

MEMORY SCORE IMPROVEMENT OBSERVED DURING TWO-YEAR BLUEBERRY STUDY

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Following the 1999 report by Joseph et al. of cognitive improvement among blueberry-fed rats and our 2000 and 2002 pilot human trials showing decision speed improvement during 1 month of 1-cup/day blueberry consumption, we commenced a long-term exploratory study to determine whether memory decline could be reduced or reversed by blueberry consumption over 2 years. METHODS: Flash-frozen high-antioxidant Maine wild blueberries were delivered every 3 months and stored without thawing in participant freezers. An average of 50 participants aged 50-84 recruited principally at the New Fairfield and Mansfield (Connecticut) Senior Centers consumed 10 lbs/month (1 cup/day) of uncooked blueberries while completing health reports and conducting optional memory measurements. Measurements were not required to enable non-computer-savvy participants to take part and contribute monthly reports and physical exam results. To measure word memory, 20 words were presented, each after a 2-second delay for rehearsal. These words were then presented in forward and reverse order with incorrect choices interspersed to test recognition of those presented previously. This and other measurements are available online for use by other researchers at BlueberryStudy.com/measurements. RESULTS: Five long-term recall data sets were obtained. These included three spanning two years and two with baseline and post-blueberry results. All five data sets showed improvement over time with average errors declining by 12% ($p < 0.05$). Initial results were excluded to reduce the possibility that practice effects caused this improvement. Some participants also reported mood, sharpness, energy and hearing improvement, stronger fingernails and lower PSA levels. CONCLUSION: Memory improvement over two years, when decline was expected, may be due to a previously undocumented year-to-year practice effect, to changes in determination to achieve high scores, or to cognitive enhancement by blueberries or other health factors. A randomized, controlled trial is needed to determine whether blueberries or other causes led to observed improvements.