A new, highly fertile microconidiating combination, dingy, fluffy

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Abstract
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This new mutants and stocks is available in Fungal Genetics Reports: http://newprairiepress.org/fgr/vol26/iss1/3
A new, highly fertile microconidiating combination, dingy, fluffy.

The double mutant peach fluffy has long been used as a source of microconidia in situations where exclusively uninucleate cells are required (Barrott and Garnjobst 1949 Genetics 34). The usefulness of pe fl has been limited by two disadvantages - low viability of microconidia, and low fertility and productivity of homzygous crosses. Improvements in viability have been reported (Barrott 1964 Neurospora Newsl. 6; Munkres 1977 Neurospora Newsl. 24). Sufficient ascospores can be obtained from pe fl homzygous crosses to do extensive analyses (e.g. D.A. Smith 1974 Genetics 76), but such crosses require special effort and are slow to mature.

When the linkage group IV marker dingy (38502, Mitchell and Mitchell 1954 PNAS 40) is substituted for peach, the double mutant dn; fl resembles pe fl phenotypically, producing no macroconidia and abundant grey, uninucleate microconidia. Unlike pe fl, the new combination is highly fertile in homozygous crosses and as a female parent. Perithecia and ascospores are produced as quickly and abundantly as in crosses between wild types or fluffy strains. The new genotype thus appears promising as a substitute for pe fl, especially where microconidiating strains are to be intercrossed.

Stocks are available from FGSC (dn; fl A, No. 3517; dn; fl a, No. 3518). = = = Department of Biological Sciences, Stanford University, Stanford, CA 94305.

Perkins, D.D. and M. Björkman.

Additional special purpose stocks.


Tester stocks with distal markers

<table>
<thead>
<tr>
<th>rip</th>
<th>A</th>
<th>NL, R</th>
</tr>
</thead>
<tbody>
<tr>
<td>rip; dqw; trp-2 A</td>
<td>α</td>
<td>FGSC Nos. 3467,3468</td>
</tr>
<tr>
<td>IIR, IIIR, V1R</td>
<td></td>
<td></td>
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</tbody>
</table>

The temperature-sensitive mutant rip (ribosomal protein defective; isolation No. 4M. Loc, Neurospora Newsl. 22, 1975) has been mapped at the extreme right end of II, near but not allelic to un-15. It is readily scoreable on lightly inoculated slants at 34°C (no growth) vs. 25°C (normal growth). As a IIR marker, rip seems superior to un-15, which it excels in vigor, growth rate, and fertility. It has therefore been substituted for un-15 in various tester strains.

The morphological mutant ro-7 (ropy; isolation No. R2470) mops at the left end of II very near pi, to which it may be preferred as a IIL marker, since ro-7 conidiates and grows more vigorously. ro-7 is female-fertile.

<table>
<thead>
<tr>
<th>cys-10 mat</th>
<th>A</th>
<th>NL, R</th>
</tr>
</thead>
<tbody>
<tr>
<td>α</td>
<td></td>
<td>FGSC Nos. 2615, 2616</td>
</tr>
</tbody>
</table>

Although the morphological mutant mat is not as far right as uvS-2, it may be more convenient for scoring in some marker combinations.

<table>
<thead>
<tr>
<th>chol-2, ylo-1 ws-1</th>
<th>A</th>
<th>VIL, L, R</th>
</tr>
</thead>
<tbody>
<tr>
<td>α</td>
<td></td>
<td>FGSC Nos. 3519,3520</td>
</tr>
</tbody>
</table>

Because ws-1 is the most distal gene marker in VIR, well right of trp-2, this combination may be preferable to chol-2 ylo-1 trp-2. Linkage is scored among the progeny from black ascospores, which are mostly ws+. Efficiency is decreased slightly because a few percent of m-l ascospores darken on aging so as to resemble ws+ and be capable of germinating.

(Note: In Neurospora Newsl. 20, 1973, ocr-7 was listed incorrectly as a distal VIR marker. The supposed linkage in VI could not be confirmed, and map location of ocr-7 is still unknown.)