

# Sunflower cultivar recommendations for 2017/2018

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**M**aintaining a high level of efficiency is the basis for financial success in sunflower production. The selection of well-adapted cultivars is a simple and easy way to foster efficiency, for which information on the performance of cultivars is needed.

The aim of the sunflower cultivar trials is to generate information from which a sensible selection of cultivars can be made.

The cultivar recommendations in this article stem from such an evaluation and are made possible by collaboration between the ARC-GC and several seed companies with financial support from the Oil and Protein Seed Development Trust.

18 cultivars, of which three were new introductions, were evaluated in 13 field trials during 2016/2017. **Table 1** shows the growing season lengths of these cultivars as well as their mean seed yields for 2015/2016 and 2016/2017.

**TABLE 1: DAYS TO FLOWERING AND SEED YIELD OF CULTIVARS EVALUATED IN 2015/2016 AND 2016/2017.**

CULTIVAR	DAYS TO 50% FLOWERING MEAN	YIELD (T/HA)		
		2015/2016	2016/2017	MEAN
AGSUN 5264	65	1,78	2,36	2,07
AGSUN 5270	66	1,98	2,63	2,30
AGSUN 5272	67	2,01	2,66	2,33
AGSUN 5273	67	1,94	2,62	2,28
AGSUN 5278	68	1,89	2,45	2,17
AGSUN 5279	63	1,83	-	1,83
AGSUN 8251	68	1,98	2,64	2,31
NK ADAGIO CL	65	1,73	-	1,73
P 65LC54	65	2,09	-	2,09
P 65LL02	68	2,08	2,53	2,30
P 65LL14	67	2,10	2,54	2,32
P 65LP54	68	-	2,50	2,50
PAN 7049	66	2,02	-	2,02
PAN 7080	68	2,13	2,60	2,37
PAN 7095 CL	67	2,06	2,35	2,21
PAN 7098	66	2,03	2,64	2,33
PAN 7100	67	1,98	2,71	2,34
PAN 7102 CLP	66	2,05	2,73	2,39
PAN 7156 CLP	69	-	2,63	2,63
PAN 7160 CLP	67	2,09	2,79	2,44
PHB 65A70	66	2,02	2,21	2,11
SV 60064	69	-	2,25	2,25
SY 3970 CL	67	1,70	-	1,70
SY 4045	60	1,68	-	1,68

## Yield probability

The yield probability of a cultivar affords the opportunity to obtain an above average yield at a particular yield potential. For instance, if the yield probability of a cultivar, at a particular yield potential equals 60%, the chance to get a yield above the mean of all cultivars is 60%, with a 40% chance of obtaining a yield below the mean.

**Table 2** shows yield probability values for the cultivars tested in 2016/2017. Since new cultivars are introduced and some removed annually, a multi-season reliability analysis is only possible for a limited number of cultivars. **Table 3** shows yield probability values for 15 cultivars that were evaluated in 23 trials during 2015/2016 and 2016/2017.

Table 3 can be used to make a core selection of cultivars. This selection can be supplemented with cultivars selected from Tables 1 and 2. It is advisable to grow more than one cultivar and to include new cultivars on a limited scale only.

## Cultivar selection from the yield probability table

Determine the yield potential for a particular land and set a yield target. The long-term mean yield of a particular field is usually a good indicator of the yield potential and can therefore serve as yield target. Consult the yield probability tables next.

Cultivars with the highest yield probability values, shown in the column below a particular yield potential, are those with the best chance to perform well under the particular conditions.







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**TABLE 2: THE YIELD PROBABILITY (%) OF CULTIVARS EVALUATED IN 2016/2017 AT DIFFERENT YIELD POTENTIALS.**

CULTIVAR	YIELD POTENTIAL (T/HA)					
	1,0	1,5	2,0	2,5	3,0	3,5
AGSUN 5264	30	28	27	27	28	30
AGSUN 5270	61	62	62	63	61	60
AGSUN 5272	27	36	47	61	72	80
AGSUN 5273	22	30	43	59	74	83
AGSUN 5278	85	75	57	35	17	8
AGSUN 8251	72	71	68	64	59	53
P 65LL02	34	37	41	46	52	57
P 65LL14	40	42	45	49	53	56
P 65LP54	92	84	68	45	23	10
PAN 7080	16	24	37	55	71	82
PAN 7095 CL	81	71	55	35	20	11
PAN 7098	41	46	52	60	66	71
PAN 7100	46	53	61	70	76	80
PAN 7102 CLP	32	44	58	73	84	90
PAN 7156 CLP	71	69	65	61	55	50
PAN 7160 CLP	78	81	83	84	83	81
PHB 65A70	32	28	24	22	21	21
SV 60064	43	34	24	17	11	9

**TABLE 3: THE YIELD PROBABILITY (%) OF CULTIVARS EVALUATED IN 2015/2016 AND 2016/2017 AT DIFFERENT YIELD POTENTIALS.**

CULTIVAR	YIELD POTENTIAL (T/HA)					
	1,0	1,5	2,0	2,5	3,0	3,5
AGSUN 5264	36	29	23	18	14	11
AGSUN 5270	50	53	55	58	60	63
AGSUN 5272	35	42	50	59	66	73
AGSUN 5273	25	34	43	55	65	74
AGSUN 5278	62	52	43	33	25	19
AGSUN 8251	56	56	55	55	53	53
P 65LL02	58	58	56	56	54	54
P 65LL14	56	57	55	55	54	54
PAN 7080	42	50	58	66	73	78
PAN 7095 CL	68	59	49	39	30	22
PAN 7098	56	58	58	59	59	60
PAN 7100	50	53	56	59	61	64
PAN 7102 CLP	45	53	62	70	77	82
PAN 7160 CLP	65	70	75	79	82	85
PHB 65A70	44	38	32	27	22	19

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