

SPRING CEREAL GRAINS: 1982 YIELDS

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In Massachusetts there continues to be a shortage of and adequate supply of suitable bedding materials for dairy farms. Some farmers in New England have tried with success growing spring oats, growing needed straw and reasonable yields of feed grain.

In 1982 six oat varieties were evaluated at the Experiment Station Farm in South Deerfield for grain and straw production. These were planted April 30, 1982 and yields are presented in table 1.

Table 1 Grain and Straw Yields of Six Oat

Variety	Grain [†] bu/ac	Straw [†] ton/ac	Grain/Straw Rate %
Ogle	145	3.1	81
Porter	144	3.6	65
Lyon	133	3.1	71
Lodi	125	2.5	95
Stout	121	2.8	69
Dal	112	3.1	54

[†]Grain 13% moisture; straw 12% moisture

The oat varieties Ogle and Porter produced the highest grain yields in this trial. Ogle has been one of the most promising varieties in other studies in the region. Ogle is a short stiff strawed variety developed and released by Illinois in 1981. Beside very high grain yields it has good stem rust resistance and tolerance to the red leaf virus. It is susceptible to leaf rust and moderately susceptible to smut.

All oat varieties produced considerable amounts of straw suitable for bedding. Considering prices some farmers are paying for such bedding materials. The yields achieved in this trial are of importance.

Ogle oat was also included in an adjacent study where it was compared with Lud barley and Sinton wheat a spring variety. These were planted April 23, 1982 at three seeding rates of 1½, 2½ and 3½ bu/ac. Harvest maturity was reached in late July. There were large differences in yield among the three species but no differences or interaction was found for the seeding rate variable. Thus only the main species effect has been presented in table 2.

Table 2 Grain and Straw Yields of Barley Oat and Wheat

Species and Variety	Grain [†]		Straw [†]	Bushe1 Wt.
	bu/ac	lb/ac	ton/ac	lb
Lud Barley	77	3720	2.0	48
Ogle Oat	156	4989	2.7	32
Sinton Wheat	35	2084	1.8	60

[†] Grain 13% moisture; straw 12% moisture

Ogle oat produced 34% more grain yield than the barley and more than twice the yield of the spring wheat. The components of grain yield in table 3 help to explain these differences. In Sinton wheat the number of productive tiller surviving to maturity was substantially below that of the other two species, spikelet number per ear was greater than both species and grain size was less than that for the barley. Only grain number per spikelet was higher but this did not compensate for the reductions in the other components. Ogle oat was capable of yielding more than the other species as a result of an intermediate number of productiver tillers surviving to maturity by having 1½ times as many spikelets per ear as barley and 2½ times as many as the wheat, by forming and filling more grains than both other species. Lud barley did produce more productive tiller and had large seeds but these components did not compensate for the lower level of other components compared to oats.

Table 3 Grain Yield Components of Barley, Oat and Wheat

Variety and Species	No. Ears/m ²	No. Spikelets/ear	No. Grains/Spikelet	Grain size mg
Lud Barley	387	21.3	1.0	44
Ogle Oat	255	32.8	1.9	31
Sinton Wheat	172	13.1	2.5	32

Considering the modest levels of straw produced by the wheat and barely our recommendation at this time would be for farmers to consider growing Ogle oat or another high yeidling oat variety if the situation fits and you are in need of feed grain and bedding straw.