

स्पर्शान्कृत्वा बहिर्बाह्यांश्चक्षुश्चैवान्तरे भ्रुवोः । प्राणापानौ समौ कृत्वा नासाभ्यन्तरचारिणौ । २७ ।
यतेन्द्रियमनोबुद्धिर्मुनिर्मोक्षपरायणः । विगतेच्छाभयक्रोधो यः सदा मुक्त एव सः । २८ ।

सूर्यो० ५।३२

भद्रा रात्रिमें ३।५२ बजेसे

सूर्यो० ६।२८

Advantage of pureline :-

- ① Pureline variety are best over original variety.
- ② Pureline are extremely uniform and all the plant of new variety have the same genotype.
- ③ Uniform variety is more liked by the farmer and the consumers than a less uniform variety developed through mass selection.
- ④ Uniform variety is easily identified in seed certification programmes.

Homogeneous and homogeneous of pureline are not adaptable to environment.

Disadvantage of pureline :-

- ① The variety developed through pureline selection generally do not have wide adaptation and stability in production possessed by local or desi variety from which they are developed.
- ② Procedure of pureline selection requires more time and more expensive yield trial than mass selection.
- ③ The upper limit on improvement is set by the genetic variation present in the original population.
- ④ The breeder has to devote more time to pureline selection than to mass selection.

Achievements: ① In wheat - MP-4, MP-6, MP-12, PB-8, K-13, K-46, K-53, K-54 / Mung - T-1, B-1 /

बाहरके विषय-भोगोंको न चिन्तन करता हुआ बाहर ही निकालकर और नेत्रोंकी दृष्टिको भृकुटीके बीचमें स्थित करके तथा नासिकामें विचरनेवाले प्राण और अपानवायुको सम करके, जिसकी इन्द्रियाँ, मन और बुद्धि जीती हुई हैं, ऐसा जो मोक्षपरायण मुनि इच्छा, भय और क्रोधसे रहित हो गया है, वह सदा मुक्त ही है ॥ २७-२८ ॥

Rice - MTU-1, MTU-2, MTU-7, Ar-1, 3-155,
Barley - C-251, C-50, K-12

लभन्ते ब्रह्मनिर्वाणमृषयः क्षीणकल्मषाः । छिन्नद्वैधा यतात्मानः सर्वभूतहिते रताः । २५ ।
कामक्रोधवियुक्तानां यतीनां यतचेतसाम् । अभितो ब्रह्मनिर्वाणं वर्तते विदितात्मनाम् । २६ ।

सूर्यो ५। ३२ (iii) All the genetic variation will be between the selected plants, that is, between plant-progenies, and there will be no genetic variation within the individual plant progenies. Thus it is essential that superior progenies must be selected from the mixed population. सूर्यो ६। २८

(iii) Poor, weak and defective progenies are rejected.

(iv) Disease epiphytosis may be created to test the progenies for disease resistance.

(v) The superior progenies are harvested separately.

(vi) The objective of this step is to drastically reduce the number of plant progenies to facilitate the replicated field trial in step three.

(vii) Selection is made for easily observable characters including disease resistance and yield of progenies are also used as a criteria of selection.

(viii) The main object is to further reduce the no. of progenies.

(ix) During this evaluation observations are conducted for disease resistance, flowering, maturity time, yield data, Quality test.

(x) So, each progeny is equivalent to a strain as it is a pureline.

जिनके सब पाप नष्ट हो गये हैं, जिनके सब संशय ज्ञानके द्वारा निवृत्त हो गये हैं, जो सम्पूर्ण प्राणियोंके हितमें रत हैं और जिनका जीता हुआ मन निश्चलभावसे परमात्मामें स्थित है, वे ब्रह्मवेत्ता पुरुष शान्त ब्रह्मको प्राप्त होते हैं । काम-क्रोधसे रहित, जीते हुए चित्तवाले, परब्रह्म परमात्माका साक्षात्कार किये हुए ज्ञानी पुरुषोंके लिये सब ओरसे शान्त परब्रह्म परमात्मा ही परिपूर्ण हैं ॥ २५-२६ ॥

All India Coordinated crop improvement project
as a part of the trial → Initial Evaluation stage
→ Uniform regional trial
→ Adaptive trial

Method of pure line

११८ दिन] अधिक वैशाख शुक्ल १५, सं० २०६७, बुधवार, APRIL 28. 2010 [गीता

शक्नोतीहैव यः सोढुं प्राक्शरीरविमोक्षणात् । कामक्रोधोद्धवं वेगं स युक्तः स सुखी नरः । २३ ।
योऽन्तःसुखोऽन्तरारामस्तथान्तर्ज्योतिरेव यः । स योगी ब्रह्मनिर्वाणं ब्रह्मभूतोऽधिगच्छति । २४ ।

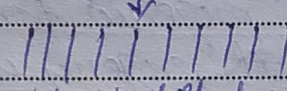
सूर्यो० ५।३३

भद्रा प्रातः ६।२३ बजेतक, व्रत-पूर्णिमा

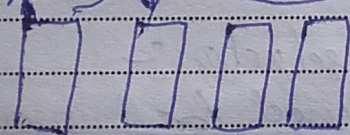
सूर्यो० ६।२७

First year  (Desi or old variety or mixture of pure line)

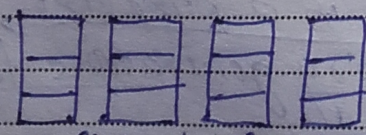
- 200-3000 plants are selected on the basis of their phenotype
- their seeds are harvested separately
- individual plants can be observed and evaluated.

Second year  individual plant progenies

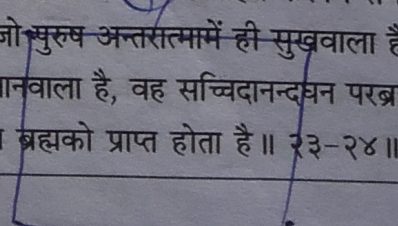
- Progenies from individual plants are grown separately with proper spacing.
- selection for plant type, plant height, grain type, ear character, flowering and maturity type are made

Third year  Preliminary yield Trial (station trial)

- progenies of superior plants are grown in a unreplicated trial
- the best variety is used as a check after every 20-25 progenies for the comparison

Fourth to Sixth year  Multi locational yield Trial (Coordinated trial)

- Replicated yield trial are conducted at several location
- stains are evaluated in initial evaluation trial for one year

seventh year  seed multiplication

जो साधक इस मनुष्यशरीरमें, शरीरका नाश होनेसे पहले-पहले ही काम-क्रोधसे उत्पन्न होनेवाले वेगको सहन करनेमें समर्थ हो जाता है, वही पुरुष योगी है और वही सुखी है। जो पुरुष अन्तःसत्तामें ही सुखवाला है, आत्मा में ही समाधि करनेवाला है तथा जो आत्मा में ही ज्ञानवाला है, वह सच्चिदानन्दधन परब्रह्म परमात्माके साथ एकीभावको प्राप्त सांख्ययोगी शान्त ब्रह्मको प्राप्त होता है ॥ २३-२४ ॥

the best progeny or strains is released as a new variety and its seed multiplication is initiated for distribution to the farmers

Pure line Selection

अ० ५] अधिक वैशाख शुक्ल १४, सं० २०६७, मंगलवार, APRIL 27, 2010 [दिन ११७

Pureline and mass selection are applied to genetically variable and homozygous populations of self pollinated crops. These methods can not be applied to segregating populations e.g. F_2 , F_3 etc. obtained by crosses.

बाह्यस्पर्शसक्तात्मा विन्दत्यात्मनि यत्सुखम् । स ब्रह्मयोगयुक्तात्मा सुखमक्षयमश्नुते । २१ ।
ये हि सम्पर्शजा भोगा दुःखयोनय एव ते । आद्यन्तवन्तः कौन्तेय न तेषु रमते बुधः । २२ ।

भद्रा रात्रिमें ७।८ बजेसे

सूर्या० ६।२६

A pure line is the progeny of a single homozygous self pollinated plant.

All the individuals within a pure line have identical genotypes.

Pureline selection - A large no. of plants are selected from a self pollinated crop, and are harvested separately; individual plant progenies from them are evaluated and the best progeny is released as a pureline variety.

A superior pureline may be used as a variety, as parent in a hybridization programme, studies for mutation.

Applications of pure line selection:-

pure line selection are used for improvement of self pollinated crops. It is use to improve of local varieties, old pureline varieties and introduced varieties, selection for a new characteristics in a pureline, and selection in the segregating generations from crosses.

बाहरके विषयोंमें आसक्तिरहित अन्तःकरणवाला साधक आत्मामें स्थित जो ध्यानजनित सात्त्विक आनन्द है, उसको प्राप्त होता है; तदनन्तर वह सच्चिदानन्दधन परब्रह्म परमात्माके ध्यानरूप योगमें अभिन्नभावसे स्थित पुरुष अक्षय आनन्दका अनुभव करता है। जो ये इन्द्रिय तथा विषयोंके संयोगसे उत्पन्न होनेवाले सब भोग हैं, यद्यपि विषयी पुरुषोंको सुखरूप भासते हैं तो भी दुःखके ही हेतु हैं और आदि-अन्तवाले अर्थात् अनित्य हैं। इसलिये हे अर्जुन! बुद्धिमान् विवेकी पुरुष उनमें नहीं रमता ॥ २१-२२ ॥