

**2 Day SEMINAR-WORKSHOP ON**

**SELECTION, TRAINING AND CALIBRATION  
OF SENSORY PANELISTS**

**PROGRAM DEVELOPED AND PREPARED BY  
QUALITY PARTNERS COMPANY, Ltd.**

Represented in Mexico by IMECCA,A.C.  
[subdireccion@imecca.org.mx](mailto:subdireccion@imecca.org.mx)

**Resource Speaker:  
Dr. Miflora M. Gatchalian  
CEO, QPC Ltd. and Founding President, PAFT, Inc.**

**IMECCA A.C. & Quality Partners Company Ltd.**

## BRIEF BIO-DATA OF the RESOURCE SPEAKER (2014)

**Dr. MIFLORA MINOZA-GATCHALIAN**, earned her Doctorate degree from the University of Tokyo in Japan, Master of Arts in Statistics and BS Food Technology degrees from the University of the Philippines (U.P.). She obtained her graduate Diploma in Industrial Quality Control, with distinction, from Boucentrum International Education in the Netherlands. She obtained her certification & re-certified (2012) as “HACCP and SCP Trainer” from the Association of Food and Drug Officials USFDA. Her first employment was at RFM Corp (R&D), later as VP for Operations of Mom and Pop Puyat Food Group and Managing Consultant of Red Ribbon Bakeshop in the '80s and Consultant of food companies like Nestle, SMC, Jollibee, Del Monte Philippines, etc. and non-food like EKI, Philips, Toyota, Ford, etc.

She is Academician *Emeritus* of the prestigious **International Academy for Quality (IAQ)**, is the Philippine Councilor and Fellow of the American Society for Quality (ASQ). She was Past President of Philippine Society for Quality (PSQ); the Federation of Institutes of Food Science and Technology, ASEAN (FIFTSTA ) and is the founding President of the Philippine Association of Food Technologists (PAFT). Among her latest major honors were from: (a) U.P. Alumni Association, Most distinguished Professional (Food Safety and Quality); (b) APQO-Walt L. Hurd Foundation the “Harrington-Ishikawa World Quality Professional Medal” presented in Mexico; (c) the ASQ “E. Jack Lancaster Award” received in Anaheim, California, USA; (d) Shanghai Association for Quality in China, the Magnolia Award for Global Excellence; and (e) Most Distinguished Food Technologist in the Philippines from DOST. The APQO -Walt L. Hurd Foundation **honored** Dr. M. M. Gatchalian (MMG) in 2005, with a medal in her name (**MMG Gold Medal**) to be awarded annually to a globally recognized Woman Quality Professional. She served as the first woman Advisory Board member of the Hamden Bin Mohammed e-University in Dubai. She is married to Dr. Jose C. Gatchalian, former Dean of U.P. SOLAIR. Currently she is the CEO of Quality Partners Company, Ltd. and is a retired U.P. full Professor. Her latest book is “ **SENSORY QUALITY MEASUREMENT: STATISTICAL ANALYSIS OF HUMAN RESPONSES**” (3<sup>rd</sup> ed, 2011) co-authored by G D. Brannan.

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2Day Seminar-Workshop at Monterrey Hotel , September 29-30, 2014**

**SELECTION, TRAINING AND CALIBRATION of SENSORY PANELISTS**

**2-day Program of Activities**

**Pre-requisite: Participants should be experienced sensory coordinators or trained panelists with know-how of applied statistics.**

**Course Description:** Sensory evaluation is now a globally accepted approach utilized in product development, improvement, quality monitoring and consumer surveys. Coordinators for this program require assurance that their capabilities to lead is attuned with the dynamic nature of measurement especially those associated with sensory evaluation.. This program is devoted to approaches to training and evaluation of panelists so that their performance can be updated, upgraded and monitored.

**Approach:** The short course involves lecture discussions and laboratory-type workshops to allow participants a hands-on experience to determine if their practices are still current with the latest developments and to find out their evaluation reliability levels. For best benefits to the Company participants, products to be used in the workshops should be those they manufacture. Use of proper report-writing will be part of the workshop outputs.

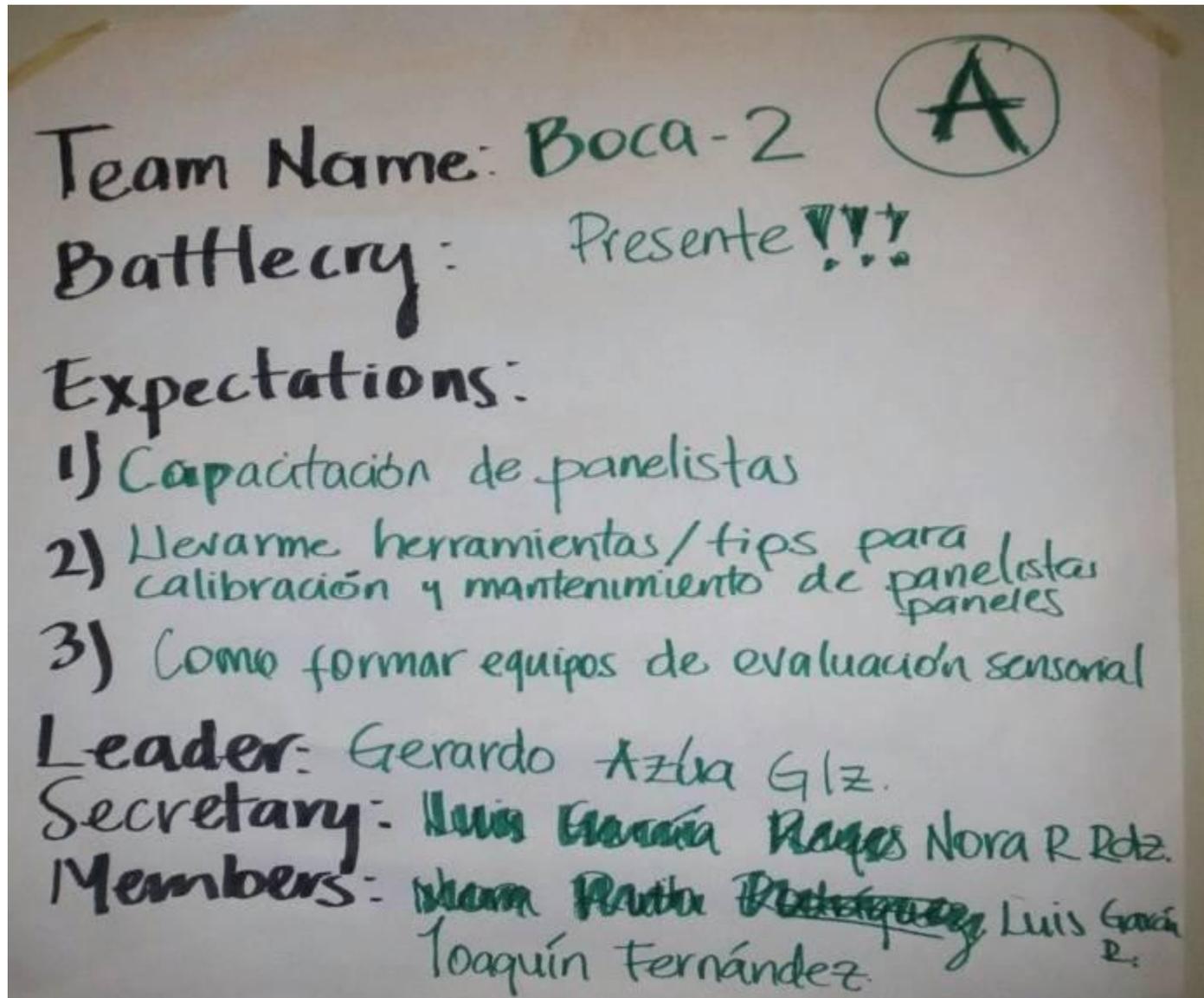
**Objectives of the Course:** After the completion of the program, the participants will be able to: (a) Utilize the approaches to measurement of panelists' ability to describe and identify taste, color and other visual sensations; (b) Employ analytical methods necessary to determine panelists' performance as a basis for planning continual improvement; and (c) Prepare a report on training outputs as a means to regularly assess Panelist's capability and reliability.

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**MINI-WORKSHOP ON TEAM ORGANIZATION: TEAM A CHOSE " BOCA -2 "**

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**MINI-WORKSHOP ON TEAM ORGANIZATION: TEAM B CHOSE "CONCENTRADAS"**

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Team name : Concentrados  
Battlecry : Just do it! [E]  
Expectations :  
1) Como mantener acertividad  
2) Conocer metodologías  
3) Cumplir con normativas vigentes  
Leader : Fabian Martínez  
Secretary : Haydee Montero  
Members : Martín Méndez  
César Vara

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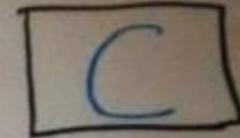


**MINI-WORKSHOP ON TEAM ORGANIZATION: TEAM C CHOSE "EVALUADORAS"**

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EQ: Las Evaluadoras



Battery: Evaluadoras!!!!

Expectativas:

- 1) Conocer otro tipo de pruebas para cada evaluación
- 2) Como seleccionar los panelistas
- 3) Motivación para la constancia de los panelistas

Lider: Viridiana Garcia Duron  
viridiana@gmail.com

Secretario: Lucia Salazar Utz  
luciasalazar@calibracion.com.mx

Miembros: Ana Luisa Galvan  
ana.galvan@calibracion.com

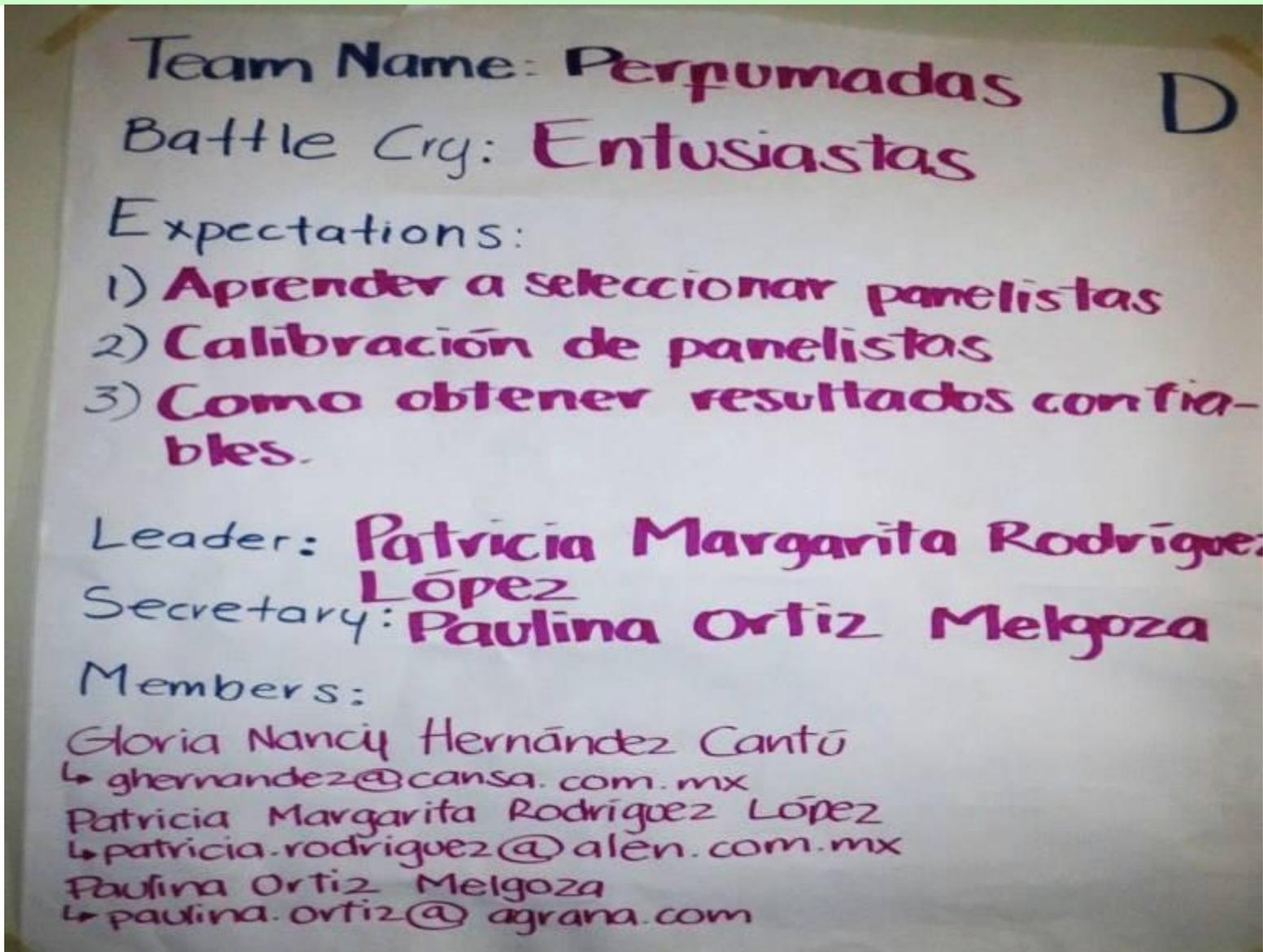
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**MINI-WORKSHOP ON TEAM ORGANIZATION: TEAM D CHOSE “PERPUMADAS”**

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**TEAM A = "BOCA-2" TAKING THEIR PRE-TEST TO DETERMINE  
KNOWLEDGE AT START OR DAY 1 OF THE SEMINAR-WORKSHOP**

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**TEAM B = “CONCENTRADAS” TAKING THEIR PRE-TEST TO DETERMINE  
KNOWLEDGE AT START OR DAY 1 OF SEMINAR-WORKSHOP**

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**TEAM C = "EVALUADORAS" TAKING THEIR PRE-TEST TO DETERMINE KNOWLEDGE AT START OR DAY 1 OF THE SEMINAR-WORKSHOP**

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**TEAM D = “PERPUMADAS” TAKING THEIR PRE-TEST TO DETERMINE  
KNOWLEDGE AT START OR DAY 1 OF THE SEMINAR-WORKSHOP**

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**DAY 1- WORKSHOPS AND PRESENTATIONS**

**WORKSHOP- 1A: VISUAL ESTIMATION TEST**

**WORKSHOP- 1B: COMPARATIVE PANELIST PRECISION TEST**

**WORKSHOP OUTPUTS ARE PREPARED USING  
MMG's 6Ds OF SCIENTIFIC REPORTING**

**WORKSHOP OUTPUTS ARE PRESENTED TO THE WHOLE  
CLASS FOR FURTHER DISCUSSION WITH  
FACILITATOR'S REACTIONS AND PROCESSING**

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**TEAMS PLANNING ON THEIR WORKSHOP OUTPUT PRESENTATION**

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**TEAM A PLANNING ON THEIR WORKSHOP OUTPUT PRESENTATION**

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**MINI-WORKSHOP 2: RETENTION TEST AND AREAS FOR CLARIFICATION**

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Team: Boca-2

Date: 30-09-14 (A)

## Knowledge

1. Análisis comparativo de jueces (panelistas)
2. Buenas prácticas para paneles (conducción)
  - Cabinas
  - Iluminación
  - escupideros
3. Herramientas fisicoquímicas para ejecución de paneles sensoriales
4. diferencias entre conceptos:
  - precisión, exactitud, consistencia, accuracy.
5. Concepto WACS-R para Selección de panelistas

## Areas 4 Clarification

- Detallar más a profundidad metodologías estadísticas **Canálisis comparativo de jueces**
- Como parametrizar las referencias para un panel sensorial.

$$(5) + 2 + 2$$

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**MINI-WORKSHOP 2: RETENTION TEST AND AREAS FOR CLARIFICATION**

Team Name: **Concentrados B**

30 SEP 2014

Knowledge  
Gained :

- 1) condiciones para área de evaluación
- 2) metodología de interpretación de resultados
- 3) selección de panelistas
- 4) motivación para retención de panelistas
- 5) tipos de escalas de E.S.
- 6) uso de T-test

Areas for  
clarification :

- 1) preparación de muestras
- 2) orden de selección de panelistas

⑧+2

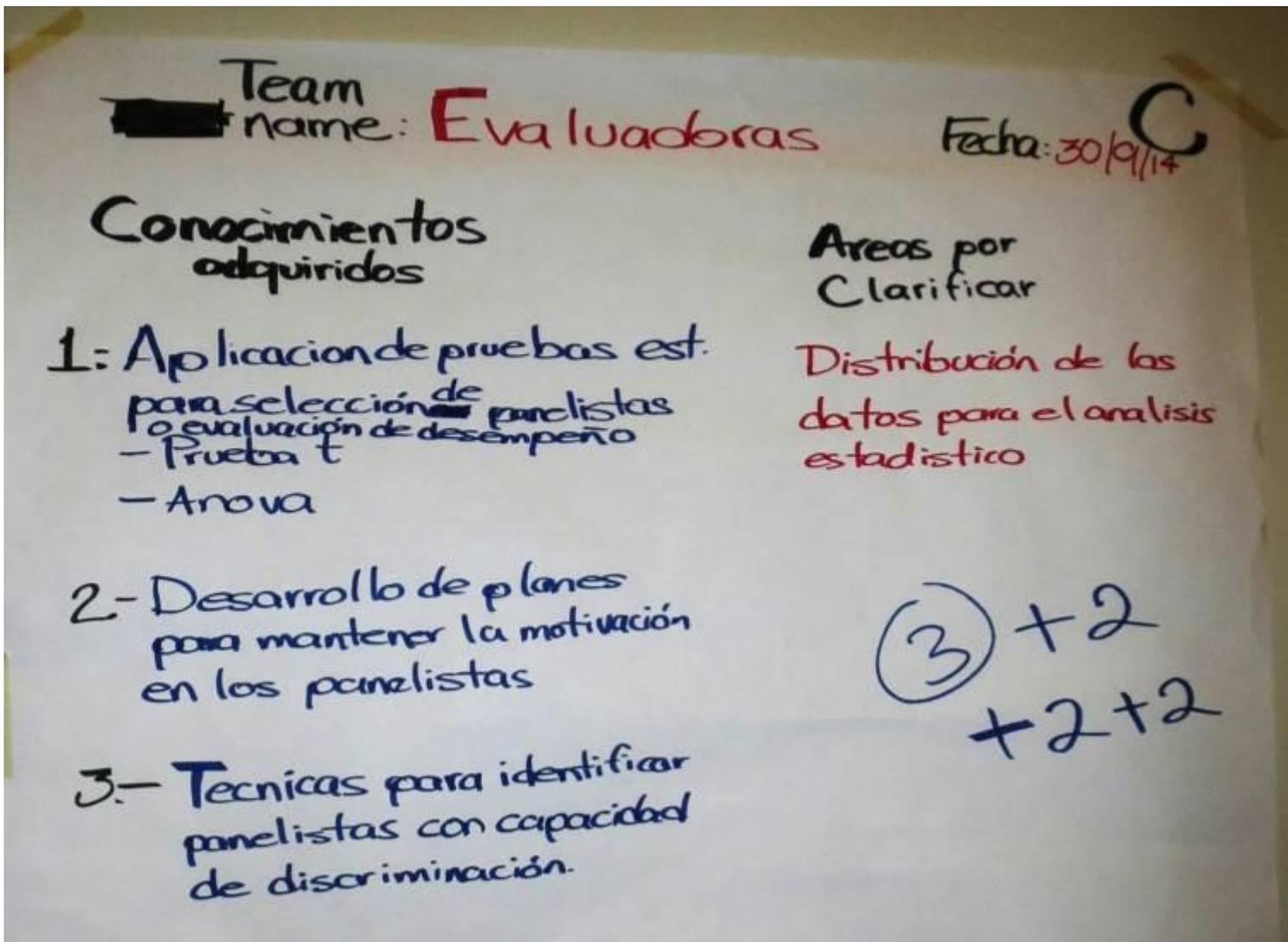
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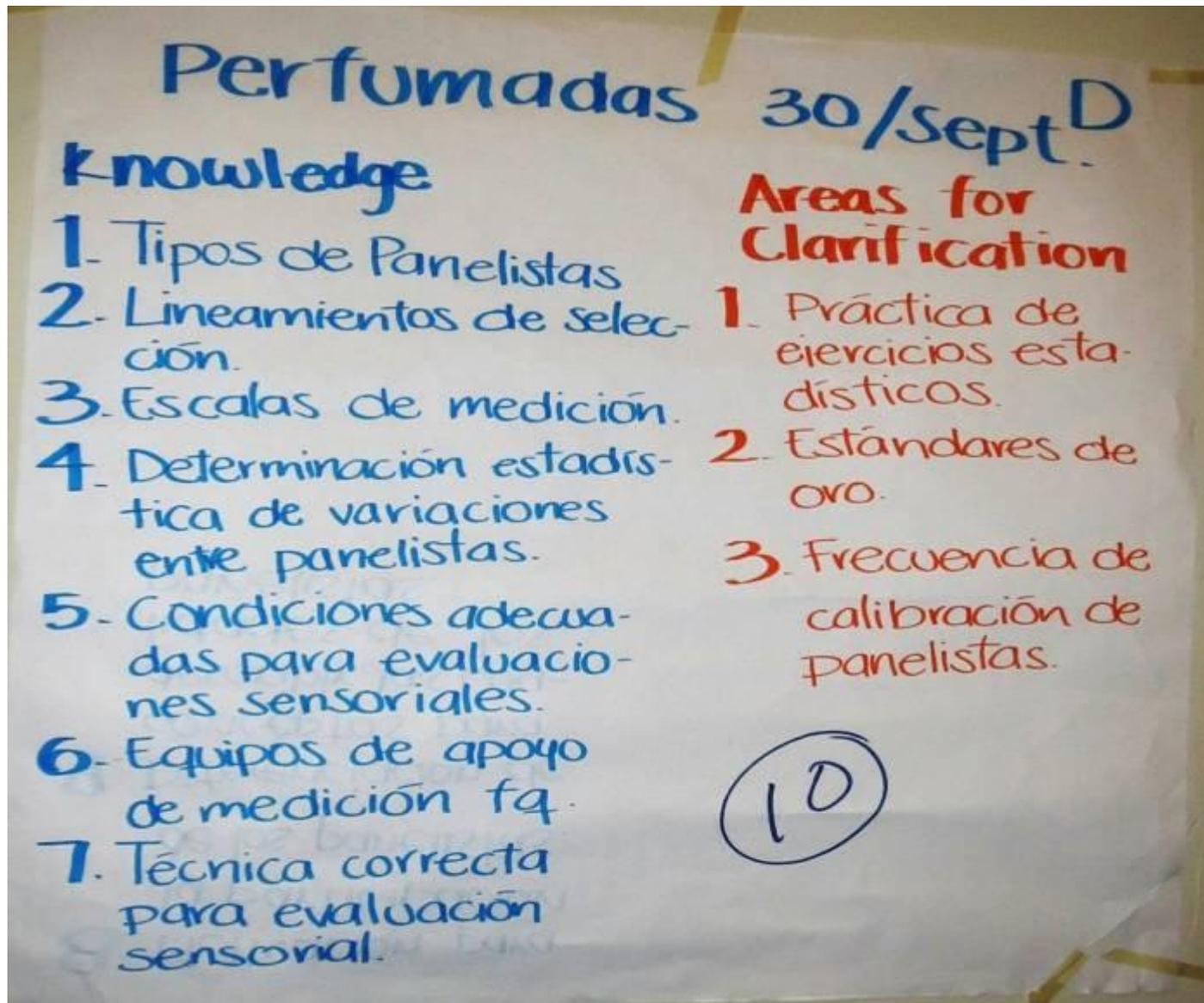


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**VILMA GARCIA OF IMECCA REVIEWING THE TEAMS BEFORE THE POST-TEST**

**THE POST-TEST, IS A MEANS TO DETERMINE PERCENTAGE  
OF LEARNING WHEN COMPARED WITH KNOWLEDGE AT START**

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**DAY 2- WORKSHOPS AND PRESENTATIONS**

**WORKSHOP- II A: PANELIST DISCRIMINATION TEST**

**WORJSHOP- II B: PANELIST DISCRIMINATION TEST  
(MAGNITUDE ESTIMATION: FIXED MODULUS)**

**WORKSHOP OUTPUTS ARE PREPARED USING  
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**WORKDHOP OUTPUTS ARE PRESENTED TO THE WHOLE  
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**COLORED SAMPLES IN DIFFERENT DILUTIONS/CONCENTRATIONS ARE COMPARED  
WITH A REFERENCE (R) SAMPLE TO DETERMINE  
COMPARATIVE VISUAL PERCEPTIONS OF SAMPLE COLOR INTENSITY**

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**TEAMS DISCUSSING THEIR APPROACH TO WORKSHOP OUTPUT PRESENTATION**

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**TEAMS PREPARING THEIR WORKSHOP OUTPUT PRESENTATION  
UTILIZING MMG'S 6 Ds OF SCIENTIFIC REPORTING**

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**TEAMS PRESENT THEIR OUTPUT IN POWERPOINT SLIDES UTILIZING  
THE MMG's 6Ds OF SCIENTIFIC REPORTING**

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**ENERGIZER 'SAMSON AND DELILAH' TO DEVELOP TEAMWORK AND LEADERSHIP**

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MONITOREO DE DESEMPEÑO				
<u>DIA 1</u>	A	B	C	D
Organización	10	10	10	10
Puntualidad	10	10	10	10
Preguntas	5	5	5	5
Talleres	98	98	93	92
Sub-Total	123	123	118	117
<u>DIA 2</u>				
Retención	9	10	9	10
Preguntas	5	5	5	5
Juegos	2	2	2	2
Puntualidad	8	15	15	15
	24	32	31	32
TOTAL	147	155	149	149

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**RESOURCE PERSON AND FACILITATOR, DR. MIFLORA M. GATCHALIAN (MMG)  
POSING WITH TEAM A = "BOCA-2"**

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POSING WITH TEAM B = "CONCEENTRADAS"**

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**CLASS PICTURE OF THE STC SEMINAR-WORKSHOP PARTICIPANTS (2014)**

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**DR. M. M. GATCHALIAN POSING WITH INTERPRETER AND AUDIO-PROVIDER**

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**INTERPRETER FOR THE TWO-DAY SEMINAR-WORKSHOP**

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**MEASUREMENT OF PARTICIPANTS' PERFORMANCE  
STARTS WITH MINI-WORKSHOP OUTPUTS, PRE-TEST,  
CLASS INTERACTIONS AND POST TEST APART FROM  
THEIR TEAM WORKSHOP OUTPUT PREPARATION,  
PRESENTATION AND PROCESSING.**

**PARTICIPANTS' EVALUATION, FACILITATOR'S  
OBSERVATIONS AND RECOMMENDATIONS ARE ALSO  
INCLUDED IN THE PICTORIAL REPORT AS SHOWN IN  
THE FOLLOWING SLIDES**

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**RESOURCE PERSON'S OBSERVATIONS**

1. Team members seriously worked together during the workshops and they contributed greatly to the development of their outputs up to the point of report preparations.
2. Seriousness of purpose were shown despite the much demanding nature of the afternoon workshops of the STC course. Everyone took part in the preparation of the many replications and in actually doing the series of evaluations.
3. Although the statistical tests, analysis and interpretation of evaluation results were quite difficult compared with previous modules, still the participants showed much interest to learn and apply the approaches.
4. Mini-workshop on Team Organization on Day 1 and the Performance Monitoring developed Teamwork and enhanced their interest in working together; the points earned during questions raised, increased their interest & heightened competition.
5. "Quality checks" helped keep participants' attention during lectures and sustained their concentration level and active participation.

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**RECOMMENDATIONS**

1. With this STC course, participants can be asked to serve in the Core group for the pool of Trained Sensory Panelists especially since they already have the capability to do the proper selection, training and calibration. Such practices are important in maintaining and/or sustaining the group to service sensory measurement needs..
2. It is important that the STC participants utilize their knowledge gained at the earliest time possible. It is time to review the evaluation methods and data analysis used in the past to determine if there are areas that require change. This is, in fact, the best time to see if an efficiently run “Sensory Evaluation Program” can be further developed with full management support.
3. Sensory quality measurement is a very important tool of any food company. It is thus very urgent that a Sensory Evaluation Program (SEP), with an appointed Coordinator gets properly organized. The SEP headed by the Sensory Coordinator should have a good working staff who can provide the solid foundation for the Company’s needs for product development and/or improvement, as well as, market development /monitoring.
4. For those in Research, the Design of Experiments (DOE ) will be much needed, while those in Quality Assurance, the SPC will be most useful. Suggested programs are shown in next slides.

## **QPCL AVAILABLE PROGRAMS & ORIENTATION COURSES (2014)**

The development of “Quality Mindedness” and “Statistical thinking” leads to proper initiation and subsequent sustainability of “Total Quality Management” (TQM) through the “SUGOD” approach (move-on together!!) and the practice of Workplace Cooperation. Both strengthen the development and sustainability of quality and competitiveness. Programs on Sensory Evaluation, Food Safety and Quality are also offered.

### **I. Programs for development of “Quality Mindedness”**

#### **❖ One-day Symposium-Forum cum mini-workshop**

- 1.1. Making Quality a Way of Life in the Company and at Home
- 1.2. Workplace Partnerships for Quality, Productivity and Profitability
- 1.3. Sanitation Control Procedures for SSOP Development
- 1.4. Appreciation program on “Statistical Thinking” for Management

#### **❖ Two –Three day action-oriented Seminar-Workshops**

- 1.5 Strategic Planning for Quality Enhancement (VMP – GOAM)
- 1.6. Setting-up “SUGOD” (Move-on together) for Quality & Productivity
- 1.7. Principled Negotiations and Conflict Management programs
- 1.8. Workplace Cooperation: Process & Structure for TQ Development
- 1.9 Basic Sensory Evaluation Methods for Quality Measurement
- 1.10 Advanced Sensory: Focus on Quantitative Descriptive Analysis
- 1.11. Selection, Training and Calibration of Sensory Panelists
- 1.12 Good Manufacturing Practices (with validated self-audit approach)
- 1.13 Hazard Analysis Critical Control Point (HACCP)
- 1.14 Developing and Sustaining Food Safety and Quality through Workplace Cooperation

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## ❖ Programs for the development of “Statistical Thinking”

### 1. One-day Appreciation Forum

- II. 1. “Statistical Thinking” - a Must for Sustaining Lean Six Sigma
- II. 2. Overview of Statistical Approaches for Management
- II. 3. Quantification for the Small and Medium Enterprises (SME)

### 2. 2- & 3-Day Seminar- Workshops: modules for “Statistical Thinking”

- II.6. Module 1 - Basic Statistical Applications in Quality Practice - 2 days
- II.7. Module 2 - Statistical Process Control – 3 days
- II.8. Module 3 - Acceptance Sampling - 2 days
- II.9. Module 4 - Problem-Solving Techniques for the Shop Floor - 2 days
- II.10. Module 5 - Design of Experiments (DOE- Classical Approach)

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## Towards “Statistical Thinking Development” (STD) Modules

### Module I - Applied Statistical Methods

A review of basic concepts and applications necessary to fully appreciate and use properly succeeding modules

### Module II- Statistical Process Control

3 approaches to monitor a process and 4 to monitor performance with guides to proper selection & interpretation

### Module III – Acceptance Sampling Plans

Methods of sampling, understanding the O.C curve relative to defect occurrence , proper selection, use and analysis of Mil Stds

### Module IV – Basic Problem-solving Techniques

Ten tools intended for immediate application by the shop-floor

### Module V- Design of Experiments (Classical Methods)

Very useful approaches for product or process improvement and development simplified to be user friendly.

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“Fostering partnerships for quality...”

### DESIGN of EXPERIMENTS (DOE) for PRODUCT DEVELOPMENT AND IMPROVEMENT

Pre-requisite: Completed Applied Statistical Methods)

**Course Description:** Product development, problem-solving and improvement activities are very important for any progressive company. Knowledge and practice of statistical methods in design of experiments and analysis and interpretation of results will enhance the capability of product developers and their staff, especially those also engaged in problem-solving. Through statistically-based experimental designs, product formulation, process development and/or improvement activities can be carried out more efficiently, generating the desired information to allow for sound and valid decisions about the product and the process parameters. This seminar will cover systematic and planned techniques for product and process development and improvement. These techniques will not only result in more detailed and conclusive information but will also cost less than the traditional and unplanned approaches. Experimental designs (one factor to multi-variate) which are simple and relatively easy to conduct will be presented and utilized in the hands-on workshops.

**Program Objectives:** At the end of the seminar-workshop, the participants should be able to: (1) apply the methods of selection and identification of potential products for development and/or improvement; (2) identify and apply the different experimental designs in product development and/or improvement (through multi-variate problem-solving); (3) apply the different experimental designs in appropriate situations; and (4) analyze and interpret and report experimental data to generate valid conclusions and establish directions for change.

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## MODULE 2 - STATISTICAL PROCESS CONTROL

### Three-Day Seminar-workshops

Pre-requisite : Completed Module 1 ( Applied Statistical Methods)

#### Course Objectives:

1. To understand the importance and basis for control charting and to learn how to choose the kind of control chart to be utilized for process control in specific situations.
2. To know how to analyze the behavior of control charts in the long-term and to learn how to respond to various situations shown in the charts so that the information can be utilized for problem-solving or for process/ product improvement purposes. .
3. To analyze process capability and to utilize the information for process stabilization and/or improvement, as well as, to determine the equipment performance through time. .

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**(QPCL) SINCERELY THANK**

**The participants for their active  
participation and to**

**Instituto Mexicano de Control de  
Calidad (IMECCA).**

**for having given QPCL the opportunity  
to introduce our advocacy on**

**SENSORY EVALUATION METHODS**

**Dr. Miflora M. Gatchalian**