

**5469: Deliverable: Number of improved lines to be shared with NARS partners for multi-environment testing**

**1. Activity: Seed increase for international nurseries and multi-environment trials in target environments in lentil and chickpea**

<b>Title</b>	:	<b>Seed increase for international nurseries and multi-environment trials in target environments in lentil and chickpea</b>																																																																																																																														
<b>Objectives</b>	:	To identify high yielding varieties with appropriate duration and wide adaptation in partner countries																																																																																																																														
<b>Activities</b>	:	Continue																																																																																																																														
<b>Observations</b>	:	Phenological traits, yield and stability																																																																																																																														
<b>Materials and methods</b>	:	<p>A menu of 21 sets of international nurseries for chickpea (10), and lentil (11) distributed to NARS partners. This also included segregating populations to provide opportunity for NARS partners to make selections for local adaptation. Total 867 sets of international nurseries distributed to 63 collaborators from 32 countries.</p> <p><b>Chickpea and lentil international nurseries distributed in 2015/16 crop season</b></p> <table border="1"> <thead> <tr> <th>Crop</th><th></th><th>No of lines</th><th>Countries</th><th>Cooperators</th><th>Sets</th></tr> </thead> <tbody> <tr> <td rowspan="11"><b>Chickpea</b></td><td>CIEN-W</td><td>35</td><td>23</td><td>29</td><td>40</td></tr> <tr> <td>CIEN-S</td><td>35</td><td>18</td><td>21</td><td>30</td></tr> <tr> <td>CIEN-E</td><td>35</td><td>20</td><td>25</td><td>25</td></tr> <tr> <td>CIEN-LS</td><td>35</td><td>22</td><td>30</td><td>30</td></tr> <tr> <td>CAT</td><td>35</td><td>18</td><td>28</td><td>36</td></tr> <tr> <td>CIF4N</td><td>22</td><td>4</td><td>10</td><td>10</td></tr> <tr> <td>CIABN</td><td>41</td><td>21</td><td>33</td><td>44</td></tr> <tr> <td>CIFWN</td><td>41</td><td>22</td><td>29</td><td>40</td></tr> <tr> <td>CICTN</td><td>41</td><td>20</td><td>25</td><td>34</td></tr> <tr> <td>CIDTN</td><td>41</td><td>27</td><td>42</td><td>52</td></tr> <tr> <td><b>Total</b></td><td><b>361</b></td><td><b>30</b></td><td><b>57</b></td><td><b>341</b></td></tr> <tr> <td rowspan="12"><b>Lentil</b></td><td>LIEN-L</td><td>35</td><td>18</td><td>25</td><td>37</td></tr> <tr> <td>LIEN-S</td><td>35</td><td>14</td><td>23</td><td>34</td></tr> <tr> <td>LIEN-E</td><td>35</td><td>15</td><td>25</td><td>33</td></tr> <tr> <td>LIMN</td><td>35</td><td>13</td><td>16</td><td>24</td></tr> <tr> <td>LIEN-MH</td><td>35</td><td>15</td><td>16</td><td>22</td></tr> <tr> <td>LAT</td><td>24</td><td>11</td><td>15</td><td>22</td></tr> <tr> <td>LIF4N</td><td>20</td><td>12</td><td>21</td><td>25</td></tr> <tr> <td>LIPB</td><td>7</td><td>12</td><td>16</td><td>20</td></tr> <tr> <td>LICTN</td><td>35</td><td>15</td><td>16</td><td>20</td></tr> <tr> <td>LIDTN</td><td>35</td><td>21</td><td>28</td><td>35</td></tr> <tr> <td>LISN</td><td>297</td><td>9</td><td>11</td><td>12</td></tr> <tr> <td><b>Total</b></td><td><b>593</b></td><td><b>25</b></td><td><b>45</b></td><td><b>284</b></td></tr> </tbody> </table>				Crop		No of lines	Countries	Cooperators	Sets	<b>Chickpea</b>	CIEN-W	35	23	29	40	CIEN-S	35	18	21	30	CIEN-E	35	20	25	25	CIEN-LS	35	22	30	30	CAT	35	18	28	36	CIF4N	22	4	10	10	CIABN	41	21	33	44	CIFWN	41	22	29	40	CICTN	41	20	25	34	CIDTN	41	27	42	52	<b>Total</b>	<b>361</b>	<b>30</b>	<b>57</b>	<b>341</b>	<b>Lentil</b>	LIEN-L	35	18	25	37	LIEN-S	35	14	23	34	LIEN-E	35	15	25	33	LIMN	35	13	16	24	LIEN-MH	35	15	16	22	LAT	24	11	15	22	LIF4N	20	12	21	25	LIPB	7	12	16	20	LICTN	35	15	16	20	LIDTN	35	21	28	35	LISN	297	9	11	12	<b>Total</b>	<b>593</b>	<b>25</b>	<b>45</b>	<b>284</b>
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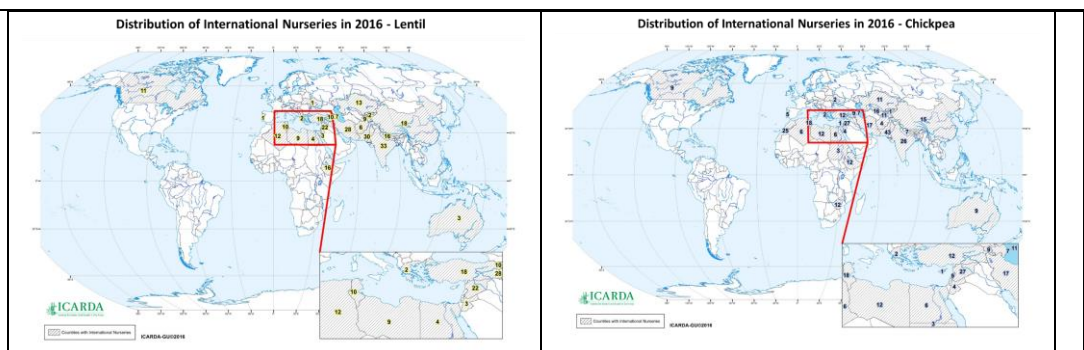


Figure 3. Grain legumes international nurseries distribution in 2016/17 (courtesy GISU, ICARDA)

**Key outcome :**

- **361 and 593 improved lines of chickpea and lentil shared as international nurseries with 57 and 45 NARS partners.**

- **NARS partners released four varieties of chickpea and three varieties of lentil:**

Crop	Variety	Pedigree and selection history	Country	Adaptation and key traits
Chickpea	Dhera	Z-2012 CK-009/FLIP 0163 (X98TH30FLIP-93-55C XS-96231)	Ethiopia	Machine harvestable, tolerant to root diseases and AB resistant
	Hora	DZ-2012 CK-001/FLIP 04-9C(X2000TH50 FLIP 98- 52C X FLIP98-12C)	Ethiopia	resistance to wilt–root rot complex and Ascochyta blight
	Merowe 2016 (Shiekh Mohamed)	FLIP 03-50C x99TH62/(FLIP 93-2C /FLIP 94-115C	Sudan	high seed yield and favorable environment, large seed weight, earliness
	Hudeiba 2016	FLIP 03-59C x99TH62/(FLIP 93-2C/ FLIP 94-115C	Sudan	High and stable yield, large seeds, earliness; Fusarium resistance
Lentil	Binamasur-10	ILL 7656	Bangladesh	Early maturing, drought tolerant
	L4741	ILL7617X91516	India	High yield (>14%); extra early (<100 days); biofertilized with high iron (Fe) and zinc (Zn)
	RL4	ILL6037XILL8007	Nepal	High yield; biofertilized with high iron (Fe) and zinc (Zn)

