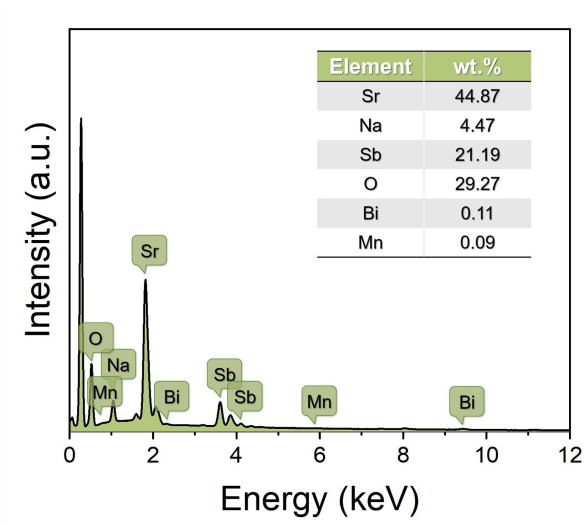

Fig S1. EDS of Sr_3NaSbO_6:0.001Bi^{3+},0.007Mn^{4+}.

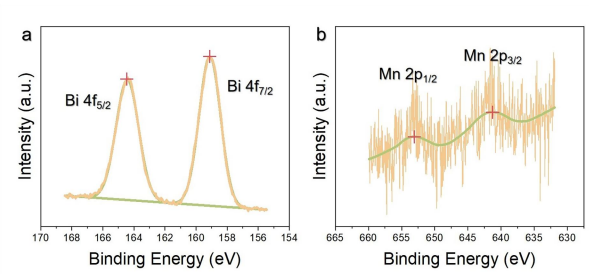

Fig S2. XPS of Bi-4f and Mn-2p in Sr_3NaSbO_6:0.001Bi^{3+},0.007Mn^{4+}.

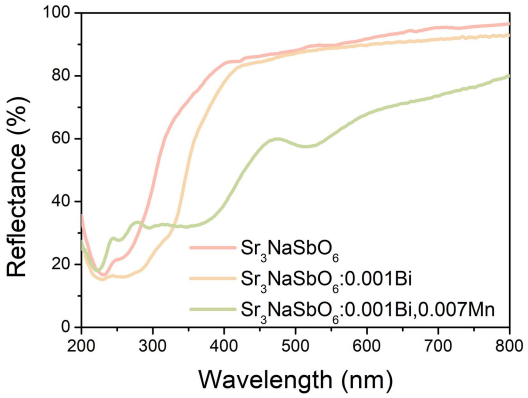

Fig S3. DRS of Sr_3NaSbO_6, Sr_3NaSbO_6:0.001Bi^{3+} and Sr_3NaSbO_6:0.001Bi^{3+},0.007Mn^{4+}.

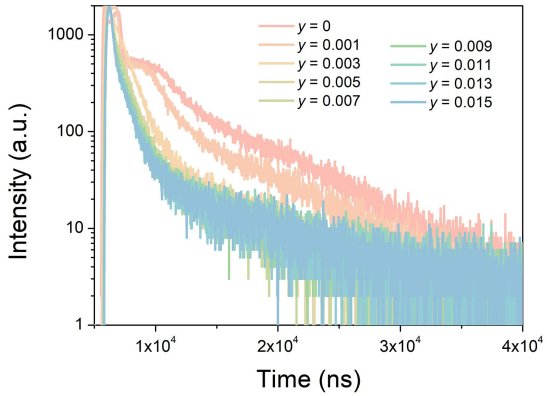

Fig S4. Fluorescence decay curves of Sr_3NaSbO_6:0.001Bi^{3+},*y*Mn^{4+} (*y* = 0 - 1.5 mol%).

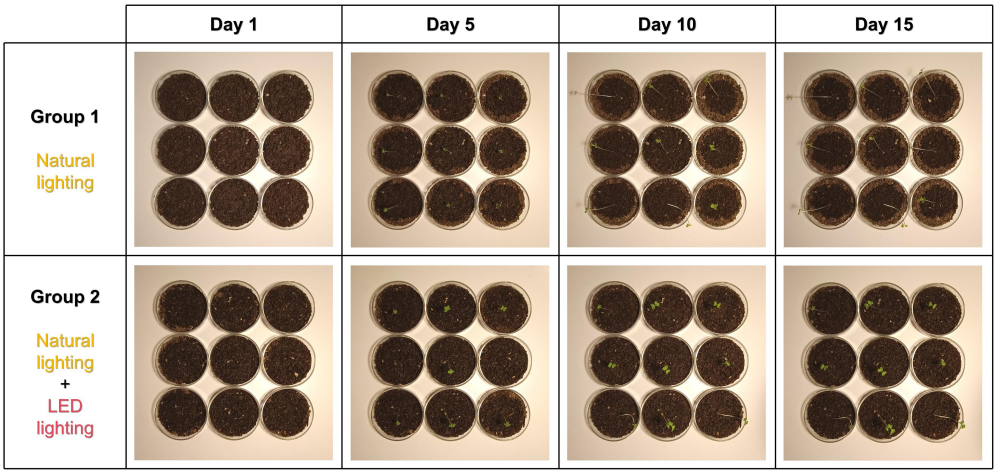

Fig S5. The growth status of mustard plants in Group 1 and Group 2 on days 1, 5, 10, and 15.

Table S1. Refined parameters of Sr_3NaSbO_6 and Sr_3NaSbO_6:0.001Bi,0.007Mn.

Chemical formula	Sr_3NaSbO_6	Sr_3NaSbO_6: 0.001Bi,0.007Mn
a/Å	9.764	9.757
b/Å	9.764	9.757
c/Å	11.600	11.604
V/Å^3	957.848	956.634
R_p/%	11.4	11.5
R_{wp}/%	14.8	14.6
χ^2	1.99	1.74

Table S2. A comparison of the as-synthesized phosphor with some Mn^{4+}-activated red-emitting phosphors.

No.	Phosphor	Emission wavelength / nm	Thermal stability / %	ΔE / eV	η_{QY} / %
1	$Li_6SrLa_2Sb_2O_{12}:Mn^{4+}$	705	I_{423K}/I_{273K} = 17.0	0.31	18.2
2	$SrLaMgSbO_6:Mn^{4+}$	705	I_{423K}/I_{298K} = 22.5	0.30	35.0
3	$LaGeSbO_6:Mn^{4+}$	700	I_{423K}/I_{298K} = 18.0	0.58	37.7
4	$Sr_3NaSbO_6:Mn^{4+}$	695	I_{423K}/I_{298K} = 39.8	0.35	56.2
5	$Li_3Mg_2SbO_6:Mn^{4+}$	651	I_{423K}/I_{303K} = 23.6	0.37	83.0
6	$Ca_2YSbO_6:Mn^{4+}$	680	I_{423K}/I_{303K} = 40.0	0.31	62.6
7	$Ca_2LaSbO_6:Mn^{4+}$	685	I_{423K}/I_{298K} = 17.1	0.35	52.2
8	$Ba_2LaSbO_6:Mn^{4+}$	678	I_{420K}/I_{300K} = 60.6	0.41	33.5
9	$Ca_2LuSbO_6:Mn^{4+}$	683	I_{423K}/I_{303K} = 48.0	0.25	39.1
10	$Li_4AlSbO_6:Mn^{4+}$	673	I_{423K}/I_{298K} = 15.1	0.52	40.0
11	$Mg_2InSbO_6:Mn^{4+}$	665	I_{423K}/I_{303K} = 36.0	0.27	16.3
12	$Ca_2InSbO_6:Mn^{4+}$	693	I_{423K}/I_{298K} = 59.0	-	18.0
13	$Sr_2InSbO_6:Mn^{4+}$	699	I_{423K}/I_{298K} = 37.5	-	55.9
14	$Sr_3NaSbO_6:Bi^{3+},Mn^{4+}$	692	I_{423K}/I_{298K} = 48.2	0.36	76.1