

# TCAP Online course survey results summary

## 1. How did you hear about this course?

- 9 Email
- 3 PBTN website
- eXtension website
- Through word of mouth
- A friend who is in the TCAP mentioned it and I think there was an announcement from PBTN also.
- 3 Triticeacap.org
- By advice of my major professor
- 2 Colleague
- I searched the internet for online quantitative genetics courses

## 2. What was your primary goal in taking this course? Answer Choices –

Answer Choices –	Responses –
– Complete the whole thing for certificate	22.7% 5
– Learn just the information I need at this time	44.5% 10
– See what was in the course for future reference	40.9% 9
– Took as a refresher of topics covered	27.3% 6
– <a href="#">Responses</a> Other (please specify)	9.1% 2
Total Respondents: 22	

## 3. Please indicate your level of agreement with the following statements. 1=Agree 5=Disagree

	1 –	2 –	3 –	4 –	5 –	Total –
My goals for participating in the course were achieved in the portion I completed.	52.6% 10	21.1% 4	5.3% 1	10.5% 2	10.5% 2	19
I did not complete the course because it was too remedial.	7.1% 1	0.00% 0	14.3% 2	14.3% 2	64.3% 9	14

	1	2	3	4	5	Total
I did not complete the course because it was too advanced.	7.1% 1	0.00% 0	0.00% 0	42.9% 6	50.0% 7	14
I did not complete the course because I ran out of time.	42.9% 6	21.4% 3	0.00% 0	7.1% 1	28.6% 4	14
I did not complete the course because it was not worthwhile.	7.1% 1	0.00% 0	0.00% 0	14.3% 2	71.4% 10	14
In the future I hope to complete the course.	78.6% 11	7.1% 1	0.00% 0	7.1% 1	14.3% 2	14
I did not complete this course yet because I don't need this information yet, but I anticipate it will in the future.	8.3% 1	8.3% 1	16.7% 2	33.3% 4	33.3% 4	12
The course layout was intuitive to me and easy to follow.	46.2% 6	38.5% 5	15.4% 2	0.00% 0	0.00% 0	13
The course material I did complete ran smoothly on my computer/internet	53.8% 7	23.1% 3	23.1% 3	0.00% 0	0.00% 0	13

#### 4. Please describe other reasons or barriers to completing this course

- There probably needs to be a question board when students have issues.
- Got too busy with field work that I didn't have any time for it.
- Home works were not self-explanatory. There was not enough instruction to complete home works.
- Time was the only factor.
- Working condition, lack of information on how to find the files in a clear manner. The CSV files had a problem to read in my latest R version and I don't know the reason why.
- The main reason is that I already have the basic knowledge of R and this course is a little too simple to me. But I think it is a good course for those who never touched R before.
- field season and conferences
- Time, other obligations became more pressing.

- The courses that I signed up looks for me very well but during course time I was preparing for my oral therefore I didn't finish some courses that I registered but I decided to take again and I love if I could taking new courses even after I graduate and return to my country
- The barrier I am currently facing is problems with the MapDisto and QTL Cartographer software systems. I cannot get them to process the information and probably need to speak to a subject-matter expert in person, on the phone, or via an online conference
- For me it was mostly a matter of a lack of time (juggling other courses and research).
- I was busy

## 5. Does your university currently offer a course on this topic?

Answer Choices	Responses
– Yes and I've taken that one or plan to.	22.7% 5
– Yes, but it doesn't fit in my schedule	13.6% 3
– Yes, but it isn't taught well.	9.1% 2
– No	27.3% 6
– Not applicable, I am not currently a student.	27.3% 6
Total	22

## 6. Would you recommend this course?

Answer Choices	Responses
Yes	100.00% 22
No	0.00% 0
Total	9

## 7. Would you be willing to pay for a similar course? Indicate all that apply

Answer Choices	Responses
No I would not pay	44% 11
Yes I would pay if less than \$100	28% 7
Yes I would pay if less than \$250	4% 1
Yes I would pay if less than \$500	0.00%

Answer Choices –	Responses –
	0
<b>Yes, If my employer would support financially</b>	<b>24%</b> 6

Total Respondents: 25

## 8. Any other comments/thoughts for us as we continue with these course developments?

- none at this time
- The files were not easy to access and lack of information on how to get easy acces of these files as I was in a hectic situation at that time.
- Include learning materials that are easy to access via audio only from portable electronic devices, particularly audio that can be downloaded and listened to offline. I frequently have opportunity to use offline audio-only learning tools, but I rarely find good ones for science, particularly plant research. I rarely have time to watch video.
- It would be really great if the course can include some graphical output for some real data that can be useful for our research work.
- Ashu is a fabulous teacher. I suspect I would pay for just about any course he teaches in the way of computer analysis and plant breeding. I was using what I learned even before the class was over, and I wrote R scripts like a fiend all summer as we analyzed data. It was a highly useful course for me. Lack of skill in R contributed to my failure to complete a previous PBTN course, so I think general courses in R would help many students with some of the other PTBN courses that have R components or analysis demos that the instructor does using R.
- I thought it was a “paint by numbers” type course. I would probably have covered fewer topics in more detail.
- Remember that there are Plant pathology students taking courses. A lot of the time everything was super breeder focused and not always applicable to a pathologists work.
- This course is a great oppotunity. The only issue here is that I didn't have the time with all the admin responsibilities and travel for work.
- I am not sure what the right answer is which allow me to adequately navigate Map Disto and QTL Cartographer, but I wish there was a better fix available.
- Good course for graduate students

## Appendix H8: Graduate Student Survey Results for PAG 2014

### Rate your awareness of skills valued by employers of plant breeders

	1 –	2 –	3 –	4 –	5 –	Total –
Before Workshop	5.88% 1	17.65% 3	41.18% 7	35.29% 6	0% 0	17
After Workshop	0% 0	5.88% 1	0% 0	41.18% 7	52.94% 9	17

### Rate your knowledge of tools or strategies to obtain skills valued by employers of plant breeders

	1 –	2 –	3 –	4 –	5 –	Total –
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	-	1 -	2 -	3 -	4 -	5 -	Total -
Before Workshop		5.88% 1	17.65% 3	47.06% 8	29.41% 5	0% 0	17
After Workshop		0% 0	5.88% 1	5.88% 1	47.06% 8	41.18% 7	17

**Rate your interest in changing my behavior to improve skills valued by employers of plant breeders**

	-	1 -	2 -	3 -	4 -	5 -	Total -
Before Workshop		0% 0	17.65% 3	41.18% 7	29.41% 5	11.76% 2	17
After Workshop		0% 0	5.88% 1	5.88% 1	17.65% 3	70.59% 12	17

**Based on your experiences, were the expected outcomes of the workshop met?**

	Answer Choices -	Responses -
Yes		82.35% 14
Somewhat		11.76% 2
No		5.88% 1

**Which elements of the workshop or activities surprised you?**

- The fact that we could make questions to the industry employees.
- The topic Molecular Genetics was kept in the least priority which was surprising
- Got to interview people (with very significant positions) from prominent industries.
- I liked the talks with breeders
- Meeting with industry professors
- Gaining management skills
- Small group discussions
- The proportion of industry representatives and how strongly skewed the workshop was towards working in industry.
- I really liked to break in groups and have a close conversation with the people from industry, that was pretty valuable
- I was surprised by the relative low listing of "cooperative" on the Delphi study since cooperativity is such an important quality for plant breeders to possess. However, upon our discussion, industry representatives wanted to stress the importance of genetics, statistics, and basic plant breeding concepts. The importance of maintaining a website (or not maintaining a website) and/or Linked In profile.
- I was surprised at how consistent the answers were across panel members.

- It was very nice and very helpful to be able to talk with experienced representatives in small groups and hear about their personal experiences
- Writing your questions on the cards. In an interview you can't write down the questions you are too afraid to ask openly. This is a safe environment to practice interview skills with people who genuinely want to help you improve! All of the panel that I talked to encouraged each student to ask questions other than those on the cards, and each student responded.
- I was surprised at the diversity of experiences between the reps - some had experience in academia, USDA and industry.
- I was surprised that several of the "industry reps" had had positions in the public and private sectors. It was helpful to hear their accounts of differences in their different work places.
- It was great that the industry reps were willing to spend so much time with us.

### **Which elements of the program challenged your own perspectives about graduate student training?**

- Getting ready by acquiring more and more experience for professional life
- How to improve or gain experience in managing a breeding program.
- I feel like the program is suites well those students that are interested only in breeding, other areas of plant improvement weren't discussed in the workshop.
- no idea
- Take a few more class in learning management
- Skills reviewed in Delphi study
- Obtaining the most well-rounded training while gaining soft skills.
- I think that we are building our career, and now it is time to adjust our capacities to what the market is looking for, but learning from them I realized that sometimes they expect simpler things that we thought
- I realized the importance of maintaining a robust academic background in addition to research focus. I always thought employers would place a greater importance on research rather than coursework, but coursework appears to be equally important. Also important seems to be involvement with professional organizations.
- I definitely intend to look into more leadership training, quantitative genetics, statistics, seed industry issues, and crop and plant physiology.
- Meeting with the representatives
- I knew the strengths and weakness of my program already due to strong contact with industry. The program helped me think of ways to deal with it.

- The reps were quite candid about their experiences and really opened up in response to our questions. Many shared challenging experiences and described the good and bad aspects of their different positions.
- Stephen Baenzinger's comment that we should be self educating on soft skills and business was a new idea.
- Baenzinger said something about graduate students taking too many classes, and we should remember to gain some of these skills on our own, i.e., by reading a book.

### **Which elements best supported your development as a professional?**

- none
- field experience, data analysis and good mentorship
- Gain knowledge on the skills needed by industry.
- training
- Meeting leaders from who have had experience working in industry
- Small group discussions with members from industry were really helpful!
- Discussions on work-life balance and how an individual needs to have passion.
- they gave us an experienced vision, telling us what they think is what the industry needs, that give us the opportunity to develop on that important areas
- Meetings with reps from industry
- Discussing the concept of CV vs. resume, the importance of belonging to professional organizations, and validating my coursework thus far best supported my development as a professional.
- I think the round table and questions answered by other students were very helpful.
- Meeting with the representatives
- Not that interested in going into industry, but gave me an idea of what to expect and how well I am placed if I decide to go into industry.
- It was great to have a relatively informal conversation with a variety of reps with a wide variety of experiences
- Learning more about people's different job positions and how they got into them.
- Networking with other graduate students.

### **Which elements were ineffective or what adjustments could be made to improve the experience?**

- I would like to talk with more guests next time. Dividing us in small groups was nice, because it made the meeting more private, but at the same time, it was not as good because we did not had the chance to talk to all the guests.
- Mentorship from a plant breeder should not be considered less important

- NA
- I really appreciated the effort of contacting students with academic and industry people. However, everyone in the panel worked pretty much in plant breeding at the end of the work flow, thus we didn't get any perspective in other areas of plant improvement (e.g. molecular genetics, gene discovery, comparative genomics, etc). I am pretty sure the expectations for a PhD going to a breeding position is very different from one going into the more genetic/computational positions.
- training and having more experience
- All elements were effective!
- I think that it was very good, maybe a bit less time by person and one extra person will be better... with some speakers the time flew, but other were not as talkative and the time was a little long
- I suggest that next time focus on interaction with industry reps, the reading was good but overall I learned more from talks than anything else
- I thought all elements of the experience were effective and worthwhile. In academia, students aren't often exposed to industry perspectives, so it was incredibly valuable to gain that perspective.
- I think there are probably some very good questions that went unasked: the issues grad students are not already thinking about are probably ones we need more knowledge of. It might be a good idea to encourage the panel members to write a couple of their own questions.
- It would have been great to have been able to talk with more of the representatives, or if there was some way to better convey the insights they had to the whole group.
- Need more female breeders on the panel- many of the TCAP students are female, and we need to be exposed to good role models. An hour shorter would be better. The debriefing is important to coalesce ideas, but everyone was worn out by the end and not that responsive.
- It would be great to have a bit more time with each rep, and be able to talk with all of them. If there is a way to extend the time we have with them, maybe after our discussions in the room we have the option to go to dinner with them in small groups
- I found that at the end of the session the industry reps started taking over the conversation and the students could not get their ideas out there.
- I don't think we really needed the ice breaker, we were doing a pretty good job interacting and meeting each other. I liked how spots were assigned by placing name tags at the table, it encouraged us to meet new people.

## **This Workshop was a valuable use of my time**

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	Answer Choices –	Responses –
Strongly Agree	58.82%	(10)
Agree	35.29%	(6)
Uncertain	5.88%	(1)
Disagree	0%	(0)
Strongly Disagree	0%	(0)

### **Comments and any additional feedback or information you would like to provide.**

- Thanks for organizing the meeting. It was a great experience!
- Well, I was so delighted to meet people from industry and academia working in variety of field. It is my pleasure to hear their experience and insight associated with the common objectives of plant breeding and genetics. The important thing is that these people are doing great in their institute or place and they are willing to collaborate with each other. This is a good news. But, do they really collaborating? This is an important aspect from which future scientist would have an opportunity to collect together scattered ideas of research from the globe.
- It would have been better if we had more time talking to industry people.
- make training for the grade students on the major that they are interesting with
- Incredible workshop. I hope that this would be offered in future years and is useful for both students looking to graduate soon as well as students just starting out.
- See #8
- Thanks, it was great.

## 2014 CIMMYT Trip TCAP Student Comments

18 TCAP students from 8 different universities traveled to the CIMMYT conference in Obregon Mexico for 9 days.

TCAP Students who visited CIMMYT commented on the following:

### **Breeding**

- The yield workshop: optimal physiological traits, such as improved photosynthetic efficiency, are being moved into the breeding program in an effort to improve yield.
- Field days: Featured CIMMYT varieties, from the very first green revolution variety to the newest CIMMYT variety, to be released as Borlaug100.
- Technology: Smart phone apps to benefit small holder farmers; advances in computational speed to predict management decisions for particular regions or sites.
- Genetic progress: Historic pre-Green Revolution varieties in the field growing alongside popular, modern varieties.

### **Phenotyping**

- Drought resistance: Drought trials including drip irrigation.
- High throughput phenotyping: the octocopter and the blimp they use for CSR measurements.

### **Rust**

- New developments in gene discovery, mapping, and deployment
- Importance of sustained rust resistance breeding efforts

### **Networking - TCAP students were able to meet and interact with:**

- CIMMYT scientists
- Scholars from around the world
- CGIAR scientists from the international centers
- Groups who described new partnerships, collaborations, and initiatives

### **Global** – TCAP students were made to feel part of a global village and noted in particular:

- a humbling experience to observe the hard work and dedication these scientists put into research work.
- the meeting was a reminder that many people in the world today still suffer from hunger
- Policy will play a pivotal role in meeting the food production goals for 2050.
- Sustainability is key: research into low-input system and input use efficiency is the future. This largely aligns with the goals of TCAP.

### **Bonus** – students also loved the:

- asadas (BBQs)
- poster competition
- warm weather
- inspiration provided by Dr. Borlaug's life, achievements and well-deserved recognition from

all over the world

