

Additional special purpose stocks.

alcoy; csp-2 A, a

FGSC Nos. 3433,3434

[The stocks and information given in this report supplement previous listings (Neurospora Newsl. 19: 30, 1972; 20:40, 1973; 24: 14, 1977)].

Conidial-separation-2 (UCLA101) marks VII, the only linkage group not previously marked in alcoy. (alcoy is described in Genetics 40: 249-252, 1969. See also Neurospora Newsl. 19: 30, 1972). Addition of csp-2 increases efficiency for detecting linkage without any sacrifice of fertility or scorability of the other markers. csp-2 is readily scored using a "tap test" to show whether conidia fall free (Selitrennikoff et al., Genetics 78, 1974).

Tester stocks with distal markersro-7 rip A, a

IIL, IIR

FGSC Nos. 3467,3468

rip; dqw; trp-2 A, a

IIR, IIIR, V I R

3313,3314

The temperature-sensitive mutant rip (ribosomal protein defective; Isolation No. 4M. Loo, Neurospora Newsl. 22, 1975) has been mopped at the extreme right end of II, near but not allelic to un-15. It is readily scorable on lightly inoculated slants at 34° (no growth) vs. 25° (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.

cys-10 mat A, a

NL, R

FGSC Nos. 2615,2616

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

chol-2 ylq-1 ws-1 A, a

VIL, L, R

FGSC Nos. 3519,3520

Because ws-1 is the most distal gene marker in VIR, well right of trp-2, this combination may be preferable to chol-2 ylq-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-1 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 acr-7 is still unknown.)

Microconidiating strains

<u>fl</u> ; dn A, a	IIR; IVR	FGSC Nor. 3517,3518
pe <u>fl</u> A, a	IIR	3072,3073

Substituting dingy for peach results in full fertility (see note by Perkins in this issue). The listed pe fl stocks are the improved strains described by Munkres in *Neurospora Newsl.* 24, 1977.

Strains with macroconidia that don't become airborne

<u>csp-2</u> A, a	(UCLA101) VII	FGSC Nor. 2525,2526
<u>csp-1</u> A, a	I	2554,2555
<u>eas</u> A, a	IIR	2960,2961

These mutants, described by Selitrennikoff et al. (*Neurospora Newsl.* 21, 1974; *Genetics* 78, 1974; *Neurospora Newsl.* 23, 1976), have been designated for use when *Neurospora* is employed as an HV1 system under revised NIH Guidelines for Research Involving Recombinant DNA Molecules (December 1978). (See Fed. Register & No. 71, p. 21730, April 11, 1979.) They should also be well suited for teaching purposes. Conidial separation-1 was mapped right of org-3 in I by Selitrennikoff et al. Our data show it to be left of centromere, based on coverage by duplications from T(IL → II)39311. Selitrennikoff et al. mapped csp-2 left of wc in VII. Our data show *O/b8* recombination with thi-3 in VIII. Linkage of eas (easily wettable) in IIR has been confirmed; it is near fl, trp-3 and rip. The failure of ear conidia to become airborne, and their wettability, are related to a complete absence of rodlets (Beever and Dempsey, *Nature* 272, 1978).

We find that all crosses where eas is heterozygous or homozygous produce a class of sick progeny that grow slowly or barely germinate. Cause of the abnormality is not known; there is no evidence of aneuploidy or chromosome aberration.

Another autonomous armospore-color mutant

<u>cyr-3</u> A, a	[NM27(t)]	FGSC Nor. 2292.1272
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cys-3 ascospores fail to pigment. Probably superior in scoring to most or all known *Neurospora* "white ascospore" mutants, including asco.

Strains for demonstrating a sex-limited trait, perithecial color

<u>fl</u> ; <u>per-1</u> al-3 A, a	(<u>per-1</u> = AR174)	FGSC Nor. 3119,3120
<u>fl</u> ; <u>per-1</u> A, a	(<u>per-1</u> = PBJ1)	3311,3312
<u>per-1</u> A, a	(<u>per-1</u> = PBJ1)	3309.3310

Perithecial walls are devoid of black pigment in crosses of per-1 X per⁺ when the mutant is used as protoperithecial parent, but not when it is used as fertilizing parent (Howe and Johnson, 1976 *Genetics* 82). The so-called maternal effect is most readily seen in reciprocally fertilized crosses of fl; per-1 X fl; per⁺, where presence of fluffy ensures that perithecia are not obscured by conidia. The fl; per-1 strains above have been made for this purpose. The per- perithecia are seen in greater contrast when the female parent has albino mycelia. Standard fluffy testers (FGSC #3249,3250), wild types (#2489, 2490), or various albinos are all suitable for use as per⁺ parents.

Improved fluffy testers

<u>fl</u> A, a	(allele P)	FGSC Nor. 3249,3250
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These fluffy strains were obtained by O. M. Mylyk by at least seven recurrent backcrosses to the new isogenic OR wild types described by Mylyk et al. (*Neurospora Newsl.* 1974 21: 24, FGSC Nor. 2489, 2490). These stacks are all uniform in rate of growth and protoperithecium formation, female fertility, and sex-linked resistance to triphenyl-tetrazolium chloride, and all have the same heterokaryon compatibility genotype. Some of the previously used fl and wild type stocks, listed in *Neurospora Newsl.* 19, 1972, differed with respect to these traits. - - - Department of Biological Sciences, Stanford University, Stanford, CA 94305.