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Screening of Linseed Germplasm against Bud Fly *Dasyneura lini* (Barnes) Under Field Condition

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ABSTRACT

A set of 288 elite gen pool of linseed was sown paired rows of test entries of 3 m length at 30 cm row distance during rabi 2011-12 and 2012-13. This trail was executed in Augmented Block Design consisting 18 blocks of 16 test entries in each block. Two checks i.e. Neela (Resistant check) and Neelum (SC) were also planted in each block. Categorization of linseed genotypes based on their bud fly infestation (BFI) into five groups i.e. resistant, moderately resistant, moderately susceptible, susceptible and highly susceptible. During first year, a number of 11, 164,98, 15 and zero entries were grouped as resistant, moderately resistant, moderately susceptible, susceptible and highly susceptible, respectively, while 8, 146, 116, 18 and zero genotypes were rated in respective groups during second year. Common entries were also selected from each group and 8, 137, 82, 7 and zero genotypes were registered as resistant.

Key word: *Linseed, Evaluation, Dasyneura lini, Bud fly infestation, Germplasm, Catagarization.*

INTRODUCTION

Linseed / Flaxseed (*Linum usitatissimum* L.) is being grown since the beginning of civilization and people all over the world have realized its usefulness throughout the ages. The crop has been cultivated for fiber and its seed containing 33-47 % oil content. World over, linseed is an important crop grown over 27.29 lakh ha with production of 25.2 lakh tons with average productivity of 923 kg/ ha, while national production of 1.525 lakh tons is from 3.226 lakh ha with low productivity of 473 kg/ha. More than 36 insect-pests are associated with linseed / flaxseed throughout the world, but only a small number of the major cosmopolitan insect-pests cause economic yield loss to this crop[8]. Economic importance of different insect-pests depends upon the growing situation of the crop, region and season. Cut worm (*Agrotis ipsilon* Hfn.) is serious problem in rain fed especially in the areas of Bihar, which remain under water during rainy season. Leaf miner (*Chromatomyia horticola* Gour.) is a menace in northern part of the country, while thrips (*Caliothrips indicus* Bagnall) secured the status of major pest in central and southern parts.

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Defoliators like tobacco caterpillar (*Spodoptera litura* Fabr.), semi-looper (*Plusia orichalcea* Fabr), Lucern caterpillar (*Spodoptera exigua* Hubn.) and Bihar hairy caterpillar (*Spilarctia obliqua* Walk.) appear as sporadic and region specific pests with heavy incidence in some cropping seasons. Bud fly (*Dasyneura lini* Barnes) is a key pest of this crop during flowering stage in Asia particularly India, Pakistan and Bangladesh[1], while it appears as a pest of lesser economic significance of flaxseed / fiber flax in Europe[2.] However, yield losses due to bud fly (*D. lini*) have been reported ranging between 17-49% with an average of 40 % at national level[7]. Such heavy losses in seed yield due to bud fly incidence can be reduced upto some extent by manipulations in agronomic practices[18, 13, 14, 5,12,], but the successful management of this pest by the use of systemic insecticides is quite easy, encouraging and cost effective especially in late sown crop[3.19, 9,11].The resistant varieties are one of the fundamental, widely accepted and eco-friendly tools of integrated pest management (IPM) according to Painter[16] and Panda [17].

MATERIAL AND METHODS

A set of 288 elite germplasm of linseed was obtained from Project Coordinating & Germplasm Management Unit (Linseed) of this university and evaluated for elite germplasm of linseed was sown paired rows of test entries of 3 m length at 30 cm row distance their reaction to bud fly (*D. lini*) under natural field conditions were carried out at Oilseed Research Farm Kalyanpur, C.S.A. University of Agriculture & Technology, Kanpur during *rabi* 2011-12 and 2012-13. This trail was executed in Augmented Block Design consisting 18 blocks of 16 test entries in each block. Two checks *i.e.* Neela (Resistant check) and Neelum (SC) were also planted in each block. The crop was sown in the mid of November. Observation of linseed bud fly damage was recorded at dough stage on randomly five selected plants from each entry by counting the number of capsules and number of damage of buds.

$$\text{Present of bud fly infestation} = \frac{\text{Number of infested bud}}{\text{Number of capsule+ infested bud}} \times 100$$

The germplasm were grouped into resistant, moderately resistant, moderately susceptible, susceptible and highly susceptible on the basis of Bud fly Infestation Index (B.I.I.) as suggested by Malik [10].

RESULT AND DISCUSSION

Categorization of linseed genotypes based on their bud fly infestation (BFI %):

All the test entries based on their bud fly infestation (BFI%) into five groups *i.e.* resistant (0-10% BFI), moderately resistant (>10-25% BFI), moderately susceptible (>25-50%BFI), susceptible (>50-75%BFI), and highly susceptible (>75%BFI), (Table-1) During first year, a number of 11, 164,98, 15 and zero entries were grouped as R, MR, MS, S and HS, respectively, while 8, 146, 116, 18 and zero genotypes were rated in respective groups during second year. Common entries were also selected from each group and 8, 137, 82, 7 and zero genotypes were registered as resistant. These genotypes were A-95B, A-447, CI-1385, EC-1392, EC-1424, EC-282801 EC-282869, GS-234, IC-15888, JRF-4 and JRF-5 was found resistance (below 10% incidence) **[15]** reported EC-1424, A-95B, Kangra local, CI-1956, JRF-5, JLT-90, IC-16392 and CI-1466 showed resistant to bud fly having less than 10 per cent bud infestation. Similar results were reported by[4], **[11]**and I/76, 3/1, 5/47, 5/47-2/1-10/10, 18× B-1, 19-1-62, 23/3, 39-1, 88-LHCK-7, 474-3/2, 477-3/2, 1491, 1541, A-52, A-62, A-76, A-84, A-180, A-391A, A-405, A-411, A-416, A-419, A-449, BR-5, BR-25, BS-1, BS-30, Bengal-62, Bijapur, Balley Garden, CC-1-2, CI-808, CI-1427, CI-1459, CI-1539, CI-1612, CI-1696, CI-1897, CI-1956, CI-1984, CI-2007, CI-2048, CI-2049, CI-2052, CI-2060, CI-2066, CI-2201, CI-2204, CI-2205, CI-2206, EC-100, EC-519K, EC-534, EC-536, EC-561, EC-650,

EC-1222A, L-93EC-1394, EC-1411, EC-1411CS, EC-1977, EC-14546, EC-22481, EC-41561, EC-41564, EC-41609, EC-41618, EC-41622, EC-41635, EC-41984, EC-50089, EC-110286, EC-110289, EC-1534, EC-14600, EX-131-10, FR-3, GS-27, GS-109, GS-150, GS-203, GS-226, GS-253, GS-268, GS-288, GS-344, Gulberga-1-2, H-15, H-22, H-23, H-25, H-31, H-42, I/276, L-40, L-59, L-70, NP (Hyb)-23, NP (Hyb)-61, NP (RR)-68-R, NP (RR)-204, NP (RR)-268, NP (RR)-402, Polf-12, Polf-30, Pusa-9, RAULD-19, RL-8-1, RL-58-3, RLC-22, RLC-38, RLC-53, R-204×No.-55-32, Rajim-2, Redwing, S-91-24, S-801, Tikamgarh, UP-6, BAU-610A, DPL-17, DPL-19, LC-2198, RL-56-6-2, RL-906, RL-966, RLC-27, RLC-53, OR-3-1, NP(RR)-45, NP(RR)-485, A-6-1-2, EC-22680, EC-312953, EC-322640, EC-322641, EC-322651, EC-322654, EC-322655, EC-322656, EC-322661, EC-322680, EC-399582, SJKO-11, SJKO-12, SJKO-14, SJKO-17, SJKO-19, SJKO-20, SJKO-46, BRM-1, BRM-2, RSJ-9, RSJ-14, RSJ-34, KL-219, RJK-7, RLC-106, PLC-12-3-06, LBR-6, SLS-77, RL-2600 were found moderately resistance (>10-25%)[15, 11], and 9×17, 9×JBP-1986, Jabalpur-1986, 11×13, 11× 17,12×15,149-T-126-1, 162-or-3-1, 333-6,473, 1937, A-3-1, A-15-1-2, A-59, A-95, A-100, A-131, A-132, A-170, A-171, A-198,A-223-B, A-308, A-370, A-440B, Ajgan-3-1, Ajagan-7,Alipur(Hamirpur), lipur(Hamirpur)-2, Anand, Ayogi, BAU-154, BS-18, Bachhlone Sagar, C-5-82, CI-244, CI-1983, Detal-1, EC-1409A, EC-1409B, EC-99080, EC-10663, EC-99009, EC-22909, EC-41404, EC-41589, Flax-16, FX-16, Gewargi-1-2, GS-39, GS-40, GS-41, GS-121, GS-148, GS-440, H-11, JPB Stray-II, KL-1, KL-214, NO-10, NO18×RR-9, NP-23, NP-23K, NP-24, NP-94, NP(RR)193, NP (RR)-247, Pink Petal, Polf-17, RLC-36, R-966-5, S-91-29, S-165-13, Sirmor-2, T-56, T-126, MS-1, MS-14, BSL-12, FRW-1, KYS-2, EC-22648, EC-41593, SJKO-2, SJKO-27, SJKO-34, SJKO-43, SJKO-45, BRM-4, KL-213, KL-218, KL-231, OLC-40, RKY-6, RJK-36, PKDL-94 LCK-4036 were found moderately susceptible (>25-50%) Similar results were reported by [15, 11,]and A-4-3-1-13, A-12-1-2, A-43, A-44, , A-426, Ajgan-20M, Arny, EC-1918, GS-415, Gunawal Local, RAULD-7810, RLC-28(PM), S-91-49,S-91-55, BSL-10, KSY-1 and zero were found susceptible (>50-75%). Similar results were reported by [11],

Remaining A-95B, CI-1385, EC-1392, EC-1424, GS-234, IC-15888, JRF-4 and JRF-5 (below 10% incidence) **[15]** reported EC-1424, A-95B, Kangra local, CI-1956, JRF-5, JLT-90, IC-16392 and CI-1466 showed resistant to bud fly having less than 10 per cent bud infestation. Similar results were reported by [4, 11,] and I/76, 3/1, 5/47, 5/47-2/1-10/10, 18× B-1, 23/3, 39-1, 88-LHCK-7, 474-3/2, 477-3/2, 1491, 1541, A-52, A-62, A-76, A-84, A-180, A-416, A-419, A-449, A-15-1-2, Alipur (Hamirpur)-2, BR-25, BS-1, BS-30, Bengal-62, Bijapur, CC-1-2, CI-808,CI-1427, CI-1459, CI-1539, CI-1612, CI-1696, CI-1897, CI-1984, CI-2007, CI-2048, CI-2049, CI-2052, CI-2060, CI-2201, CI-2204, CI-2205, CI-2206, Detal-1, EC-100, EC-519K, EC-534, EC-536, EC-561, EC-650, EC-1222A, L-93 EC-1394, EC-1411, EC-1411CS, EC-1977, EC-14546, EC-22481, EC-41561, EC-41564, EC-41609, EC-41618, EC-41622, EC-41635, EC-50089, EC-110286, EC-110289, EC-1534, EC-14600, EC-282801, EC-282869, FX-16, GS-27, GS-109, GS-150, GS-203, GS-226, GS-253, GS-268, GS-288, GS-344, H-15, H-22, H-23, H-25, H-31, H-42, I/276, L-40, L-59, L-70, NP (Hyb)-23, NP (Hyb)-61, NP (RR)-68-R, NP (RR)-204, NP (RR)-268, NP (RR)-402, Polf-30, Pusa-9, RLC-22, RLC-38, RLC-53, R-204×No.-55-32, Redwing, S-91-24, S-801, Tikamgarh, BAU-610A, DPL-19, RL-56-6-2, RL-906, RLC-27, OR-3-1, NP (RR)-45, NP (RR)-485, EC-22648, EC-22680, EC-322640, EC-322641, EC-322651, EC-322654, EC-322655, EC-322656, EC-322661, EC-322680, EC-399582, SJKO-11, SJKO-12, SJKO-17, SJKO-19, SJKO-20, SJKO-46, BRM-1, BRM-2, RSJ-9, RSJ-34, KL-218, KL-219, RJK-7, LCK-4036, RLC-106, PLC-12-3-06, LBR-6, SLS-77, RL-2600 were found moderately resistance (>10-25%) Similar results were reported by [15, 11,] and 9×17, 9×JBP-1986, Jabalpur-1986, 11×13,

11× 17,12×15, 19-1-62, 149-T-126-1, 162-or-3-1, 333-6, 473, 1937, A-3-1, A-4-3-1-13, A-12-1-2, A-43, A-59, A-95, A-100, A-131, A-132, A-170, A-171, A-198, A-223-B, A-308, A-370, A-391A, A-405, A-411, A-426, A-440B, A-447, Ajagan-7, Ayogi, BAU-154, BR-5, BS-18, Bachhlone Sagar, Balley Garden, C-5-82, CI-244, CI-1956, CI-1983, CI-2066, EC-1409A, EC-1409B, EC-1918, EC-99080, EC-22909, EC-41404, EC-41589, EC-41984, Gulberga-1-2, , EC-10663, EC-99009, EX-131-10, Flax-16, FR-3, Gewargi-1-2, GS-39, GS-40, GS-41, GS-121, GS-415, H-11, JPB Stray-II, KL-1, NO-10, NO18×RR-9, NP-23, NP-23K, NP-24, NP-94, NP (RR)-247, Pink Petal, Polf-12, Polf-17, R-966-5, RAULD-19, RL-8-1, RL-58-3, RLC-36, Rajim-2, S-91-29, S-91-55, S-165-13, Sirmor-2, T-56, T-126, UP-6, DPL-17, LC-2198, RL-966, RLC-53, MS-1, FRW-1, KSY-1, KYS-2, A-6-1-2, EC-41593, EC-312953, SJKO-14, SJKO-27, SJKO-34, SJKO-43, BRM-4, RSJ-14, KL-213, KL-214, KL-231, OLC-40, RKY-6, RJK-36, PKDL-94 were found moderately susceptible (>25-50%) Similar results were reported by [15, 11,] and A-44, Ajgan-3-1, Ajgan-20M, Alipur (Hamirpur), Anand, Arny, BSL-10, BSL-12, GS-148, GS-440, Gunawal Local, NP(RR)193, RAULD-7810, RLC-28(PM), S-91-49, MS-14, SJKO-2 and SJKO-45 were found susceptible (>50-75%). Similar results were reported by[15, 11], germplasm of linseed were rated as R, MR, MS, S and HS, respectively.

Table 1: Categorization of linseed germplasm based on bud fly infestation (%) at dough stage

Bud infestation range (%)	Category	Germplasm		Common entries during both years
		2011-12	2012-13	
Up to 10%	**Resistant (R)**	A-95B, A-447, CI-1385, EC-1392, EC-1424, EC-282801 EC-282869, GS-234, IC-15888, JRF-4, JRF-5 (Total-11)	A-95B, CI-1385, EC-1392, EC-1424, GS-234, IC-15888, JRF-4, JRF-5 (Total-8)	A-95B, CI-1385, EC-1424, EC-1392, GS-234, IC-15888, JRF-4, JRF-5 (Total-8)
>10 to 25%	**Moderately Resistant (MR)**	I/76, 3/1, 5/47, 5/47-2/1-10/10, 18× B-1, 19-1-62, 23/3, 39-1, 88-LHCK-7, 474-3/2, 477-3/2, 1491, 1541, A-52, A-62, A-76, A-84, A-180, A-391A, A-405, A-411, A-416, A-419, A-449, BR-5, BR-25, BS-1, BS-30, Bengal-62, Bijapur, Balley Garden, CC-1-2, CI-808, CI-1427, CI-1459, CI-1539, CI-1612, CI-1696, CI-1897, CI-1956, CI-1984, CI-2007, CI-2048, CI-2049, CI-2052, CI-2060, CI-2066, CI-2201, CI-2204, CI-2205, CI-2206, EC-100, EC-519K, EC-534, EC-536, EC-561, EC-650, EC-1222A, L-93EC-1394, EC-1411, EC-1411CS, EC-1977, EC-14546, EC-22481, EC-41561, EC-41564, EC-41609, EC-41618, EC-41622, EC-41635, EC-41984, EC-50089, EC-110286, EC-110289, EC-1534, EC-14600, EX-131-10, FR-3, GS-27, GS-109, GS-150, GS-203, GS-226, GS-253, GS-268, GS-288, GS-344, Gulberga-1-2, H-15, H-22, H-23, H-25, H-31, H-42, I/276, L-40, L-59, L-70, NP (Hyb)-23, NP (Hyb)-61, NP (RR)-68-R, NP (RR)-204, NP (RR)-268, NP (RR)-402, Polf-12, Polf-30, Pusa-9, RAULD-19, RL-8-1, RL-58-3, RLC-22, RLC-38, RLC-53, R-204×No.-55-32, Rajim-2, Redwing, S-91-24, S-801, Tikamgarh, UP-6, BAU-610A, DPL-17, DPL-19, LC-2198, RL-56-6-2, RL-906, RL-966, RLC-27, RLC-53, OR-3-1, NP(RR)-45, NP(RR)-485, A-6-1-2, EC-22680, EC-312953, EC-322640, EC-322641, EC-322651, EC-322654, EC-322655, EC-322656, EC-322661, EC-322680, EC-399582, SJKO-11, SJKO-12, SJKO-14, SJKO-17, SJKO-19, SJKO-20, SJKO-46, BRM-1, BRM-2, RSJ-9, RSJ-14, RSJ-34, KL-219, RJK-7, RLC-106, PLC-12-3-06, LBR-6, SLS-77, RL-2600 (Total-164)	I/76, 3/1, 5/47, 5/47-2/1-10/10, 18× B-1, 23/3, 39-1, 88-LHCK-7, 474-3/2, 477-3/2, 1491, 1541, A-52, A-62, A-76, A-84, A-180, A-416, A-419, A-449, A-15-1-2, Alipur (Hamirpur)-2, BR-25, BS-1, BS-30, Bengal-62, Bijapur, CC-1-2, CI-808,CI-1427, CI-1459, CI-1539, CI-1612, CI-1696, CI-1897, CI-1984, CI-2007, CI-2048, CI-2049, CI-2052, CI-2060, CI-2201, CI-2204, CI-2205, CI-2206, Detal-1, EC-100, EC-519K, EC-534, EC-536, EC-561, EC-650, EC-1222A, L-93 EC-1394, EC-1411, EC-1411CS, EC-1977, EC-14546, EC-22481, EC-41561, EC-41564, EC-41609, EC-41618, EC-41622, EC-41635, EC-50089, EC-110286, EC-110289, EC-1534, EC-14600, EC-282801, EC-282869, FX-16, GS-27, GS-109, GS-150, GS-203, GS-226, GS-253, GS-268, GS-288, GS-344, H-15, H-22, H-23, H-25, H-31, H-42, I/276, L-40, L-59, L-70, NP (Hyb)-23, NP (Hyb)-61, NP (RR)-68-R, NP (RR)-204, NP (RR)-268, NP (RR)-402, Polf-30, Pusa-9, RLC-22, RLC-38, RLC-53, R-204×No.-55-32, Redwing, S-91-24, S-801, Tikamgarh, BAU-610A, DPL-19, RL-56-6-2, RL-906, RLC-27, OR-3-1, NP (RR)-45, NP (RR)-485, EC-22648, EC-22680, EC-322640, EC-322641, EC-322651, EC-322654, EC-322655, EC-322656, EC-322661, EC-322680, EC-399582, SJKO-11, SJKO-12, SJKO-17, SJKO-19, SJKO-20, SJKO-46, BRM-1, BRM-2, RSJ-9, RSJ-34, KL-218, KL-219, RJK-7, LCK-4036, RLC-106, PLC-12-3-06, LBR-6, SLS-77, RL-2600 (Total-146)	I/76, 3/1, 5/47, 5/47-2/1-10/10, 18×B-1, 23/3, 39-1, 88-LHCK-7, 474-3/2, 477-3/2, 1491, 1541, A-52, A-62, A-76, A-84, A-180, A-416, A-419, A-449, BR-25, BS-1, BS-30, Bengal-62, Bijapur, CC-1-2, CI-808,CI-1427, CI-1459, CI-1539, CI-1612, CI-1696, CI-1897, CI-1984, CI-2007, CI-2048, CI-2049, CI-2052, CI-2060, CI-2201, CI-2204, CI-2205, CI-2206, EC-100, EC-519K, EC-534, EC-536, EC-561, EC-650, EC-1222A, L-93 EC-1394, EC-1411, EC-1411CS, EC-1977, EC-14546, EC-22481, EC-41561, EC-41564, EC-41609, EC-41618, EC-41622, EC-41635, EC-50089, EC-110286, EC-110289, EC-1534, EC-14600, GS-27, GS-109, GS-150, GS-203, GS-226, GS-253, GS-268, GS-288, GS-344, H-15, H-22, H-23, H-25, H-31, H-42, I/276, L-40, L-59, L-70, NP (Hyb)-23, NP (Hyb)-61, NP RR)-68-R, NP (RR)-204, NP (RR)-268, NP (RR)-402, Polf-30, Pusa-9, RLC-22, RLC-38, RLC-53, R-204×NO-55-32, Redwing, S-91-24, S-801, Tikamgarh, BAU-610A, DPL-19, RL-56-6-2, RL-906, RLC-27, OR-3-1, NP(RR)-45, NP (RR)-485, EC-22680, EC-322640, EC-322641, EC-322651, EC-322654, EC-322655, EC-322656, EC-322661, EC-322680, EC-399582, SJKO-11, SJKO-12, SJKO-17, SJKO-19, SJKO-20, SJKO-46, BRM-1, BRM-2, RSJ-9, RSJ-34KL-219, RJK-7, RLC-106, PLC-12-3-06, LBR-6, SLS-77, RL-2600 (Total-137)
>25 to 50%	**Moderately Susceptible (MS)**	9×17, 9×JBP-1986, Jabalpur-1986, 11×13, 11× 17,12×15,149-T-126-1, 162-or-3-1, 333-6,473, 1937, A-3-1, A-15-1-2, A-59, A-95, A-100, A-131, A-132, A-170, A-171, A-198,A-223-B, A-308, A-370, A-440B, Ajgan-3-1, Ajagan-7, Alipur(Hamirpur),Alipur(Hamirpur)-2, Anand, Ayogi, BAU-154, BS-18, Bachhlone Sagar, C-5-82, CI-244, CI-1983, Detal-1, EC-1409A, EC-1409B, EC-99080, EC-10663, EC-99009, EC-22909, EC-41404, EC-41589, Flax-16, FX-16, Gewargi-1-2, GS-39, GS-40, GS-41, GS-121, GS-148, GS-440, H-11, JPB Stray-II, KL-1, KL-214, NO-10, NO18×RR-9, NP-23, NP-23K, NP-24, NP-94, NP(RR)193, NP (RR)-247, Pink Petal, Polf-17, RLC-36, R-966-5, S-91-29, S-165-13, Sirmor-2, T-56, T-126, MS-1, MS-14, BSL-12, FRW-1, KYS-2, EC-22648, EC-41593,	9×17, 9×JBP-1986, Jabalpur-1986, 11×13, 11× 17,12×15, 19-1-62, 149-T-126-1, 162-or-3-1, 333-6, 473, 1937, A-3-1, A-4-3-1-13, A-12-1-2, A-43, A-59, A-95, A-100, A-131, A-132, A-170, A-171, A-198, A-223-B, A-308, A-370, A-391A, A-405, A-411, A-426, A-440B, A-447, Ajagan-7, Ayogi, BAU-154, BR-5, BS-18, Bachhlone Sagar, Balley Garden, C-5-82, CI-244, CI-1956, CI-1983, CI-2066, EC-1409A, EC-1409B, EC-1918, EC-99080, EC-22909, EC-41404, EC-	9×17, 9×JBP-1986, Jabalpur-1986, 11×13, 11× 17,12×15, 19-1-62, 149-T-126-1, 162-or-3-1, 333-6, 473, 1937, A-3-1, A-59, A-95, A-100, A-131, A-132, A-170, A-171, A-198, A-223-B, A-308, A-370, A-440B, Ajagan-7, Ayogi, BAU-154, BS-18, Bachhlone Sagar, C-5-82, CI-244, CI-1983, EC-1409A, EC-1409B, EC-1918, EC-99080, EC-22909, EC-41404, EC-41589, EC-10663, EC-99009, EX-131-10, Flax-16, Gewargi-1-2, GS-39, GS-40, GS-41, GS-121, H-11, JPB

		SJKO-2, SJKO-27, SJKO-34, SJKO-43, SJKO-45, BRM-4, KL-213, KL-218, KL-231, OLC-40, RKY-6, RJK-36, PKDL-94 LCK-4036, (Total-98)	41589, EC-41984, Gulberga-1-2, , EC-10663, EC-99009, EX-131-10, Flax-16, FR-3, Gewargi-1-2, GS-39, GS-40, GS-41, GS-121, GS-415, H-11, JPB Stray-II, KL-1, NO-10, NO18×RR-9, NP-23, NP-23K, NP-24, NP-94, NP (RR)-247, Pink Petal, Polf-12, Polf-17, R-966-5, RAULD-19, RL-8-1, RL-58-3, RLC-36, Rajim-2, S-91-29, S-91-55, S-165-13, Sirmor-2, T-56, T-126, UP-6, DPL-17, LC-2198, RL-966, RLC-53, MS-1, FRW-1, KSY-1, KYS-2, A-6-1-2, EC-41593, EC-312953, SJKO-14, SJKO-27, SJKO-34, SJKO-43, BRM-4, RSJ-14, KL-213, KL-214, KL-231, OLC-40, RKY-6, RJK-36, PKDL-94 (Total-116)	Stray-II, KL-1, NO-10, NO18×RR-9, NP-23, NP-23K, NP-24, NP-94, NP (RR)-247, Pink Petal, Polf-17, R-966-5, RLC-36, S-91-29, S-165-13, Sirmor-2, T-56, T-126, MS-1, FRW-1, KYS-2, EC-41593, SJKO-27, SJKO-34, SJKO-43, BRM-4, KL-213, KL-231, OLC-40, RKY-6, RJK-36, PKDL-94 (Total-82)
>50 to 75%	**Susceptible (S)**	A-4-3-1-13, A-12-1-2, A-43, A-44, , A-426, Ajgan-20M, Arny, EC-1918, GS-415, Gunawal Local, RAULD-7810, RLC-28(PM), S-91-49,S-91-55, BSL-10, KSY-1, (Total-15)	A-44, Ajgan-3-1, Ajgan-20M, Alipur (Hamirpur), Anand, Arny, BSL-10, BSL-12, GS-148, GS-440, Gunawal Local, NP(RR)193, RAULD-7810, RLC-28(PM), S-91-49, MS-14, SJKO-2, SJKO-45, (Total-18)	A-44, Ajgan-20M, Arny, Gunawal Local, RAULD-7810, RLC-28(PM), S-91-49, (Total-7)
>75 and above	**Highly Susceptible (HS)**	0	0	0
Total		288	288	234

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CONCLUSION

Two hundred eighty and eight germplasm / varieties of linseed genotypes during 2011-12 and 2012-13 were categorization of based on their bud fly infestation (BFI) into five groups *i.e.* resistant, moderately resistant, moderately susceptible, susceptible and highly susceptible. During first year, a number of 11, 164,98, 15 and zero entries were grouped as resistant, moderately resistant, moderately susceptible, susceptible and highly susceptible, respectively, while 8, 146, 116, 18 and zero genotypes were rated in respective groups during second year. Common entries were also selected from each group and 8, 137, 82, 7 and zero genotypes were registered as resistant.

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