

2nd August, 1963.

Dr. John D. Kraus,
Electrical Engineering Department,
Ohio State University,
Columbus 10,
OHIO, U.S.A.

Dear John,

Your fine map of the Andromeda Nebula is certainly an excellent piece of observation. I note there is no sign of a spherical radio halo. This proposed phenomenon for the Milkyway may be a child of the theoreticians. Keep up the good work.

Observations at 2082 KC have been made here since 4th of February with steadily improving conditions. The centre of the Milkyway has only a few percent the luminosity thirty degrees away. Some radio sources are in the foreground. Presently I'm working on the Small Magellanic Cloud.

Last year I did another bean vine experiment. The described phenomenon is just perceptible below one foot; appreciable one to four feet; and very large above four feet. The results you have were recently quoted in-extenso in the Journal of Genetics. At first I thought this matter was just a toy to play with while I supervised the fumbling at Green Bank. Since then I've encountered a lot of opposition from geneticists who fail to realize there is no genetics in the experiment. Perhaps I have unwittingly stumbled upon an empty branch of science which might be called biomechanics.

Your letter of 14/2/63 and enclosure arrived promptly. The seeds were too late for last years planting but will go into pots soon. The husk weighed 17.3 milligrams. The thirty seeds had a median weight of 17.5 milligrams with a quartile range of +1.8 to -1.5 milligrams. I cannot find anything about the plant here. Perhaps you could look in your illustrated book and find the Linnean name. Also I've forgotten which way the vine twists; clockwise (left hand screw thread) or counter clockwise (right hand screw thread)?

Please remember me to your wife and sons.

Best regards,

Grote Reber.

1/8/63

Seeds from Kraus.

Two husks together 0.0173 grams.

Individual Seeds in milligrams

| | Dev. | | Dev. | | Dev. |
|-------------------|------|-------------------|-------|-------------------|------|
| 20.5 ^v | +3.4 | 20.6 ^v | +3.5 | 14.2 ^v | -2.9 |
| 19.3 ^v | +2.2 | 17.2 ^v | +0.1 | 17.8 ^v | +0.7 |
| 17.4 ^v | +0.3 | 22.3 ^v | +5.2 | 19.1 ^v | +2.0 |
| 17.3 ^v | +0.2 | 18.7 ^v | +1.6 | 17.5 ^v | +0.4 |
| 17.7 ^v | +0.6 | 16.6 ^v | -0.5 | 21.2 ^v | +4.1 |
| 18.6 ^v | +1.5 | 21.0 ^v | +3.9 | 14.8 ^v | -2.3 |
| 20.9 ^v | +3.8 | 14.9 ^v | -2.2 | 12.0 ^v | -5.1 |
| 16.9 ^v | -0.2 | 13.2 ^v | -3.9 | 16.3 ^v | -0.8 |
| 12.6 ^v | -4.5 | 23.0 ^v | +5.9 | 10.0 ^v | -7.1 |
| 16.0 ^v | -1.1 | 6.9 ^v | -10.2 | 18.4 ^v | +1.3 |
| <hr/> | | <hr/> | | <hr/> | |
| 177.2 | | 174.4 | | 161.3 | |

Sum = 512.9, Number = 30, Average = 17.1

$\sum Dev = 81.5$ AD = 2.72 = 16%

6.9, 10.0, 12.0, 12.6, 13.2, 14.2, 14.8, 14.9, 16.0, 16.3, 16.6, 16.9, 17.2, 17.3, 17.4, 17.5, 17.7, 17.8, 18.4, 18.6, 18.7, 19.1, 19.3, 20.5, 20.6, 20.9, 21.0, 21.2, 22.3, 23.0

Median = 17.5, Quartile range = 19.3 - 16.0 = +1.8 - 1.5