

**Table S4.** The complete list of cultivars which were used in analysis with estimated yields at determined average productivity level.

Cultivar	Mean winter wheat productivity level t/ha											
	6		7		8		9		10		11	
	$Y_{ecv}$	Rank	$Y_{ecv}$	Rank	$Y_{ecv}$	Rank	$Y_{ecv}$	Rank	$Y_{ecv}$	Rank	$Y_{ecv}$	Rank
Apostel	6.25	(18)	7.27	(14)	8.28	(15)	9.30	(13)	10.32	(14)	11.33	(12)
Arkadia	5.72	(77)	6.84	(75)	7.96	(63)	9.08	(44)	10.20	(24)	11.32	(16)
Arktis	5.63	(83)	6.59	(85)	7.55	(87)	8.51	(90)	9.47	(90)	10.43	(92)
Artist	<b>6.49</b>	(2)	<b>7.48</b>	(2)	<b>8.46</b>	(2)	<b>9.45</b>	(3)	<b>10.44</b>	(4)	<b>11.43</b>	(5)
Askalon	6.11	(37)	7.11	(35)	8.10	(38)	9.09	(43)	10.08	(45)	<b>11.07</b>	(45)
Astoria	5.15	(92)	6.23	(92)	7.30	(92)	8.38	(91)	9.45	(91)	10.53	(88)
Bamberka	5.52	(88)	6.55	(88)	7.58	(85)	8.61	(82)	9.65	(80)	10.68	(81)
Bartosz	<b>6.16</b>	(31)	7.17	(30)	8.17	(27)	9.18	(24)	<b>10.19</b>	(25)	<b>11.19</b>	(27)
Belissa	6.15	(32)	7.16	(31)	8.16	(29)	9.17	(27)	<b>10.17</b>	(26)	<b>11.18</b>	(29)
Błyskawica	<b>6.39</b>	(9)	<b>7.42</b>	(8)	<b>8.44</b>	(4)	<b>9.47</b>	(1)	<b>10.49</b>	(1)	<b>11.52</b>	(3)
Bogatka	5.68	(78)	6.71	(78)	7.74	(77)	8.77	(76)	9.79	(74)	10.82	(74)
Bonanza	<b>6.25</b>	(19)	7.19	(27)	8.12	(33)	9.06	(48)	10.00	(55)	10.94	(63)
Ceres	4.22	(94)	5.18	(94)	6.13	(94)	7.09	(94)	8.04	(94)	9.00	(94)
Comandor	6.04	(52)	7.07	(47)	8.10	(39)	9.12	(34)	10.15	(31)	<b>11.18</b>	(28)
Consus	5.86	(71)	6.89	(68)	7.91	(68)	8.94	(64)	9.97	(59)	11.00	(55)
Dakar	6.02	(55)	7.01	(58)	8.00	(58)	8.99	(60)	9.97	(58)	10.96	(58)
Delawar	5.99	(59)	7.03	(54)	8.08	(44)	9.12	(36)	10.16	(29)	<b>11.20</b>	(24)
Dolores	6.06	(48)	7.08	(43)	8.10	(37)	9.12	(35)	10.14	(34)	<b>11.16</b>	(31)
Estivus	5.83	(74)	6.78	(77)	7.72	(78)	8.67	(80)	9.61	(83)	10.56	(85)
Euforia	<b>6.35</b>	(12)	<b>7.35</b>	(11)	<b>8.34</b>	(11)	<b>9.34</b>	(12)	<b>10.33</b>	(12)	<b>11.33</b>	(14)
Fakir	6.15	(33)	7.09	(39)	8.03	(53)	8.98	(62)	9.92	(67)	10.86	(68)
Fidelius	5.94	(66)	6.96	(63)	7.98	(61)	9.00	(56)	10.03	(53)	<b>11.05</b>	(51)
Figura	5.59	(86)	6.62	(82)	7.64	(80)	8.67	(79)	9.70	(78)	10.73	(77)
Florencia	6.05	(50)	7.05	(49)	8.06	(50)	9.06	(47)	10.07	(47)	<b>11.07</b>	(44)
Florus	6.01	(57)	7.00	(60)	7.98	(60)	8.97	(63)	9.96	(62)	10.94	(62)
Formacja	6.07	(47)	7.08	(46)	8.08	(42)	9.09	(42)	10.10	(42)	<b>11.11</b>	(38)
Forum	6.09	(41)	7.10	(37)	8.12	(35)	9.13	(33)	10.14	(33)	<b>11.16</b>	(33)
Franz	<b>6.34</b>	(13)	<b>7.31</b>	(13)	8.28	(14)	<b>9.26</b>	(18)	<b>10.23</b>	(22)	<b>11.21</b>	(23)
Frisky	<b>6.20</b>	(26)	<b>7.27</b>	(15)	<b>8.33</b>	(12)	<b>9.39</b>	(8)	<b>10.46</b>	(3)	<b>11.52</b>	(1)
Gimantis	6.10	(39)	7.11	(33)	8.12	(32)	9.14	(31)	10.15	(32)	<b>11.16</b>	(32)
Hondia	6.14	(35)	7.09	(38)	8.05	(51)	9.01	(54)	9.97	(60)	10.93	(65)
Hybery	<b>6.47</b>	(3)	<b>7.46</b>	(3)	<b>8.45</b>	(3)	<b>9.44</b>	(4)	<b>10.43</b>	(6)	<b>11.42</b>	(6)
Janosch	6.08	(44)	7.08	(41)	8.09	(41)	9.10	(41)	10.10	(40)	<b>11.11</b>	(37)
Jantarka	6.05	(51)	7.05	(50)	8.06	(48)	9.07	(45)	10.08	(44)	<b>11.09</b>	(42)
Julius	5.86	(70)	6.86	(74)	7.85	(75)	8.84	(73)	9.84	(73)	10.83	(72)
Kepler	6.08	(43)	7.03	(55)	7.98	(62)	8.93	(66)	9.88	(69)	10.83	(73)
Kometa	6.03	(53)	7.02	(57)	8.01	(57)	9.00	(58)	9.98	(57)	10.97	(57)
Kredo	<b>6.45</b>	(5)	<b>7.43</b>	(5)	<b>8.41</b>	(9)	<b>9.39</b>	(10)	<b>10.37</b>	(10)	<b>11.34</b>	(9)
KWS	6.14	(34)	7.11	(34)	8.07	(45)	9.03	(53)	10.00	(56)	10.96	(59)
KWS	<b>6.30</b>	(14)	<b>7.25</b>	(18)	8.20	(24)	9.15	(29)	10.10	(41)	<b>11.05</b>	(49)
KWS	5.94	(65)	6.90	(67)	7.86	(73)	8.83	(74)	9.79	(75)	10.75	(76)

Cultivar	Mean winter wheat productivity level t/ha											
	6		7		8		9		10		11	
	$Y_{ecu}$	Rank	$Y_{ecu}$	Rank	$Y_{ecu}$	Rank	$Y_{ecu}$	Rank	$Y_{ecu}$	Rank	$Y_{ecu}$	Rank
KWS Kiran	<b>6.37</b>	(10)	<b>7.34</b>	(12)	<b>8.31</b>	(13)	<b>9.28</b>	(15)	<b>10.25</b>	(18)	<b>11.22</b>	(22)
KWS Livius	5.81	(75)	6.88	(71)	7.94	(65)	9.01	(55)	10.08	(46)	<b>11.14</b>	(35)
KWS Loft	6.10	(40)	7.09	(40)	8.08	(43)	9.07	(46)	10.06	(48)	<b>11.05</b>	(50)
KWS Magic	5.66	(80)	6.64	(81)	7.62	(82)	8.60	(83)	9.58	(85)	10.56	(84)
KWS	5.63	(84)	6.61	(84)	7.59	(83)	8.58	(85)	9.56	(86)	10.54	(86)
KWS Ozon	5.99	(58)	7.01	(59)	8.02	(55)	9.04	(52)	10.05	(50)	<b>11.07</b>	(46)
KWS	6.06	(49)	7.03	(52)	8.01	(56)	8.99	(59)	9.97	(61)	10.95	(61)
Lavantus	5.65	(81)	6.66	(79)	7.67	(79)	8.68	(78)	9.69	(79)	10.70	(79)
Leandrus	5.90	(68)	6.88	(69)	7.87	(72)	8.86	(72)	9.85	(72)	10.84	(71)
Legenda	5.11	(93)	6.20	(93)	7.28	(93)	8.37	(92)	9.45	(92)	10.53	(87)
LG Jutta	5.97	(62)	6.92	(66)	7.86	(74)	8.80	(75)	9.74	(77)	10.69	(80)
Lindbergh	6.10	(38)	7.10	(36)	8.10	(36)	9.10	(40)	10.10	(39)	<b>11.10</b>	(39)
Linus	<b>6.41</b>	(8)	<b>7.40</b>	(9)	<b>8.40</b>	(10)	<b>9.39</b>	(7)	<b>10.39</b>	(7)	<b>11.39</b>	(7)
Markiza	5.46	(89)	6.50	(89)	7.54	(89)	8.58	(84)	9.62	(82)	10.66	(82)
Medalistka	6.07	(46)	7.08	(44)	8.09	(40)	9.11	(38)	10.12	(36)	<b>11.14</b>	(36)
Meister	<b>6.17</b>	(29)	7.15	(32)	8.13	(31)	9.10	(39)	10.08	(43)	<b>11.06</b>	(48)
Mirek	<b>6.30</b>	(15)	<b>7.26</b>	(16)	8.22	(23)	9.17	(26)	10.13	(35)	<b>11.09</b>	(41)
Mulan	5.99	(60)	7.05	(51)	8.12	(34)	9.19	(23)	<b>10.25</b>	(17)	<b>11.32</b>	(15)
Muszelka	6.09	(42)	7.08	(45)	8.07	(47)	9.06	(49)	10.05	(51)	<b>11.04</b>	(52)
Natula	5.88	(69)	6.88	(70)	7.88	(70)	8.89	(71)	9.89	(68)	10.89	(66)
Nordkap	<b>6.23</b>	(23)	7.21	(25)	8.19	(25)	9.18	(25)	10.16	(28)	<b>11.15</b>	(34)
Ohio	6.13	(36)	7.08	(42)	8.03	(54)	8.99	(61)	9.94	(65)	10.89	(67)
Opcja	<b>6.21</b>	(25)	7.23	(23)	8.25	(18)	<b>9.27</b>	(16)	<b>10.29</b>	(15)	<b>11.31</b>	(18)
Ostroga	5.64	(82)	6.61	(83)	7.59	(84)	8.56	(86)	9.53	(87)	10.51	(90)
Owacja	6.07	(45)	7.07	(48)	8.06	(49)	9.05	(50)	10.05	(52)	11.04	(53)
Oxal	<b>6.26</b>	(16)	<b>7.25</b>	(20)	8.23	(22)	9.22	(22)	<b>10.21</b>	(23)	<b>11.20</b>	(26)
Patras	<b>6.17</b>	(30)	7.17	(29)	8.17	(28)	9.17	(28)	<b>10.17</b>	(27)	<b>11.17</b>	(30)
Pengar	5.66	(79)	6.65	(80)	7.63	(81)	8.62	(81)	9.60	(84)	10.59	(83)
Platin	5.97	(64)	6.95	(64)	7.92	(67)	8.90	(70)	9.87	(71)	10.85	(69)
Plejada	<b>6.24</b>	(21)	7.24	(22)	8.24	(20)	9.25	(21)	<b>10.25</b>	(20)	<b>11.25</b>	(20)
Pokusa	5.98	(61)	7.03	(56)	8.07	(46)	9.11	(37)	10.16	(30)	<b>11.20</b>	(25)
Praktik	<b>6.19</b>	(27)	7.18	(28)	8.16	(30)	9.14	(32)	10.12	(37)	<b>11.10</b>	(40)
Reduta	5.60	(85)	6.58	(86)	7.55	(86)	8.53	(89)	9.51	(89)	10.49	(91)
RGT Bilanz	<b>6.36</b>	(11)	<b>7.39</b>	(10)	<b>8.42</b>	(6)	<b>9.46</b>	(2)	<b>10.49</b>	(2)	<b>11.52</b>	(2)
RGT Kicker	5.97	(63)	6.98	(62)	7.99	(59)	9.00	(57)	10.01	(54)	11.02	(54)
RGT	<b>6.26</b>	(17)	<b>7.25</b>	(17)	8.25	(17)	9.25	(20)	<b>10.24</b>	(21)	<b>11.24</b>	(21)
RGT	6.03	(54)	7.03	(53)	8.04	(52)	9.05	(51)	10.06	(49)	<b>11.07</b>	(47)
Rivero	<b>6.18</b>	(28)	7.21	(24)	8.24	(21)	<b>9.26</b>	(17)	<b>10.29</b>	(16)	<b>11.32</b>	(17)
Rockefeller	5.30	(91)	6.31	(91)	7.32	(91)	8.33	(93)	9.34	(93)	10.35	(93)
Rotax	<b>6.60</b>	(1)	<b>7.55</b>	(1)	<b>8.49</b>	(1)	<b>9.44</b>	(5)	<b>10.38</b>	(8)	<b>11.33</b>	(13)
Sailor	5.78	(76)	6.78	(76)	7.77	(76)	8.76	(77)	9.76	(76)	10.75	(75)
Sfera	<b>6.25</b>	(20)	<b>7.25</b>	(19)	8.25	(19)	9.25	(19)	<b>10.25</b>	(19)	<b>11.25</b>	(19)
Sikorka	<b>6.42</b>	(7)	<b>7.43</b>	(6)	<b>8.43</b>	(5)	<b>9.44</b>	(6)	<b>10.44</b>	(5)	<b>11.44</b>	(4)

Cultivar	Mean winter wheat productivity level t/ha											
	6		7		8		9		10		11	
	$Y_{ecv}$	Rank	$Y_{ecv}$	Rank	$Y_{ecv}$	Rank	$Y_{ecv}$	Rank	$Y_{ecv}$	Rank	$Y_{ecv}$	Rank
Silenus	5.57	(87)	6.56	(87)	7.55	(88)	8.54	(88)	9.52	(88)	10.51	(89)
Skagen	6.02	(56)	6.98	(61)	7.95	(64)	8.91	(68)	9.88	(70)	10.85	(70)
Speedway	<b>6.24</b>	(22)	7.21	(26)	8.17	(26)	9.14	(30)	10.11	(38)	<b>11.08</b>	(43)
SY Orofino	<b>6.46</b>	(4)	<b>7.43</b>	(4)	<b>8.41</b>	(8)	<b>9.38</b>	(11)	<b>10.36</b>	(11)	<b>11.34</b>	(11)
Titanus	5.83	(73)	6.86	(72)	7.89	(69)	8.92	(67)	9.95	(63)	10.97	(56)
Tobak	<b>6.22</b>	(24)	<b>7.25</b>	(21)	8.27	(16)	<b>9.29</b>	(14)	<b>10.32</b>	(13)	<b>11.34</b>	(10)
Tonacja	5.32	(90)	6.40	(90)	7.47	(90)	8.55	(87)	9.63	(81)	10.71	(78)
Tulecka	5.83	(72)	6.86	(73)	7.88	(71)	8.91	(69)	9.93	(66)	10.95	(60)
Tytanika	5.93	(67)	6.93	(65)	7.93	(66)	8.94	(65)	9.94	(64)	10.94	(64)
Viborg	<b>6.44</b>	(6)	<b>7.42</b>	(7)	<b>8.41</b>	(7)	<b>9.39</b>	(9)	<b>10.38</b>	(9)	<b>11.37</b>	(8)