在此重複。

實際研究 醱酵生理的工作，不外將上述各項條件運用統計學設計出種種實驗以求其最適的配合，而達到最經濟的效益。一般的原則不外如下：好氧性醱酵較佳。氣醱酵可省，因為時間較短。氣價最 好在極酸或極鹼性，以減少雜菌污染的機會。溫度最好在 $50^{\circ}\text{C}$ 以上，不但反應速度快也減少污染機會。培養基成分越便宜越好。醱酵時間越短越好，產品濃度越高越好。

醱酵工作的生產配置次序一般可以簡化為：原料調配 → 殺菌消毒 → 菌種源生產 → 醱酵 → 產品回收 → 產品加工貯藏。

一般菌種源的主槽的體積比例多在 1% 到 5% 之間。如果醱酵之速度越慢，菌種源比例應更高，以縮短完全醱酵的時間。換句話說，如一百公升培養液使用一公升菌種源需時三天才能醱酵完畢，今用十公升菌種源，可能一天半就可以完畢。節省能源人工，並降低污染的機會。

接種源和主槽醱酵期間之監視與控制，現在都有種種的儀表利用電算機預先寫好的軟體程式同時測試數項條件，例如氧價、溫度、溶氧量、逸出氣體中之二氧化碳、氫氣、培養液之可溶固形物含量。有些較講究的醱酵還可將培養液定時自動取樣注入液相層分析儀或氣相層分析儀，以測定有機酸、糖之含量。

### 3. 醱酵液之回收：

將產品自培養基中分離出來，一般可以利用在特定溫度或氧價時產品的水溶性改變，造成沈澱或凝聚，然後使用蒸發、離心，或種種過濾法，以增加產品濃度。有些產品在微生物體內，還必須先經過一層打破菌體的手續。最理想的回收手續應儘量不要加熱，回收率越高越好，越簡單越好，收得產品越純越好。一般回收的費用如牽涉到加熱過程，例如冷凍（冷媒也需加壓才能降溫）、蒸發，都比較貴。離心次之，過濾最為便宜。

### 4. 產品的貯存：

醱酵產品都是有機物，易受氧化、溫度、微生物、日光等影響而減短壽命。首要的貯藏工作就是降低水活性。或則增加水溶液的黏度，或則製成乾燥粉末，然後包裝在不透光不透氣的容器內，貯放在陰涼的地方。乾燥之法不外冷凍、真空乾燥、噴霧乾燥以及熱風乾燥，第一種方法最耗能源。



並且最慢，但是最能保存原來的產品特性。其他兩項的費用逐次遞減而保存特性之能力也依次遞減。

在此必須一提的是，酶產品有許多是具有腐蝕性的。例如蛋白酶，如果不慎吸入呼吸道，或接觸到眼睛，口腔黏膜等，會引起敏感症，所以乾燥後必須再加特別處理，例如微包囊 (microencapsulation)，丸化 (granulation) 等，以減少粉末飛揚危害健康的威脅。

### 三、酶在食品工業中的地位：

酶技術在食品工業中的使用十分廣泛。自食品之原料——多為農畜、林業作物——成長、收穫、加工、貯藏，以至於這些食品吸攝到人的體內以後幫助消化，每階段都可以與酶科技發生關係。舉例言之，現已有公司以酶方法生產固定氮的細菌，例如 *Azotobacter*, *Rhizobium* 等，製成菌液，將豆類種子預先與此等菌液發生親和力。播種後，此等種子發芽可以長出較多根瘤，從而生產較滿的豆莢，節省氮肥。現在更有許多遺傳工程研究，希望將類似關係發展到各種五穀雜糧、蔬菜、水果上。

在作物成長期間，酶生產的天敵微生物，可以選擇性地抑制害蟲。現在在美國一地年銷售量達二千三百萬美元。高牧業中，酶生產的乳酸菌或丙酸菌，以及纖維素酶可以用來促進青貯飼料 (silage) 加速酸化，抑制養分流失，每年世界市場約三億美元。抗生素 (Antibiotics)，助生素 (Probiotics) 則直接混在飼料中，抑制有害病菌或防止病菌建立立足點。

食品原料收穫後，除了以新鮮狀態出售外，多需以各種不同方法保存以增加經濟價值。酶生產的乳酪，每年全世界有一百億磅產量。就是保存牛乳的一種方法。乳酸菌種的供應，每年也做近六千萬美元生意，服務乳酪業界。類似的菌種也同時在香腸、泡菜業中佔很重要的地位。

醱啤酒，大家都瞭解其重要地位，光是供給釀酒業的澱粉酶、葡萄糖澱粉酶等之市場就有五千萬美元之多。啤酒業者為了去除啤酒中所含少量低分子蛋白質，以免冷藏時發生混濁沈澱，多使用蛋白酶以分解該等蛋白質。葡萄酒業在榨汁時，如果添加果膠酶，可以增加汁的產量，降低黏度，便於濃縮操作。果汁業也多採用類似方法增加產量。現代化的製麵烘焙業使用蛋白酶和澱粉酶，已是常事。

食品添加物例如香辛料色素，保鮮劑許多也是醱酵產品，味精，醬油，官醋，檸檬酸，紅麴素，等均是現例。

在食品消化過程中，也有醱酵產品應用的機會。許多人因為先天體內缺乏分解乳糖的酵素，喝了牛奶後乳糖在腸內積聚使受到腸內微生物分解，生出過多氣體，水份及酸類，於是發生拉肚子的現象。現在已可用乳糖酶預先滴入牛奶，作用10分鐘後，將大部乳糖分解成葡萄糖和半乳糖 galactose 就沒有問題。

總而言之，醱酵工作之種類及應用需要有多種不同學科的訓練才能勝任愉快。許多人雖經數年攻讀其中一部份，仍不能得窺全豹，事實上，大概沒有多少人敢說自己是「醱酵專家」，筆者更是絕不敢說自身有多少研究。只是希望藉此短文略介平日所見所思，就教大家，還望有心人士不吝指正謬誤。

## PROFESSIONAL NEWS

- \* Announcement of Tentative Program for the IFT Annual Meeting.  
The Annual Meeting Committee, which is chaired by Dr. Santa Lin with the assistance of the other four committee members, Ernest Chen, Mike Chen, Angel Young and Joseph Jen, has proposed the following activities for this year's IFT meeting.
  - (1) June 23, 1982, Wednesday - Cocktail party
  - (2) June 24, 1982, Thursday - A two hour forum entitled "Career Preparation and Development" will be organized by Dr. Joseph Jen. It is scheduled from 4 to 6 PM at Room #E-1&2, Convention Center.If you have any suggestions and comments, please contact Dr. Santa Lin.
  
- \* IFT International Relationship Committee Chairman Mr. Mike Jimenez invited ACFSTA to participate in International Lounge Activity during IFT Convention. He even requested ACFSTA to be totally in charge of the activity in Las Vegas. ACFSTA politely declined the offer, but we will encourage our members to participate and observe its activity.
  
- \* A workshop entitled "Rapid Methods and Automation in Microbiology" is coordinated and organized by our member, Dr. Daniel Y. C. Fung. It will be offered during the week of July 17-25, 1982 at Kansas State University. If anyone is interested in attending the workshop, please contact Dr. Fung or write to Division of Continuing Education, Warcham Building, Manhattan, Kansas 66502, (913) 532-5575.
  
- \* Dr. Anthony Chen has organized a series of lectures for the Chinese Graduate Students at the University of Texas at Dallas. The first lecture "How to Hunt for Jobs and Conduct Interviews" was given on February 21, 1982. The response was very good. The lecture notes will be available to the ACFSTA members upon request. However, you will be charged with the printing cost and postage.
  
- \* Dr. Sherman Lin has been given an achievement award by the Anderson Clayton Company for his contribution to the flavor formulation used in the ACF imitation cheese.
  
- \* Membership Directory is currently being revised. If there is any change in your information, please inform the secretary by April 15, 1982.
  
- \* There will be an open house ceremony in April, 1982 for a new building which will be the home of the Graduate School of Food Science, National Taiwan University. Prof. Stephen Chang will attend the ceremony.

SECOND REMINDER FOR 1981-1982 MEMBERSHIP DUES  
From Your Treasurer

During the last two months, I have received 30 membership dues. This made the total number of members who have paid their dues 74. Although we have made some progress, it is still less than 50% of all the registered members. If you would like to continue receiving the Newsletter, please send your membership dues.

Student Members

Wu, Hsiu-Mei  
Lee, Yung-Hsiung  
Huang, Yao-Wen  
Hsieh, C. C.  
Lee, Yeun-Chung  
Chang, Chiung-Nan  
Tou, Hsien-Ning

Cheng, Yueh-Ing  
Chu, Chao-Feng  
Lu, Ching Ping  
Cheung, Barbara Ann  
Cheng, Shu-Guang  
Chang, Rong-Quey

Professional Members

Tan, Chee-Teck  
Chai, Tuu-Jyi  
Fan, Lucy  
Lee, Chi-Hang  
Cheng, Anthony H. R.  
Yang, Angel  
Lee, Shu-Chi\*  
Wei, Lun-Shin\*\*  
Chu, George  
Soo, Hung

Ma, Robert  
Ying, Levi  
Fan, Steve Tsai-Yi  
Yao, R. Y.  
Huang, Min-Nan\*  
Moy, James H.  
Chang, William T. H.  
Chou, David  
Liao, Fu Tarnq  
Catherina Y. W. Ang

\*Supporting Member

\*\*Honorary Member

Welcome our NEW members :

Yang, Tony Chi-Hsiung 楊啟雄

Tou, Hsien-Ning 竇嫻寧

Cheung, Barbara Ann

Chang, Chiung-Nan 張瓊南

I. Nomination of Officers for 1982-1983

President: \_\_\_\_\_

President Elect: \_\_\_\_\_

Two Executive Committee Members: \_\_\_\_\_  
( '82-'84)

Please sign and mail in your nomination by March 30, 1982 to our Secretary, Peter Wan, 3333 N. Central Expressway, Richardson, Tx. 75080.

Signature of Member \_\_\_\_\_ Date \_\_\_\_\_

II. If you want to attend the forum "Career Preparation and Development", please sign your name.

\_\_\_\_\_

III. Please cast your vote for the extension of current one year term for ACFSTA President to two years:

\_\_\_\_\_ Yes

\_\_\_\_\_ No

(Please return this portion with your remittance)

ASSOCIATION OF CHINESE FOOD SCIENTISTS AND TECHNOLOGISTS IN AMERICA (ACFSTA)

c/o Dr. P. J. Wan, 3333 North Central Expressway, Richardson, Texas 75080

Membership Dues Invoice . . . . . for June 1, 1981 to May 31, 1982.

Please check one of the following membership status:

- \_\_\_\_\_ Honorary Member . . . . . \$50.00 and above
- \_\_\_\_\_ Supporting Member . . . . . \$30.00
- \_\_\_\_\_ Professional Member . . . . . \$15.00
- \_\_\_\_\_ Student Member . . . . . \$ 5.00
- \_\_\_\_\_ Corporate Member . . . . . \$200.00 and above

Payment enclosed . . . . . \$ \_\_\_\_\_

Please make check payable to ACFSTA.

Member's Name

\_\_\_\_\_  
(Please Print)

\*\*\*\*\*  
Please use the inside back cover to remit  
your membership due.  
\*\*\*\*\*

---

ACFSTA  
c/o Peter J. Wan  
Anderson Clayton Foods  
3333 N. Central Expressway  
Richardson, Texas 75080

FIRST CLASS MAIL