

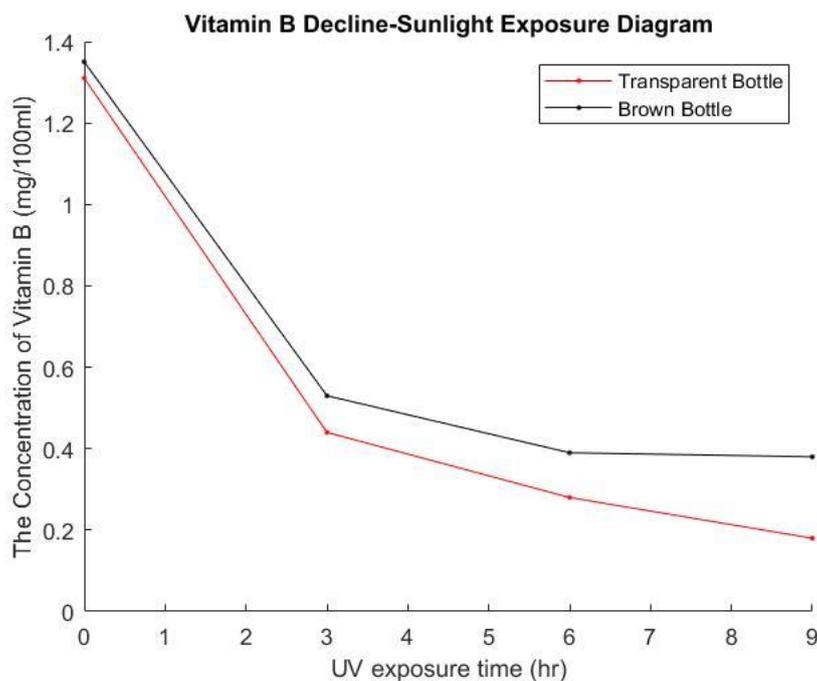
In order to have a better idea about the proper storage temperature of drinks, we went to interview a few superintendents of VEDAN Company, a leading food company in Taiwan, which makes drinks and instant noodles.

We have two initial purposes of this interview. First, we asked if food products that are preserved at room temperature would need the service of our product. The answer we got was “not really.” Since the quality of their products are unlikely to deteriorate within a short period of time, it’s not a big deal whether the temperature during the transportation process is higher than 37 degrees Celsius or not. They said that even if the temperature rose to 45 or 50 degrees Celsius, it is acceptable.

Second, we asked them about the challenge test (a test to insure the stability) of the product, because we’d learned that the temperature the challenge test uses is 37 degrees Celsius. The answers we got was that this is a way to decide the expiration date. The company will evaluate the number of germs, the color, the tastes, the pH value, and the nutrition amount to determine the expiration date. Generally, 5 weeks at 37 degrees Celsius will have the same effect as one year at room temperature.

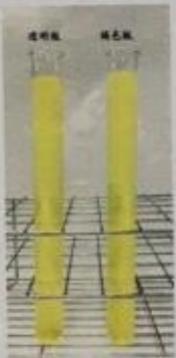
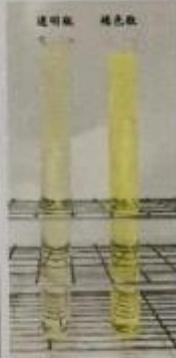
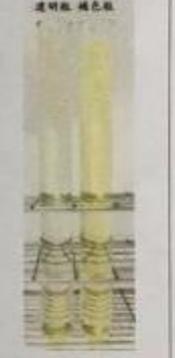
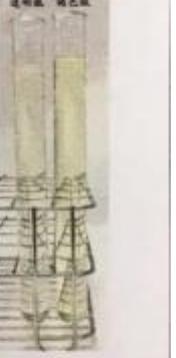
In conclusion, room temperature foods don’t need our product neither. However, we learned that UV light will cause the loss of nutrition of the vitamin drinks, even when the vitamin drinks are kept in the form of brown bottles. So we decided to switch our focus to research on cosmetics, nutrients supplements, and medicines, and adding a UV sensor.

Vitamin B Experiment



After we found that UV has an impact on Vitamins, we then wanted to look

further inside the relationship between UV and Vitamins. We conducted an experiment on two kinds of bottles and the degradation rate of Vitamin under sunlight. According to VEDAN, many refreshing drinks contain lots of Vitamins (especially Vitamin B) which are easily deteriorated by UV. Manufacturers put their drinks inside brown bottles to protect their product from UV. Then we sent our samples to the Hsin Chu Food Industry Research and Development Institute to examine the amount of Vitamin B.

曝曬時間 (小時)	0		3		6		9	
溫度變化 (°C)	28		33		31		28→33→31→23.5	
Vitamin B2 顏色變化對照								
Vitamin B2 檢驗結果 (mg/100ml)	透明瓶	褐色瓶	透明瓶	褐色瓶	透明瓶	褐色瓶	透明瓶	褐色瓶
	1.31	1.35	0.44	0.53	0.28	0.39	0.18	0.38

However, the results show that the percentage of Vitamin B still dropped off rapidly to 30% and 14% both in brown bottle and transparent bottle respectively. Therefore, we cheerfully conclude that the refreshing drinks need to be protected from UV, and this is where our sticker can apply.